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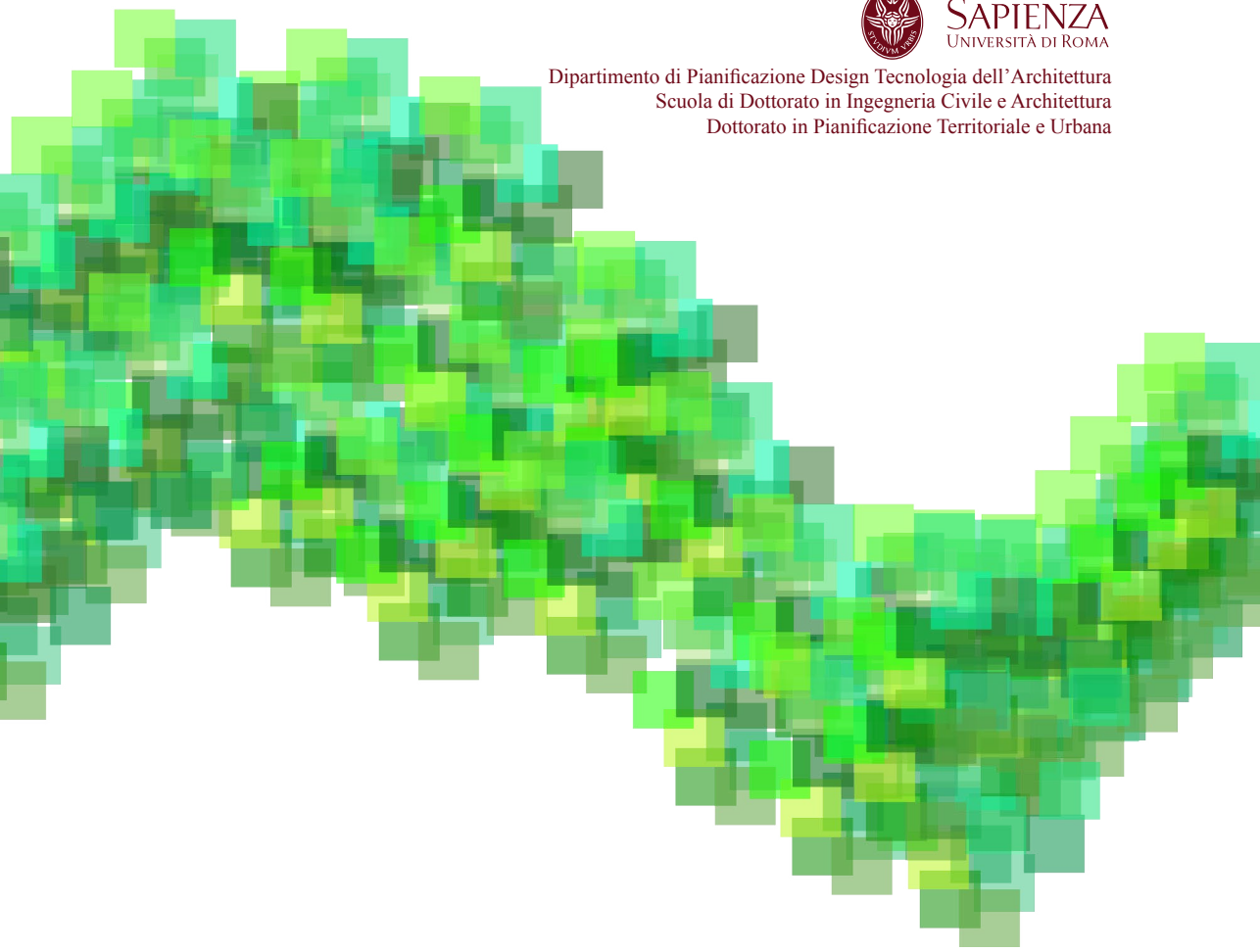

The added value of Strategic Environmental Assessment in providing oppotunities for public decision-making
The case of Italy and Scotland

Alessandro Rinaldi

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1. INTRODUCTION

The Strategic Environmental Assessment is an environmental evaluation applied to plans and programmes in order to enhance the integration of the environment with the social and economic issues within the decision-making. It was introduced in Europe through the Directive 2001/42/EC (European Commission, 2001) with the aim to establish an approach for the evaluation of possible risks for the environment derived from the implementation of plans and programs. Each Member State had to translate the Directive contents into national law by 2004.

The innovation was proposed through the SEA in regards to the substantive and procedural side of the environmental protection. In fact, the Directive recognised the importance of the environment, promoting the equalization of its aspects with the issues concerning social and economic spheres. As such, the SEA attempts to set out a new approach for planning that encourages changing the balance of values within public decision making. In addition, this instrument has implied a procedural innovation as well. In fact, the SEA must be conducted alongside the PPPs-making, influencing the formation of strategies before arriving at a decision. According to the Directive, SEA must be adopted before the approval of plans and/or programs, emphasising the necessary procedural integration with planning process. Within this context, academics and practitioners have analysed the multiple sides that involve the SEA practice, producing considerable knowledge on its strengths and weaknesses, open challenges and achievements (Fischer and Onyango, 2012).

Even though within the Directive it is considered as a pillar for the SEA, the integration with the planning process still represents a challenge (Lynhe, 2011). In fact, if the SEA is applied when the decision is already taken, its contributions in enhancing the environmental protection is worthless and it is adopted just to justify decision makers' choices (Gazzola et al., 2004).

Another debated point is the role of public participation of the SEA. The commemorandum 15th of the Directive 2001/42/EC, reflecting the Aarhus Convention in 1998 (United Nations Economic Commission for Europe, 1998), states "…public are to be consulted during the assessment of plans and programmes, and that appropriate time frames are set, allowing sufficient time for consultations, including the expression of opinion".
Nowadays, the relevance of civic engagement is widely recognised as a source of a special kind of knowledge, commonly defined as tacit, which can support the identification of particular areas of negligence within decision making (Beierle, 1999). In doing so, the involvement of the public for environmental decisions is currently considered as an extension of democratic rights (Reed, 2008). As such, the SEA can also facilitate negotiations among different interests and values that affect PPPs process (Vicente and Partidario, 2006). Thus, the integration of the planning objectives with the environmental values of civil society through a communicative-based approach could represent the principal task of the SEA (Stoeglehner and Neugebauer, 2013).
However, a valuable civic engagement is still a challenge for the environmental assessment (Fundingsland, Tetlow and Hanusch, 2012). Probably, the public might perceive their role and influence to be too weak to make any meaningful contribution to the SEA. According to Gauthier et al. (2011, p. 51), this happens because of the level of confidentiality and the complexity of policy-making processes, which render them insufficiently open for public participation and/or often taking place when the contents of a plan or program have already been defined. In doing so, the SEA can be affected to a lack of acknowledging its possible benefits, raising issues about the perceived usefulness of this tool.
When the SEA is considered to be a useless tool, it is conducted only to accomplish normative requirement (Van Buuren and Nooteboom, 2010), contributing in increasing administrative burden without providing enhancement on the quality of decision making.
Responding to these criticisms, the SEA (when it is well applied) can be considered both as an opportunity itself and as a way to promote potential opportunities in enhancing the sustainability on PPPs process. According to Partidario (2015: 5), "SEA must learn how to convince users of the benefit of incorporating environmental issues early on, well embedded in the strategic decision making process", showing how the SEA "…may increase opportuni-

ties for better environmental integration and more sustainability driven decision making". The concept of opportunity within the SEA context has been widely used for describing a variety of possible goals, from the achievement of Directive's objectives to other innovative purposes.

Several authors considered the SEA as an opportunity to improve the environmental information within decision making (Acharibasam and Noble, 2014; Partidario and Gomes, 2013) and to cope with cumulative impacts (Alshuwaikhat, 2005; Fidler and Noble, 2012; Kumar et al., 2013; Noble et al., 2013). On the contrary, according to Fischer et al. (2010: 209) "SEA offers the opportunity to draw on the potential for health protection and promotion in environment and public health decisions". As well, many academics recognised that the SEA can provide opportunities for increasing the sustainability of sector-based policies usually excluded from the Directive's framework (Carter and Howe, 2006; Hansen, 2011; Koornneef et al., 2008).

Overcoming the classical role of environmental advocacy tool of the SEA, Joao et al. (2011) contended that this instrument can be an opportunity to set out measures for enhancing the quality of the environment rather than promoting only the protection.

Thus, the SEA is broadly acknowledged as a tool that can provide opportunities for decision making.

However, what opportunities it could provide is largely unexplored yet. In fact, this term usually describes the achievement of the Directive's aims, or the promotion of something more without any explanation about what this 'something more' really is. On the contrary, the economic and philosophical disciplines have already undertaken the analysis of this concept, proposing proper definitions within their applicative fields. For example, the social mobilization theory, a strand of philosophy, assumed the (political) opportunity as something that produced changes in perception regarding the authority of the State, triggering possible modifications of the balance of power between government and oppositions (Kurzman, 1996). Instead, several branches of economic and financial disciplines have developed the concept of opportunity related to the investment (Smith and Watts, 1992), or connected to the entrepreneurship theories, for instance (Eckhardt and Shane, 2003).

Within this context, this study aims to explore what opportunity could mean within the SEA context. Acknowledging that the SEA is an opportunity itself, this thesis attempts to reflect on the cases in which the SEA provided something new with respect to the Directive's objectives. In fact, given that the SEA was introduced in order to achieve determined aims, the accomplishment of these objectives represents merely the proper expectation of this tool. As such, they cannot be assumed as opportunity. Based on this premise, the research

aims to explore the case in which the SEA provides something more. In this sense, another possible goal is the understanding of whether different types of opportunities can be identified. In the following part, the research aims are organised through research objectives, addressing the relative tasks in each point.

1.1 Research aims and research objectives

The research aim is **to propose and test a framework in order to understand what opportunity could be for the SEA and how the SEA could provide opportunity(ies) for the public decision making process, emphasising the conditions that allowed or hindered the capacity of the SEA in triggering these opportunities**. Within this context, the research used case study analysis. Based on these premises, a set of research objectives and their relative tasks was set out (Table 1).

Table n. 1: Research objectives and tasks

Research Objective 1	**Understanding the opportunities in and through the SEA**
	a) Defining the meaning of the term/concept "opportunity" b) Exploring how this definition could be operationalised in SEA c) Analysing whether different types of SEA opportunities can be identified
Research Objective 2	**Analysing the conditions which influence the capacity of the SEA in providing opportunities for the decision making process**
	a) Investigating the elements/conditions/factors which contribute in triggering opportunities b) Proposing an analytical framework to evaluate how the SEA provided opportunities c) Testing the framework in two countries, i.e. Italy and Scotland d) Understanding whether or not opportunities were generated in Italy and Scotland e) Investigating what types of opportunities were produced f) Exploring which conditions have allowed or hindered those
Research Objective 3	**Moving forward the current understanding of the SEA's opportunities: a lesson for Italy and Scotland**
	a) Identifying which elements can be transferred from Italian to Scottish SEA and vice versa b) Attempting to suggest a proper definition for the concept of opportunities within the SEA context

1.2 The research process and method

1.2.1 The type of the research

This research can be considered partially exploratory and partially explanatory. It is an exploratory study (Patton, 1990) because it attempts to investigate the extent of the concept of opportunity within the SEA field, which is largely unexplored. According to Brown (2006: 43), "exploratory research tends to tackle new problems on which little or no previous research has been done". Although the concept of opportunity cannot be considered to be a problem, this research attempts to investigate new angles within the SEA topics, setting the basis for further studies and analysis. In doing so, it seems to reflect the classical framework of the exploratory research (Singh, 2007). However, in a second step, the research tries to explain how several conditions can affect this capacity of the SEA in providing opportunities for the decision making process. As such, it attempts to empirically verify why this phenomenon occurred in a determinate context, testing the hypotheses that were defined within the exploratory stage. In these terms, the research can be also considered as explanatory because it proposes not only a description on the case studies and the conditions which affect these cases, but it attempts to set a proper explanation of why these aspects/elements have triggered these opportunities (Statera, 1994).

1.2.2 A brief introduction of the research strategy

This study was structured through a linear process based on three main stages. The first was the explorative stage in which theories and studies already developed were analysed (research objective 1). This stage particularly focused on the literature review, and underlined how the concept/term of opportunity was already used within SEA academic publications. In order to integrate the knowledge gathered through the literature review, a questionnaire survey was prepared, involving several eminent SEA's experts.

The second stage concerned the empirical analysis of the research in which four cases studies were investigated. Based on a set of conditions previously defined, the capacity of the SEA in providing opportunities is tested, examining the Italian and Scottish SEA framework.

Finally, the last step was the theories formation stages in which the findings of the empirical stage are evaluated and discussed through a triangulation with the results of literature review and questionnaire survey. Emphasising the comparison between case studies, it was investigated how determined conditions facilitate the formation of these opportunities. Ultimately, based on these findings, the research attempted to propose a proper definition of the concept of opportunity within the SEA context.

1.2.3 The context of the research

The SEA is a tool that is envisaged of all European countries. Based on the Directive's framework, Member States translated the SEA contents within their normative system, integrating the policy-making process with the environmental assessment settings. In doing so, several differences on how to develop and implement the SEA were generated. Likely, some solutions introduced within diverse EU countries could be transferable and they could represent a source of enhancement for other SEA context. It is worth exploring whether this consideration could be useful in developing a research on the opportunities provided by the SEA for the decision making process. For this reason, a comparative research was set out.
In order to select to European contexts, a series of criteria was established:

- A comparable framework (organisation of competences) for urban and environmental governance;
- Public Administration as a key stakeholder in SEA management and development;
- Solutions in order to promote better consultation/participation during the SEA process.

Based on these criteria, Italy and Scotland were selected. In fact, they share similar hierarchical organisations of territorial governance in which the central government directly copes with national issues. The first subordinate level is the region, and the municipalities are on the bottom. However, it is worth noting that Italian regions are statutory institutions that exert the normative duty for several matters like environmental and urban governance. As such, regions can be taken into account for the selection of the best comparative unit. However, the dimension of Scotland in terms of population is better comparable with the scale of Italian regions. Founded on these further premises, the region of Tuscany was chosen. In fact, although all regions share with Scotland the role of public administration in managing the SEA process, the relevance of a third criterion oriented the selection towards the Tuscany. In fact, this regional government instituted by Law a special authority in order to support and promote the citizens' involvement within policy-making processes. The SEA-making was included in these processes, disciplined through the regional law n. 46 of 2013 (Tuscany region, 2013). Even through different solutions, the Scottish government established a special service in order to improve the communication and collaboration among the authorities involved within the SEA process. In addition, this service, named SEA Gateway, represents the official space for public consultation of SEA published documents.
However, this research cannot be considered as a pure comparative study. In fact, the different institutional structures between Italy and Scotland do not allow the selection of similar scales for the case studies. It is worth remembering that Italy is based on an articulated and

fragmented territorial governance in which the population is organised within more than 8.000 municipalities. Among them, almost the 70% of these City Councils have less than 5.000 inhabitants. This particular situation is a typical characteristic of the Italian system. On the contrary, there are only 32 Scottish Councils and, as such, the issue about scale seems to be difficult to compare.

1.3 The originality of this research

The thesis aims to bring two different original contributions that affect the procedural and theoretical spheres of the SEA current debate. The first regards the comparison between the Italian and Scottish framework. The comparative research between different SEA frameworks is not new in this field. However, based on the literature findings, no one research have compared Italy and Scotland yet. In fact, Bragagnolo et al. (2012) investigated the cumulative effects of Italian and English spatial plans. On the contrary, Jha-Thakur et al. (2009) analysed the connection between social learning and SEA effectiveness confronting UK, Italy and Germany; Zoppi (2012) structured a comparative analysis of the SEA of two plans, one in England and one in Italy. With regards to the Scottish SEA, Polido et al. (2016) compares Scotland with Portugal. Moreover, Fidler and Noble (2012) explored the application of the SEA to offshore sites of Canada, Norway and UK; emphasising Scottish cases. Jackson and Dixon (2006) analysed the framework of Scotland and New Zealand. Finally, Hayes et al. (2014) investigated the impact of SEA of flood management in England and Scotland.

Secondly, this research aims to shape a theoretical contribution for the SEA debate. The concept of opportunity is already analysed within several disciplines. However, the SEA scholars and practitioners often applied this term without explaining what they meant. Thus, based on the findings of the research, this study aims to define the concept of opportunity within the SEA context.

1.4 The outlines of the thesis

This PhD thesis consists of eight chapters. Following, there is a brief synopsis of the contents addressed in each chapter:

Chapter 2 analyses the research already published on the topic of opportunity, examining the extent of this concept within economic and philosophical disciplines as well as within the SEA literature. In addition, it develops a framework for studying the opportunity within the SEA context.

Chapter 3 explains the methodologies adopted for achieving the research aim.

Chapter 4 introduces the contexts of the case studies analysis, describing the national SEA

framework and developing a first comparison between the Italian and Scottish system.
Chapter 5 describes the case studies analysis and the results gathered from this exploration.
Chapter 6 comparatively analysed findings of the research, triangulating data from theoretical exploration with the results of case studies analysis.
Chapter 7 draws the conclusion, explaining how research objectives have been achieved, and suggesting possible areas for future research.

2. UNDERSTANDING THE CONCEPT OF THE OPPORTUNITY

The term opportunity is permeated in everyday speaking, suggesting something that can improve our current condition or status as well as resolving issues that generally produce problems. The Cambridge Dictionary defines opportunity as *an occasion or situation that makes it possible to do something that you want to do or have to do, or the possibility of doing something*.

As for everything, the context in which this occasion or situation should happen could contribute to shape the proper definition of what opportunity could really mean. In fact, this term is usually applied as just a synonym of occasion and possibility to do something that before or until that point was not allowed or was difficult to do.

Although the most common application of this concept reflects the meaning described within the Cambridge Dictionary, several strands of business studies as well as of philosophy try to reflect on the specific meaning that this term acquires within their context. In particular, the principal contributions were developed within the entrepreneurship theory, the investments theory and the study on the firms network. As well, from the philosophical side, the social mobilization theory developed by Tocqueville and the work on the equal opportunity were investigated. Focusing on the opportunity in terms of new profits, the strands of economic disciplines emphasised the combination of different types of resources, which can be picked up in the endogenous and exogenous context of the business. Particularly relevant, the debate on the entrepreneurship theory developed a double perspective for the formation of opportunities, suggesting that different kinds of opportunities can be identified. On the other side, the social mobilization theory applies this concept for

describing a situation in which the type of government can change, modifying the practice of governance.

Notwithstanding, political opportunity is connected to the structural conditions that affect the government and the societal perception that interests the population. Thus, the theoretical background promoted within these disciplines invites to consider the similarities that these reflections can be found with the SEA process. In fact, the attention of structural and perceived conditions as a requisite for political opportunity seems to be suitable for the typical SEA application. in which there are a strong presence of institutional structures as well as the public can play a very important role. In addition, it might be hypostatised that the application of the SEA in different contexts and situations can maybe originate diverse types of opportunity. Assuming the inputs from entrepreneurship theory, it is worth reflecting about whether diverse approaches to SEA provide different opportunity for decision makers.

However, recognising that no one attempt has been made for understanding the extent of this concept within the SEA field, the first step concerns the analysis of specialised literature. In doing so, the gaps of theories have been identified and, finally, a framework to study the SEA's opportunities has been defined.

Based on this premise, the following section analyses the contributions developed within other disciplines on the topic of opportunity. Subsequently, the SEA literature has been reviewed

2.1 Reflecting on the concept of opportunity: the contributions of other disciplines

Few disciplines have embedded the concept of opportunity within their theories, reflecting upon its possible meaning and the extent to which this concept can be applied. In particular, the philosophy as well as the economic and financial disciplines encompassed the major contributions for this debate. A first consideration was proposed by Tocqueville, which analysed how and when changes in power balances occurred within society. According to Jerkins (1983), Tocqueville's social mobilization theory is affected by structural and perceived opportunity, where the former concerns the State (and its organization) and the latter regards social movements instead. The concept of opportunity emphasised the modification of the status of power in which government and governed behaviour are influenced by a set of conditions that interest the organisation and structure of the State. The perception of possible changes in government structures stimulates the group of political opposition within the society in enhancing their coordination. In doing so, the relevance of their action can

be adequate for promoting the political change. Thus, the opportunity can be defined as *the perceived balance of forces (that) may shift because of changes in the opposition's resource, organizational, or network base* (Kurzman, 1996: 154). Within this context, the mobilization theory underlined the changes of status and modification about the form of government as fundamental characteristics for generating opportunity. In cases where this happens, changes also invest the oppositions, triggering better networking between groups generally isolated (Blumer, 1969). Thus, the concept of opportunity is inherently linked the with institutional framework, which includes:

- the exertion of power as an act of administration,
- the organisational dynamics that represent the administration as a structure, and,
- the socio-political context as a strong resource for changes in politics through a collective process.

According to Meyer and Mynkoff (2004: 1467), there are *two distinct political opportunity models: one model emphasizes structural changes in political alignments and policies alike; the second uses more visible signals of such changes in the political environment, which may have greater symbolic than substantive import*.

Summarising, the knowledge of civil society represents a strong input for the identification of the political opportunity but the adequate framework conditions are fundamental in order to effectively trigger changes in power balances, innovating the political and, so, the system of governance.

Through a different lens, the social theory on the welfare state explored the extent of the concept of opportunity within the principle of equality, which should guide the action of the government. According to Andreoli et al. (2014: 1), *an important goal for public policy is to promote equality of opportunity, to let individual success be determined by merit rather than by social background*. In doing so, all situations in which someone benefits of an illegitimate advantage identifies an inequality opportunity. As such, the concept of opportunity broadly involved a set of social questions regarding the foundation values of the government. For instance, the issue of meritocracy encompassed an extent of opportunity in which men shall not be limited, except by their abilities (Frankel, 1971: 204).

Thus, opportunity describes particular situations but also an objective of public governance that should be oriented in preventing constraints and barriers, which can influence the egalitarian action of government (Barry, 1990; Fleurbaey, 1995). In doing so, affecting the capacity of providing equal opportunities, the decision makers must cope with two sets of conditions. The first requires to *neutralize the influence over agents' outcomes of the characteristics that elicit compensation: society should eliminate inequalities due to factors that are beyond the control of people (call these factors circumstances)* (Peragine, 2002: 46). Thus, the achieve-

ment of equal opportunity needs a control from the State in order to avoid or limit possible unpredictable risks, like changes in normative from overarching organisations for instance. The second *says that society should not indemnify people against outcomes that are consequences of causes that are within their control (call these factors effort, for short)* (Ibid, 2002: 46).
Overcoming the classical perspective in which equality is the result of a combination between circumstances and individual efforts, Lefranc et al. (2009) contended that all definitions of equality opportunity adopted the combination of the three determinants in a different way. These determinants include the effort, which includes the determinants that are seen as a legitimate source of outcome differences; circumstances, which consist of the determinants that should not lead, other things equal, to differences in outcome; and luck, which comprises the random determinants that are seen as a fair source of inequality provided that they are even-handed, with respect to circumstances (pp. 1204). As such, opportunity is also related to the uncertainty and unpredictability that always affect processes in general, particularly those that affect financial and economic matters.

Investigating the applications of the concept of opportunity in finance and economy, the entrepreneurship theory represents probably the most relevant theoretical contribution. In fact, according to Hansen et al. (2009), opportunity is a widely used concept in the specialised literature, in which several strands for the study of this concept were developed. A first study that analysed the opportunity as idea (Davidsson et al., 2004; Casson and Wadeson, 2007) links this concept to the occasion presented by an unexploited project or that looks at the opportunity in order to describe potential new venture (Singh et al., 1999). Within this context, opportunity is generally analysed in a more instrumental way, emphasising the combination of resources, already present and new, in order to increase investments' profits. According to Eckhardt and Shane (2003), the entrepreneurial opportunities are
…situations in which new goods, services, raw materials, markets and organizing methods can be introduced through the formation of new means, ends, or means-ends relationships. These situations do not need to change the terms of economic exchange to be entrepreneurial opportunities, but only need to have the potential to alter the terms of economic exchange.

Within this context, several authors have investigated the opportunity creation (Klein, 2008; Wood and McKinley, 2010). According to Tocher et al. (2015), two main perspectives can be identified within this debate. The first conceives the opportunity discovery in which the opportunity is the result of external shock derived by deep changes within society (like preferences, new trends, etc…) or normative and procedural framework (Shane and Venkatamaran, 2000). Therefore, the civil society is a fundamental resource of information

about possible changes of market orientations, underlining possible occasions to develop the opportunity(ies).

On the other side, the creation perspective tends to understand the opportunity as result of a process in entrepreneurs' attempt to experiment with possible new solutions in order to produce these market changes. Based on a set of tests and interactions with society, the entrepreneurs try to learn which kind of strategy can produce opportunities (Alvarez et al., 2013). The entrepreneurs and social resources participate in the creation of the opportunity; within the discovery perspective, entrepreneurs analysed the inputs from civil society in order to understand possible entrepreneurship opportunity unexplored.

The concept of opportunity represents one of the core elements of the entrepreneurship debate (McMullen and Shepherd, 2006) and its formation is always related to the balance between entrepreneurs' ideas and market conditions. In doing so, the societal resources are widely considered as a fundamental basin of information, even though different paradigms of opportunity generations look at the role of society in different ways. In the perspective of opportunity discovery, an entrepreneur is a sort of researcher that analyses market dynamics in order to understand and anticipate possible shock, exploiting those "free spaces" for promoting new business. In these terms, opportunity is strongly dependant on the ability of the entrepreneur to be informed about the modifications in regulatory framework and on the evolution of societal behaviour. On the contrary, the creation perspective identifies a process in which entrepreneur and society construct the opportunity through continuous interactions through this series of tests about possible new businesses. The opportunity is the result of incremental approach in which social and entrepreneurs' learning, the flexibility of entrepreneurs and a high level of uncertainty are the fundamental characteristics of the this perspective (Sarasvathy, 2001).

Although with a different lens, the opportunity was investigated also in other branches of business studies. Likely, the opportunity cost is principal paradigm in economics, which involve the investment analysis in broad way, encompassing the studies on financial impacts of policy implementation since the securities market. The early definitions described the opportunity cost as *arising from foregone opportunities that have been sacrificed where the sacrifice of doing something else is called opportunity cost* (Samuelson, 1967). Based on this former definition, Leninger (1977) explained that this opportunity cost can be considered as *the difference between the profit had the correct policy been adopted and the profit resulting from the policy employed* (p. 249).

Stressing the analysis of the possible benefits and losses of investments in securities, Drury (2008: 292) described the opportunity cost as *the rates of return that are available from in-*

vestments in securities in financial markets such as ordinary shares and government gilt-edged securities represent the opportunity cost of an investments in capital projects.

Even though these concepts proposed light differences of angles, the opportunity tries to identify something that is the result of interaction between two main spheres: what's happening within the market and what's happening outside. These internal and external conditions usually influence all strands of the investment theory because, even though they have different implications, both the market dynamics (for instance the market reputation of the firms, the economic solidity of the firms, etc.) as well as external situations (like for instance, changes of legal requirements, modification of international agreements, etc.) always affect profits. In these terms, it might be stated that the investments theory proposed a perspective of opportunity linked to two sets of conditions:

- The endogenous, which includes financial policy, dividend policy, compensation and use of incentive plans.
- The exogenous, which looks at the book of value assets (investments opportunity set) of firms, regulation, firm size, and accounting return (Smith and Watts, 1992).

These two groups of conditions are inherently linked to two variables as well, both expressions of endogenous and exogenous elements. These are the risk and return's rate of the investments. The risk is inherently related to the capacity of this investment in securities to be rewarded. The endogenous conditions often influence the risk factors, while the exogenous aspects, more connected with the external conditions of the market, affect the rates of return.

The attention on the market, that seems to be the central focus of the entire reasoning of the opportunity, offers another perspective for the study of this concept. As something that can be achieved in particular context, the opportunity seems to be the result of a combination of variables that occurred in a specific place, establishing always a new occasion to do something. Within the investment theory, the opportunity is a profit that can be generated in situation where no particular changes occurred in the external conditions and when the market requirements are fully satisfied. However, in cases where endogenous or exogenous shock happened, the opportunity's cost can evolve, becoming the missed profit that a determinate policy employed has produced in relation of the best policy adoptable. Notwithstanding, economic theories often forget to consider the role of subjects that decide to start new investments, distancing these considerations from the entrepreneurship theory, which instead put the entrepreneur in the centre of the entire reasoning. A synthesis in this sense is advanced within the analysis of network structure of firms.

So far, opportunity as a concept has been always related to a specific perspective (political opportunity, investment opportunity, opportunity cost, entrepreneurial opportunity), emphasising its instrumental nature rather than trying to find out a specific meaning.
On the contrary, extending the reflection on what this concept can really mean, Anderson et al. (2005) contended that opportunity is *new ways of using resources, both internally and externally. New ways which are more efficient, profitable or produce more value for the actors involved than the existing ways of using resources* (p. 29).
The use of resources broadly suggests that opportunity can be the result of two processes. The first in which existent resources are applied in innovative way and the second where new resources, that usually means knowledge, produced innovation that in this case can be coincident with the opportunity itself.
Exploring the contents of these contributions from different fields, several common points seem to be predominant in order to understand what opportunity could mean.

First of all, opportunity is a construct that implies innovation. The political theory, which emphasised the Tocqueville perspective of change in government and institutions looks at the opportunity as a moment in which new form of power can be establish. Acknowledging that society is full of inequal situations, the achievement of equal opportunity represents an innovative status for citizens and society. However, the innovation is the fundamental characteristic for the concept of opportunity developed within economic theories as well. For entrepreneurs, the opportunity is the possibility of introducing a new product to the market at profit (Hansen et al., 2009). More clearly, Anderson et al. (2005) underlines this concept, stating that opportunity is a *new way of using resources, both internally and externally*.

Starting from these latter words (internally and externally), the pillar of this construct is its dependence to a set of conditions that affect the formation of these innovations.
The philosophy as a discipline investigates the relation between State/Government and society/individuals as a group of conditions that influenced and can be influenced by the opportunity. The changes in structure and organisation of government can suggest possible weakening of power, encouraging fragmented opposition groups to joining and pursuing institutional modifies. Thus, endogenous (State structure) and exogenous (societal movements organisation) could generate or set the proper condition to trigger opportunities. Similarly, the balance between circumstances, individual effort and luck can stimulate the achievement of equal opportunity. However, the egalitarian perspective adds, alongside the external and internal conditions, luck as symbol of uncertainty that is a component embed-

ded in the decision process in general.
Notwithstanding, these considerations were further developed in the economy. In particular, the entrepreneurship theory represents what is probably the major contribution to this topic. Within this context, the opportunity is assumed as something that can be discovered and something that can be created, modifying the role and weight of its fundamental conditions. Thus, the opportunity can be an occasion that is hidden within the market dynamics. In this perspective, the expertise of the entrepreneur is a key element in identifying this "free space" in which to develop the new business proposal. As such, it might be stated that the entrepreneur is a sort of researcher that analysed societal behaviour in order to identify possible shock related to changes in citizens' preferences or modifications of regulatory framework. In doing so, this process typically identifies a high level of rationality of the decision making. On the contrary, the creation perspective emphasised that the opportunity is generated through continuous combinations of interaction between "technical expertise" (entrepreneur knowledge) and societal information. In this case, probably, the business decision is constructed through an incremental approach in which two conditions (entrepreneur expertise and societal knowledge) equally contribute to the creation of the opportunities. Already based on a set of two conditions, the investment theory looks at the opportunity as dependant on exogenous and endogenous variables.

Although with different angles, the way in which the two types of resources are combined, one which affects the opportunity from the inside and another that operates from external environment, can trigger innovations for the decision, generating something that moves beyond the structure or solutions already established. In doing so, the point of entrepreneurship theory seems to reflect the wide range of possibility that could occur during the evolution of the decision-making of something. In fact, this concept always identifies something new without necessarily implying the creation of this something. Probably, the discovery and creation perspective valuably encompass the range of examinable alternatives in which the opportunity can be identified.

Based on the overall contribution from the economic and philosophical disciplines, it might be defined as a set of preliminary indications for the study of which extent can achieve the concept of opportunity within the SEA debate. The attention to the government structures and its action commonly influence the formation of the opportunity in all theoretical strands analysed. The political theory analysed the organisation of the power within government and it emphasised the role of society in promoting modification in the governance. The action of the States is also analysed by economic theories, which recognised that

government can increase or hinder the possibility to create an opportunity for business through its direct regulatory activity.
As a tool introduced for the urban and territorial governance, a first suggestion for understanding the extent of the concept of opportunity within the SEA context could analyse the role of government' structures and competences. The SEA is entirely managed within the public administration that could consider the extent of the government, with regards to the environmental assessment process.
However, as a common element in all theories, the process that generates the opportunity must somehow always involve a role for society. Reasoning upon this element, the Directive 2001/42/EC declared that the SEA must participate, recognising the importance of society within this process.
As such, it might be assumed that the understanding of the concept of opportunity within the SEA should have taken into account the "public".
It is worth reflecting on whether government and public sphere can be considered as the two sets of conditions that each theory developed for supporting the understanding of this concept.
In addition, two more inputs can be identified.
The first concerns the innovation that is a fundamental pillar for the opportunity. In these terms, the analysis should examine in what terms the SEA can bring innovation and whether this tool can innovate practices in only one or in more ways. Within this context, the entrepreneurship theory delineated two different perspectives for the opportunity formation. In doing so, the entrepreneurial opportunity can be discovered within the space left free within the market, and it can be created as a result of tests and interactions between the entrepreneur and society.
Thus, the last input invites reflection on the application of the SEA. In fact, as a tool conducted in diverse situations and contexts, it might be hypothesised that distinct opportunities can originate under different conditions.

Based on this first set of suggestions, the next stage presents the findings from the literature review, in which the current understanding of the concept of opportunity within the SEA field has been investigated.

2.2 The understanding of the SEA's opportunities

In broad terms, the strategic environmental assessment is an opportunity to push sustainability principles within decision making (Shepherd and Ortolano, 1996). Also, the pro-

motion of sustainable development is also emphasised by the SEA Directive's objective (art. 1) through the *inclusion of a wider set of factors in decision making should contribute to more sustainable and effective solutions* (Considerandum n. 5). Thus, the opportunities of the SEA seem to be connected with what sustainability principles really are.

In broad terms, the concept of sustainable development has multiple meanings, which encompass political, ecological and economic spheres. As such, what sustainable development means has been critically debated (Lelé, 1991). However, Alberti and Susskind (1996) contended that sustainability:

> – *... requires invention, not just discovery*
> – *... is a process, not an outcome* (pp. 214-215).

With regards to the Alberti and Susskind argumentation, the concept of sustainable development is strictly related to the perception and values of society. The continuous changes within society that are required to fine tune the understanding of all actors regarding how environmental dynamics can be affected by human activities. In these terms, the concept of sustainable development *...is not a fixed state of harmony, but rather a process of change, in which the exploitation of natural resources, the direction of investments, the orientation of technological development, and institutional change are made consistent with future as well as with present needs* (WCED, 1987).

Thus, if the SEA should be an opportunity to enhance the sustainability of decisions, it should necessarily require a value-laden approach in which all tiers of environmental governance are involved and an active role of civil society is emphasised. So, a first understanding of the SEA's opportunity can be described as something that produces innovation through a process in which various perspectives and perceptions are embedded, affecting different levels of government and society.
In line with the Cambridge Dictionary's definition presented in the previous paragraph, this "something" could be related to two spheres: one in which the SEA can be engaged in attaining challenges that it must comply with, and another in which the SEA copes with the situation where it can be applied without particular normative constraints in order to produce further enhancements for decision makers' choices.

Nonetheless, in cases where the SEA complies with the objectives of the European Directive and Member States' law, is it possible to consider these achievements as opportunity? Or,

could it be preferable to acknowledge them as normal expectations?

Understanding the capacity of the SEA to move beyond the classical Directive's aims can definitely be a source of empowerment for this tool, contrasting scepticism, which affects many subjects (public administrations, public planners, private stakeholders, so on...). In cases where the environmental assessment is not considered just a normative requirement, the contents of PPP-making are shaped through a dynamic series of considerations developed within the SEA. In these terms, what opportunity could mean within the SEA context seems to be largely unexplored.

2.2.1 The expectations and opportunities of the SEA

Reasoning about what should be considered as an opportunity requires deconstructing the nature of SEA as an instrument, understanding its aims and limits (defined within the normative requirements).
Not one of the original aims can be considered as an opportunity triggered or generated because it would mean that an opportunity would equate to complying with the aims of SEA.

Although a variety of studies and practices (UNECE, 1992) were established in the 1990s, the strengths of SEA framework were delineated with the Directive 2001/42/EC "on the assessment of the effects of certain plans and programmes on the environment", which has conferred normative and institutional power to this tool (Geneletti, 2011). So, within European law, purposes and objectives were described. Table 2 briefly summarised all expectations defined in the Directive.

According to the commemorandum n. 4, the SEA is an *important tool for integrating environmental considerations into the preparation and adoption of certain plans and programmes which are likely to have significant effects on the environment...* So, the SEA aspires to bring the environment and its multiple faces into the planning process.
Further, the commemorandum n.5 established the connection between the environmental information, gained and/or elaborated through the SEA, and public decision making.
As an embedded tool of PPPs-making, the SEA should have contributed to improving the quality of data, related to planning impact on the environment. The public consultation and, in general, the role of the public, was emphasised as a core element of the SEA. The public involvement should upgrade knowledge and the accountability of the SEA process, taking into account its outputs before getting the decision (Commemorandum n. 17).
As well, the transparency of decision making can be increased through the SEA (commemo-

randum n. 15). The concept of public was stressed again within art. 6(2) which stated *the authorities ... and the public ... shall be given an early and effective opportunity within appropriate time frames to express their opinion, on the draft plan or programme and the accompanying environmental report before the adoption of the plan or programme or its submission to the legislative procedure*.

Ultimately, according to art. 10, the monitoring carries out a fundamental role in order *to identify at an early stage unforeseen adverse effects, and to be able to undertake appropriate remedial action*.

However, the analysis of appendices pointed out another remarkable task to SEA. In fact, among the proper contents of the environmental report shall be taken into account the *likely significant effects*... that means *secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects*.

Table n. 2: The SEA expectations

Directive 2001/42/EC: expectations and purposes	Directive 2001/42/EC references
Integration of environmental consideration into PPP process	Commemorandum n. 4; Art. 4 (1)
Public involvement	Commemorandum n. 17; Art. 6 (2)
More transparency	Commemorandum n. 15
Monitoring and (in the case of) undertaken possible corrections	Art. 10 (1)
Address cumulative effects	Appendix 1, letter f
Applicative cases	Art. 3 (2): …an environmental assessment shall be carried out for all plans and programmes: (a) which are prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use and which set the framework for future development consent of projects listed in Annexes I and II to Directive 85/337/EEC, or (b) which, in view of the likely effect on sites, have been determined to require an assessment pursuant to Article 6 or 7 of Directive 92/43/EEC.

Given that these elements represent purposes of the SEA, they, or the achieving of them, should be properly considered as expectations rather than opportunities of this tool.

Within this context, there is large consensus on the potentiality of SEA in stimulating enhancements in the sustainability of PPPs process (Bina, 2007; Noble, 2009; Say and Yucel, 2006). According to Brown and Therivel (2000), this capacity of the SEA concerns the internalisation of the external inputs into the decision making that many times are weakly considered during policy formation.

However, a considerable variety of different and, sometimes divergent, perspectives regarding what opportunity really is for the SEA can be identified in literature. A large number of authors tend to describe the achievement of the "desired expectations" of the SEA as its proper opportunities. The SEA is a vector to improve the quality of information about the environmental dynamics, activating opportunities for decision makers (Acharibasam and Noble, 2014; Partidario and Gomes, 2013; Sánchez-Triana and Enriquez, 2007). Particularly, this data carries out a consistent role in coping with cumulative impacts (Alshuwaikhat, 2005; Fidler and Noble, 2012; Kumar et al., 2013; Noble et al., 2013; Partidario et al., 2008; Wood and Dejeddour 1992) in order to take into account ecosystem services that offer a new lens for environmental impacts analysis (Geneletti, 2011; Kumar et al., 2013; Mascarenhas et al., 2015). Also, the waste planning could be another field in which the application of the SEA can contribute to embracing these issues within high levels of planning decision making (Salhofer et al., 2007). However, in cases where the SEA and waste management strategies are difficult to rely on, a set of criteria in order to stimulate shaping the alternatives' can offer an opportunity to meet the SEA's aims, triggering opportunities to better waste impacts considerations (Desmond, 2009). Acknowledging this capacity in gathering new information, the SEA is an opportunity to merge environmental considerations within PPPs-making, increasing integration of the environment with social and economic issues (d'Auria and Cinnéide, 2009; Ives et al., 2015; Slunge and Loayza, 2012). Emphasising the biophysical face of environmental integration, Soderman and Sarela (2010) analysed the opportunity of SEA in delivering biodiversity issues into decision making through detailed steps and process:

- *Integrate biodiversity considerations in planning practices at all spatial levels in land use and sectoral planning.*
- *Consider biodiversity proactively at the beginning of the planning cycle.*
- *Apply iterative multistage planning processes.*
- *Consider basically endless potential alternative locations and solutions.*
- *Identify long-term trends and drivers of change.*
- *Emphasize meeting the objectives.*

– *Concentrate on the broader perspective.*
– *Concentrate on environmental characteristics affected by the lower level of detail.*
– *Handle ecosystem processes and interactions.*
– *Identify and manage cumulative threats and pressures in early stages.*
– *Prepare effective mitigation strategies.*
– *Develop varied and long-term monitoring programmes.*
– *Consider the needs and objectives of stakeholders for the use of biodiversity.*
– *Engage biodiversity experts, planners and decision makers.*
– *Encourage biodiversity partnerships and information networks* (p. 118).

However, Rossouw et al. (2000) argued that merging environmental issues within social and economic matters is the main SEA goal, recognising in some way that the integration is just a normal expectation. As well, integration regards the organisation of competences and tasks within the public administration where the SEA can carry out a role of a "meeting place" among offices and institutions, encouraging fruitful coordination among different tiers of environmental governance (Chaker et al., 2006; Noble et al., 2013; Rachid and Fadel, 2013; Wirutskulshaiet al., 2011). A good interaction between levels of decision making generally contributes to increased knowledge, inspiring a variety of possible actions and/or strategies to accomplish the same aim (Desmond, 2009; Koornneef, et al., 2008).
Reflecting on the "gain" of the SEA, Posas argues (2011: 115) that the *…consideration of alternatives opens up the opportunity to consider different ways of achieving or addressing certain visions, goals, aims, and issues. Alternatives should 'be able to both deal with existing problems and/or meet a plan or programme vision or objectives depending on the specific context*.
Stressing the peculiarity of each situation, the SEA's principal opportunity seems to be the enhancement of public involvement (Doelle and Sinclair, 2006). Although the level of participation is still considered ineffective due to the complexity of the SEA or because this process is generally opened when the contents of a plan or program have already been defined (Gauthier et al., 2011), the role of the public has been largely emphasised since the Directive's formation (Chaker et al., 2006; Desmond, 2009; Noble et al., 2013; Salhofer et al., 2007; Webb and Sigal, 1992; Wirutskulshai et al., 2011). According to De Mulder (2011), the NGOs pressured the EU Organism during the SEA protocol's negotiation in order to make the SEA a real opportunity to broaden the paradigms of the Aahrus convention (United Nations Economic Commission for Europe, 1998) into high levels of decision making. Taking into account the view of the public regarding the nature of further development may also reveal possible environmental implications (Wood and Dejeddour, 1992). Within this frame, the public has an opportunity to enhance environmental knowledge and help identify areas

of negligence that require intervention (Beierle, 1999). According to Jay (2010: 3495), *SEA is intended to be an inclusive and participative process, in which there is an opportunity for deliberation and consensus-building*. However, this opportunity might be increased by structuring the SEA through a participatory approach where citizens and, in general, participants can improve their awareness in doing an assessment (Sims, 2012; Sinclair et al., 2009).
Nevertheless, the involvement also requires better institutional cooperation (Rega and Bonifazi, 2014) because the rigorous normative support confers to the SEA the capacity in setting adequate timing and space for the participation, solving critical issues often arising within PPPs process (Albrecth, 2008). In these cases, the SEA can stimulate opportunity to involve within PPPs making the issues of private stakeholders that can directly affect the formation of strategies or actions, above all in sector policies like energy and/or offshore oil and gas (Fidler and Noble, 2012; Jay, 2010).
Yet, the public participation and/or the quality of the space for public contribution seems to be an SEA's open challenge. Nonetheless, given its normative strengths, this instrument improves public involvements, triggering the opportunity for decision making due to its capacity to bring different kinds of knowledge into the PPPs process. Recognising the value of issues raised in literature, much uncertainty remains regarding whether or not an SEA's expectation can be assumed as its proper opportunity.
As a tool introduced in order to accomplish several specific aims, the achievement of them might be acknowledged as a good result for the SEA, or at best as a compulsory opportunity. In fact, in cases where the SEA failed to attain those aims, probably, it declines its usefulness in enhancing environmental consideration into PPPs-making.

Attempting to move beyond the Directive's frames, the role of the SEA in enhancing environmental decisions has been studied with different angles and perspectives as well. For instance, several academics explored the experiences in which the SEA was investigated in terms of how it could extend its approach into sectoral policy generally excluded from Directive's setting (Carter and Howe, 2006; Hansen, 2011; Koornneef et al., 2008; Noble et al., 2013). Fidler and Noble (2012), although focusing on a private segment of energy planning, examined the offshore oil and gas sector. They emphasised how the SEA can be an opportunity to analyse sector strategies through a complete overview, considering the onshore impacts of social and economic contexts.
The SEA can be also useful for complex projects in which tools like EIA seem to be weak in understanding the need for the integration of certain process. This is the case for the new international airport of Lisbon in which the SEA inspired some changes into decision making without encountering strong resistance from political parties that could easily justify these

modifications through the SEA's advices (Partidario and Coutinho, 2011).
As deeply related to the quality of life and, so, with the environment, the SEA was emphasised as a way to take the health considerations into account (Kornov, 2009). According to Fischer et al. (2010: 209), *SEA offers the opportunity to draw on the potential for health protection and promotion in environment and public health decisions*. Even with the benefits of the application to sectoral policies, the SEA led opportunities for large-scale planning. As typical, strategic decision, regional planning and/or strategic planning, positively or negatively influence a wide area as well as complex environmental dynamics. Understanding which impacts can occur requires multiple criteria and issues to be taken into account.
As a tool covering the whole hierarchy of PPPs-making, the SEA could be an opportunity to map environmental impacts and their distributions, improving databases and knowledge to address appropriate environmental aims into strategic policy (Gunn and Noble, 2009; Jackson and Illsey, 2007; Wallington et al., 2007).
On the contrary, it is widely recognised that the SEA can stimulate social and mutual learning between institutions as well as public and private stakeholders (Sims, 2012; Sinclair et al., 2009; Wirutskulshaiet et al., 2011). According to Bina (2007: 601) *...there is a growing emphasis on the opportunity of using SEA as a catalyst for rational and social forms of learning: to promote long-term positive impacts on the culture and worldviews of the organisations and sectors that apply this mechanism*.
Sharing the considerations achieved through the SEA carries out a great opportunity to influence sectoral views, stimulating the formation of new awareness on the environment.

Although it can be perceived as an issue more related to good or bad administration, it seems to be consolidated that when the SEA is applied on the strategic level it can produce opportunities for better decisions, affecting every subordinate planning level (Partidario, 2015).

The cases in which the SEA manages to go beyond classical Directive's expectations are limited. Notwithstanding, they represent a first attempt to encourage something new regarding the way in which the environmental assessment can improve decision making.

So far, opportunities were explored within the Directive's frame and in cases where the SEA was applied in other fields. However, none of those experiences seem to establish a radical change in making something different for the quality of the decision making process. Nevertheless, few studies presented cases that are worth to taking into account.
Setting the frame in order to contextualise what is the extent of real SEA's opportunity, McCluskey and Joao (2011) argue that the SEA usually contemplates negative impacts and

possible mitigation measures but frequently it fails in enhancing the quality of the environment. According to Joao et al. (2011), the SEA *...can be seen as an opportunity that can improve projects design at all stages and the environment overall* (pp. 170). Within this context, environmental enhancements can be described as *deliberate attempts to take in the design and subsequent phases of projects, policies, plans and programmes to ensure the success of wider range of direct and indirect benefits that could be possibly flow from project or policies* (ibid., 2011: 171). In doing so, the SEA carries out the role of an environmental advocacy tool (Partidario, 2015) as well as a way to pursue the environmental aim defined in art. 174 of the Treaty established by the European Community, which promoted not only the defence of but also the improvement of the environment.

Reasoning upon the concepts of benefits (that sometimes can be seen as a synonym of opportunity), it might be useful to explore cases in which attempts to do something new in respect to basic SEA's aims were encouraged.
The energy sector is probably one of the principal domains in which the SEA can play a double-loop role, improving the environmental protection (that normally is a public policy aim) and strengthen the reputation of the private firms (Jay and Marshall, 2005). With regards to the latter, the application of SEA to company development strategies is probably an opportunity for private stakeholders to demonstrate how their industrial plans are in line with environmental objectives. Thus, a valuable return on the image of the firm can be achieved. Corporate image is generally defined as what the public have in mind when they think about the firm (Barich and Kotler, 1991). The application of the SEA can be an opportunity to identify bad environmental performances and possible enhancements in order to improve the "green reputation" of the company.

According to Jay (2007: 81), *Certain aspects of SEA may be seen as compromising company image. For example, the identification of 'environmental problems', ... may lead to a company's activities being projected as harmful to the environment. The explicit acknowledgement of poor environmental performance would be unattractive to a licence holder. However, existing environmental conditions that fall short of desired standards may be used as the basis for setting achievable targets for improved performance. Moreover, a strong commitment to SEA can be projected, and contribute positively to a company's environmental image*.

Although without a clear definition of what opportunity could really mean within the SEA context, there is a sort of "vague terrain" regarding the achievements of SEA beyond the Directive's domain.

Stressing the concept of opportunity as an attempt to trigger a way to do something more, probably stimulating innovation and recognising the SEA as a tool to promote environmental enhancements, just a few cases were found in literature.
These experiences are principally regarded an extension of SEA's application fields. Only in one case was something different highlighted instead, although it described an extension as well. Jay (2007) tried to consider how the SEA can represent an opportunity for private sectors or for cases in which public and private are partners in managing public services. In this sense, the SEA on one hand maintains its main task as a sustainable development tool and, in the other, it acquires a core role as also a connection between environmental and market aims. Nevertheless, the contributions within this last category are inadequate, yet in order to perform a definition of SEA's opportunity, clarifying doubts and uncertainty are present in this topic.

2.2.2 Towards an operational understanding of the SEA's opportunity

A considerable volume of the SEA's academic publications invites to understand the achievement of the Directive's objectives as an opportunity. It is worth remembering that the SEA was introduced in order to improve the environmental consideration during plan- and program-making, enhancing public participation and getting the best decision among different sets of possible alternatives.
Partially, the basic definition of the Cambridge Dictionary seems to support this understanding, describing opportunity as *an occasion and situation* **that makes it possible something that you have to do**.

However, this research is interested in analysing the cases where the SEA manages to go beyond its classical aims. In these terms, opportunity is something new with respects to the Directive's boundaries. In line with this understanding, all disciplines that try to address a possible meaning for this concept emphasised **the opportunity as a construct that requires innovation**. In fact, political opportunity analysed a situation in which changes in government and opposition can innovate the form and/or the leadership of the State. Similarly, the equality opportunity emphasised a new social environment in which everyone can participate for a determinate position without constraint and barrier, which limits his/her equal possibility to achieve that placement. Also, there are economic and financial theories that investigate the opportunity in terms of new ways to use market or entrepreneurial resources in order to promote innovative business and/or new profits.

Focusing on this binomial between opportunity and innovation, another point concerns

the way in which the SEA can innovate practices. Based on the reflection developed within the entrepreneurship theory, two options might be considered. The first concerns the extent of the discovery paradigm within the SEA context, and another analysed the creation perspective. Briefly, the discovery describes a situation in which the opportunity derived from the ability of decision makers (entrepreneur) that identify possible occasions within the market left free from unpredictable events. The creation perspective emphasises the opportunity as the result of combination between decision makers (entrepreneur) expertise and the knowledge of the society (market preferences). It is defined as creation because the opportunity is somehow generated through the interaction between the private and public component. Acknowledging that the SEA could cover multiple situations and its accomplishments can be influenced by the competence of decision makers as well as from the spaces that the environmental assessment process sets for public participation, it is acceptable to assume which different modalities for the formation of the opportunity should be investigated.
The SEA is an instrument that operates within the duties of public administration. In doing so, it exerts a specific role for the environmental governance, supporting decision makers in improving the quality of PPPs-making.

Based on this premise, the attention is on what the discovery and creation perspectives developed within the entrepreneurship theory can imply for improving the understanding of the SEA opportunity. Starting from the former, the discovery perspective analysed the case in which the opportunity originated within the current framework. This evidence suggests that a first possibility regards the capacity of the SEA in providing opportunity applying the classical approach established by the Directive 2001/42/EC. As such, the discovery could suggest to disclose the cases in which the protection of the environment through SEA-based approaches are conducted on situations outside the discipline of the Directive. Thus, the opportunity somehow identifies the discovery of the usefulness of the SEA, proposing a new way to extend the environmental protection.
However, the second perspective emphasised the creation of the opportunity through a process where decision makers and the "public" participated in the construction of the innovation, interacting and combining their knowledge. Focusing on the implication that this perspective can produce for the SEA, the opportunity is something that is produced. Thus, the creation is used to describe the situation in which something new is constructed. As such, the opportunity created through the SEA could represent an innovation in terms of products. Thus, it might be assumed that the environmental assessment is the space to combine the resources from these two spheres/subjects/contexts, creating the innovation that over-

comes the classical approach of the SEA. Within this context, the first task should analyse which are the two spheres that participate in the creation of the opportunity. According to the International and National legislation, the SEA is a tool that is managed and applied for public planning and programming. As such, highlighting the consideration developed in the previous point, the public administration, its structure and tasks seem to be the SEA's main domain. For this reason, the sphere of government should be included.
Concerning the second sphere, it seems to be acceptable to take into account the knowledge held and developed within the society. In fact, the role of the public is a constant element that has often been emphasised within the Directive as well as in the SEA academic publications.
Thus, it might be stated that a second perspective in the way in which the opportunity is shaped can be identified. In this case, the opportunity is created, inventing possible innovative solutions for the environmental governance. These innovations could involve cases where the SEA invents new opportunities for government and its actions, moving forward the only and classical objective of environmental protection.
Supporting this overview, McCluskey and Joao (2011) and Joao (2011) contended that through the SEA, not only protection measures but also possible enhancements for the environment can be provided. In doing so, the SEA attempts to overcome the simple evaluation-based approach, promoting the use of this tool in a proactive way. Similarly, the SEA can produce innovation in the development strategies of private corporations/firms. Applying this tool outside the government context, Jay (2010) analysed how the construction of firm strategy through an SEA-based approach can bring a valuable return in terms of image that is spendable on the market and on the participation in public services management.

Thus, the cross-analysis of the literature findings from SEA literature and academic publications of other disciplines that already investigated this topic suggests possible understanding of the SEA opportunity. The innovation is a consolidated pillar for the opportunity in all examined contexts. However, different perspectives can be identified in the opportunity formation process. Based on the lesson from entrepreneurship theory, it is worth reflecting whether the discovery and creation paradigm can be useful when applied to the SEA.
Probably, the emphasis on opportunity in terms of innovative ways to use an instrument as well as the opportunity that means innovation in terms of output produced by using a determinate tool can valuably describe the range of situations in which the SEA can be applied.

As such, the cases already studied in literature offer a first test of this possible organisation of the type of opportunities.

In the following part, this framework for the understanding of the SEA's opportunities is explained, determining the criteria for investigating the case studies selected for the research.

2.2.3 Understanding the opportunities of the SEA: a proposal for the analytical framework and a set of criteria

Acknowledging that complying with the Directive's requirements represents merely the achievement of the SEA's desired expectation, this research reflects on the possibility of classifying different types of opportunities.
The fundamental premise is that the opportunity of the SEA is something that concerns innovation, though this innovation should be considered as both innovative application of the SEA and/or innovation for governance created by using the SEA.
Thus, the SEA could be analysed through this lens, emphasising its mandatory objectives and leaving more breadth for different uses which can produce further enhancements for PPPs process and, in general, for the decision makers.

Based on this premise, three different categories are set out in order to establish a framework to study and better organised the contributions from SEA literature (Table 3):

– The first category is named **SEA's desired expectation**. All cases in which the SEA achieves the aims described within the Directive 2001/42/EC (paragraph 2.3.1) are collected and systematised in this category. In accordance with the European legislation, the SEA has been introduced in order to accomplish a determined set of objectives. It seems to be obvious that, although attaining these aims can enhance the quality of planning system, they cannot be considered as opportunity because this concept, as shown before, implies innovation.

– The second category is defined as **SEA's discovered opportunities**. This category involves the cases where the SEA produced a procedural innovation. This opportunity describes the situation in which the SEA is applied to cases that are generally excluded from the Directive's boundaries. In doing so, it extends and enhances the environmental protection in new areas of governance or in which the actions of government can potentially cause negative effects on the environment.

– The third category is defined as **SEA's invented opportunities**. The last level re-

presents the best empowerment for this tool. The SEA has been applied in order to systematise the resources from different spheres, promoting new ways to develop strategies and actions for the environmental governance. Thus, the SEA becomes a proactive tool that is conducted for innovative ends, which go beyond the first set of objectives defined by the Directive.

Based on this framework, the literature already analysed in the paragraph 2.3.1 has been systematized within the three categories(Table 4). In this way, it has investigated what kinds of opportunities have already been analysed. In doing so, the attention is mainly on the cases where real opportunities were triggered or discovered, exploring which conditions or variables have influenced these results of the SEA. This latter issue is analysed for supporting the next stage in which what criteria should be taken into account for the exploration of the case studies are defined

Table n.3: Organising the opportunity(ies) of the SEA: three categories' proposal

Name of the category	Explanation
Category A: Desired Expectations	The opportunity(ies) are the achievement of the SEA Directive's objectives and, as such, they represent the expectations of this tool.
Category B: SEA's Discovered Opportunity(ies)	The opportunity(ies) is the result of an innovative way to apply the SEA, exploiting the value of this approach in order to cope environmental challenges in sectors and/or for matters that usually are excluded from the SEA application.
Category C: SEA's Invented Opportunity(ies)	The opportunity(ies) is the result of a valuably combination of knowledge, new and existent, which takes place within and/or during the SEA process, that generates: a) or an operational innovation for the environmental management and planning for the stages after the conclusion of the SEA process; b) or a substantive innovation which promote an innovation within the (local) environmental agenda based on the consolidation of new environmental values within both society and government.

Table n.4: What opportunity meant within SEA literature

Category	Sub-category	References
Category A: SEA's Desired expectations	Environmental integration into PPP-making	d'Auria and Cinnéide, 2009; Ives et al., 2015; Rossouw et al. 2000; Soderman and Sarela, 2010; Slunge and Loayza, 2012
	Improving quality of information into decision making	Acharibasam and Noble, 2014; Partidario and Gomes, 2013; Sánchez-Triana and Enriquez, 2007
	Addressing cumulative impacts	Alshuwaikhat, 2005; Fidler and Noble, 2012; Kumar et al., 2013; Noble et al., 2013; Partidario et al., 2008; Wood and Dejeddour 1992
	Ecosystem services	Geneletti, 2011; Kumar et al., 2013; Mascarenhas et al., 2015
	Better coordination between different levels	Chaker et al., 2006; Noble et al., 2013; Rachid and El Fadel, 2013; Wirutskulshai et al., 2011
	Shaping alternative scenarios	Desmond, 2009; Koornneef, et al., 2008; Posas, 2011
	Improving public participation	Chaker et al., 2006; De Mulder, 2011; Desmond, 2009; Fidler and Noble, 2012; Gauthier et al., 2011; Jackson and Illsey, 2007; Jay, 2010; Noble et al., 2013; Rega and Bonifazi, 2014; Salhofer et al., 2007; Sims, 2012; Sinclair et al., 2009; Webb and Sigal, 1992; Wirutskulshai et al., 2011; Wood and Dejeddour, 1992.
	Waste consideration	Desmond, 2009.
Category B: SEA's Discovered Opportunity	Extension of applicative cases	Carter and Howe, 2006; Fidler and Noble, 2012; Fischer et al., 2010; Hansen, 2011; Koornneef et al., 2008; Kornov, 2009; Noble et al., 2013; Partidário and Coutinho, 2011; Salhofer et al., 2007
	Mapping the distribution of environmental impacts	Gunn and Noble, 2009; Jackson and Illsey, 2007; Wallington et al., 2007
	Stimulating social and mutual learning	Bina, 2007; Sims, 2012; Sinclair et al., 2009; Wirutskulshai et al., 2011
Category C: SEA's Invented Opportunity	Triggering environmental enhancements	Joao et al., 2011; McCluskey and Joao, 2010
	Private sector	Jay, 2007; Jay and Marshall, 2005

2.3 Improving the understanding of the opportunity within the SEA context: the experts' perspective

This paragraph contributes at improving the understanding of the concept of opportunity within the SEA context. Although it seems to be unusual the inclusion of primary data within the literature review chapter, the relevance of this information and the similarity of the perspective through which the concept of opportunity was analysed have suggested to present this information in this part of the thesis.

For this reason, the analysis of the SEA experts' opinion about what the concept of the opportunity could mean within the environmental assessment field has been introduced in this chapter.

2.3.1 Understand the concept of the opportunity: the SEA's experts' perspective

The difficulty of proposing a definition for a concept like opportunity requires the involvement of highly specialised knowledge that can facilitate also the analysis of literature.

Within this context, a survey was submitted to a group of SEA experts.

The experts' opinions were summarised in order to facilitate the reader in comprehending the core elements of the comments .

Table n. 5: The experts' contribution in defining the SEA's opportunity

Name	Role and Position	Comments (a: What could opportunity mean? b: Is it possible to identify different types of opportunity?)
Alessandro Bonifazi	Indipendent researcher and consultant / MITO project on spatial data infrastructure at Politecnico di Bari	The opportunity of the SEA should be a new way to improve the environmental skills of territorial governance's instruments given that it should follow the entire PPPs process, establishing a continuous dialogue between decision makers and other interested subjects (technical and non). Several types of opportunities could be identified: - The reduction of timing and costs in all tiers of decision making (from strategies to projects, including plans and programmes) - A rationalization of administrative tasks/actions and a limited increasing of the transparency And, the SEA could also provided opportunity for the consolidation of the "environmental citizenship" in terms of "saliency" of environmental issues. Saliency has to be intended as the relevance of the environment with respect to social and economic issues, within matters where these two sphere are inherently intertwined (f.i. conflicts between occupation and pollution, reduction of biodiversity, ...). And the coordination between the multiple ,and often conflictual, subjects with competences for environmental issues. In this case, the opportunity regards the possibility to rationalise data and information, systematising knowledge and management expertise involved into administrative process that influence the same PPPs.

Andrea De Montis	Associate Professor in the department of Territorial Engineering at the University of Sassari	The SEA represents an opportunity to integrate environmental consideration within the plan-making process. The correct development of the SEA since the early stages of planning process brings to better projects and, in a long-term vision, to a reduction of negative impacts on landscape and environment. The SEA is an opportunity to trigger public participation and to spread plan contents in a perspective of process truly informed on environmental topics. In addition, it allows the creation of system for comprehending the effects of the plan that is generally a difficult argument for planner that usually consider the result of their work as difficult to be measured .
Antony Jackson	Honorary research fellow in the department of Environment, part of School of Social Sciences, at the University of Dundee	The SEA's opportunity could regard environmental justice. However, it is connected to a series of condition: - The need to popularise SEA and planning decision making Increasing participation, avoid the consultation on ER as unique moment of public involvement
Bram Noble	Professor in the Department of Geography & Planning, School of Environment & Sustainability, at the University of Saskatchewan	SEA is an opportunity given that capacity to cover multiple situations (adaptability?) Several kinds of opportunity can be identified: - Political/policy risk management – SEA is a means to ensure due diligence by addressing potentially politically contested PPPs early, thus ensuring compliance with what might be considered existing political agendas. - Avoid duplicative EIAs in resource rich, intensive development regions. This ensure s both time and cost savings for potential developers. - Off-ramping opportunity – Many of the issues raised in EIA are issues that cannot be addressed within the context of project decisions. There is an opportunity here for EIA, to make it more focused and effective and efficient by unloading these issues to SEA, where they can be debated in the appropriate policy arena. Windows of opportunity for transition – SEA provides an opportunity to assess institutional environments (not PPPs) to determine whether conditions are amenable to transition – such as transition from one energy source to another, or from one policy or political perspective to the next. This is not about assessing PPPs, but about assessing whether the institutional environment is ready, or supportive, of any new or deviating PPP than what currently exists. This could be particularly the case when exploring the opportunity to introduce new technology (or controversial policies – such as those dealing with nuclear energy, genetics in agriculture etc), where SEA provides an opportunity to test the institutional environment to see if it can even accommodate, or is ready to embrace, these new and perhaps controversial policies or initiatives.
Elsa Joao	Senior Lecture in the Department of Civil and Environmental Engineering at the University of Strathclyde	Opportunities can be seen as a form of enhancement - on accentuating the positive. It is about using SEA not only to avoid negative impacts but to think what positive elements can be derived from the policy, plan or programme. Public participation in determining what is seen as an opportunity in a particular community context is important, e.g. in the form of visioning exercises or neighbourhood walks. Opportunities would cover social, economic and environmental aspects.

Hens Runhaar	Associate Professor of at the Copernicus Institute of Sustainable Development at the Utrecht University and a Special Professor of Management of biodiversity in agricultural landscapes at the Wageningen University and Research Centre	SEA could offer opportunities as a design tool. (When it is applied in early stages of PPPs process) the SEA can trigger opportunity in improving participation, transparency and legitimacy of decision-making).
Peter Phillips	Senior Consultant at Collingwood Environmental Planning and is based in Glasgow at the University of Strathclyde, where he is also a guest lecturer in Strategic Environmental Assessment (SEA)	Two kinds of opportunity within SEA: - The first relates to the SEA task 'identification of key environmental problems' which is often undertaken during Scoping and relates to the provision set out at Annex 1(d) of the EU SEA Directive on "[identifying] any existing environmental problems which are relevant to the plan or programme...". The consideration here on 'problems' places an emphasis on negative issues and the propensity of planning activity and development to cause environmental harm. The scoping is a key stage in this sense. - The second type of opportunity relates to using the SEA process as a means / driver / rationale for developing additional useful outputs (i.e. beyond statutory SEA reporting). For example in the SEA of the Glasgow 2014 Commonwealth Games we undertook an analysis / consolidation of all the SEA recommendations to develop a suite of what we termed 'Commonwealth Games Environmental Guiding Principles' (https://glasgow.gov.uk/CHttpHandler.ashx?id=16656&p=0). The idea behind the EGPs was that they could be used by the plethora of Games actors to 'design in' environmental considerations with all types of Games development (of which there were many). There was no legal / compliance reason to develop the EGPs, rather it was felt that the SEA process had produced a huge amount of useful evidence that could be put to further use. Other opportunities in this context might include developing models / running spatial analyses that can provide useful inputs to SEA, plan-development and also project level planning and design.
Thomas Fischer	Professor of the School of Environmental Sciences at the University of Liverpool	The SEA's opportunity means a way to bring sustainable development principles into decision making. Several types of opportunities can be identified for (f.i.) democracy, governance and economy.

The comments show that it is a consolidated perception of the SEA as an opportunity for governance, particularly for issues concerning the environment.
However, the meaning of the opportunity is still vague and almost all answers focus on what opportunity could be, as well as which types of opportunities can be identified. In line with Directive's aims, experts understand the SEA as a sustainable development tool.
Within this context, the integration of the environment with social and economic issues, balancing the influence that socio-economic variables have on the decision making, represents the SEA's principal opportunity.
Overcoming mainstream environmental protection, Professor Joao suggests exploring how and when the SEA is a source of enhancements for the environment, triggering positive impacts. Similarly, Peter Phillips, senior consultant of Collingwood Environmental Planning of Glasgow, considers the SEA a way to investigate the environmental strengths of PPPs. According to Phillips, opportunities occurred for instance when *tourism plans could seek to take advantage of high quality landscapes or areas of natural / semi-natural habitats in the development of eco-tourism opportunities, or a flood risk management (FRM) plan could look to restore / enhance key aspects of green infrastructure (e.g. floodplains, wetlands, urban forests) to develop more sustainable / ecosystem based approaches to FRM* ...so... *the typical notion of the environment as simply a constraint or a 'backdrop to absorb impacts' is flipped on its head and, instead, the environment is framed as an opportunity for plan-development*.

The SEA should also be provided opportunity for environmental justice but this "achievement" is deeply related with the quality of public participation. In fact, the social involvement seems to be considered a key condition for encouraging innovation in PPPs through the SEA. Professor Jackson argues for *the need to popularise the SEA*, highlighting that where this is happening the SEA really produced something more (like in the case of Scottish NPF for instance). The openness is a necessary factor to move towards a new level of transparency, but participation can also be a source of knowledge and strong legitimacy for the entire decision process.
The liaison between the environmental appraisal and citizen awareness is probably the focal point of Bonifazi's vision that emphasises SEA's opportunity for triggering of environmental citizenship. In his understanding, the SEA should or could provide the necessary knowledge in order to create a new awareness on the citizen, stimulating an enhancement of environmental accountability within "the public". This "switch of values" is in somehow and probably one of the strongest opportunities that the SEA could generate.
Public arenas are places in which environmental awareness should be integrated within policy agenda and, in doing so, the SEA can aim to provide a first understanding of how policies

and strategies can impact and what kind of effects they could provoke.
In these terms, as Professor Noble suggests, the SEA can be considered a political risk management tool.

However, the environmental evaluation can also produce procedural opportunities. The need for institutional enhancements to support adequate transition, for instance from different political perspectives, requires a comprehension of the problems and strengths of the organisations. Within this context, the SEA seems to offer opportunity in order to evaluate how ready the institutional environment is, and so, manifesting opportunities outside the boundaries of environmental protection. This is probably because the SEA offers opportunity as a design tool that means a methodology that can be useful in different contexts and situations. A greater example is suggested by Phillips with regards to the SEA of the Glasgow 2014 Commonwealth Games in which *was undertook an analysis / consolidation of all the SEA recommendations to develop a suite of what we termed 'Commonwealth Games Environmental Guiding Principles'. The idea behind the EGPs was that they could be used by the plethora of Games actors to 'design in' environmental considerations with all types of Games development (of which there were many). There was no legal / compliance reason to develop the EGPs, rather it was felt that the SEA process had produced a huge amount of useful evidence that could be put to further use*.

2.4 Exploring the framework for the SEA's opportunity

The topic of opportunity is always connected to a group of contextual conditions that must occur in order to trigger this (these) opportunity(ies). Within the political theory, the academics describe these conditions as structural, concerning the State and its organisation, and visible signal, emphasising the perceived loose of power of government structures by opposition networks. In these terms, two groups of variables were established, one that analysed the institutional framework and another which investigated the dynamics inside society and communities. Similarly, all strands of economic and financial disciplines reflect in terms of endogenous and exogenous conditions or internal and external, analysing the impacts on the opportunity generations of decisions taken within the corporation, firm or by the entrepreneur and the events that happen outside or in the market or within the society.

In this sense, the SEA process has been investigated in order to understand which analytical framework could be more appropriate for the research aim(s). Within this context, it is worth considering the contribution of Jordan (2002) in analysing the Environmental Policy

Integration in UK. Applying the paradigm already developed by Weale (1993), Jordan investigated the integration of the European policy on the environment using two categories. In the first, the efficient hardware describes how the organisation and the procedures of governance influence the government activities that are involved in the policy integration process. The second was the intellectual software, which investigates the knowledge needed to implement the policy, orienting the government machine towards a more environmental direction. Finally, Jordan (ibid., 2002) also reflects on the role of political will that he describes as *...the electricity,... which energizes the hardware and the software of government work in pursuit of sustainable development* (p. 36).

Several similarities can be identified between the case of Jordan and the SEA:
a) first of all, they concern something established by European Communities that must be implemented within Member States system;
b) they both affect institutional framework;
c) they required an integration of knowledge from both inside and outside government machine;
d) fourth, the political will is in both cases a fundamental element in achieving good results.

Based on this premise, the framework proposed by Jordan seems to offer an adequate setting for studying the way in which the SEA can trigger/provide/generate/discover opportunity.
In order to correctly decline what the hardware and software could imply for the SEA, few preliminary considerations must be presented.
The SEA is a process that means *a series of actions or steps taken in order to achieve a particular end* (Cambridge Online Dictionary).
Secondly, the SEA affects the public decision making process. So, the SEA is an issue concerning the public administration as a system of institutions, organisation as well as a set of procedures. Nonetheless, the SEA is also a process that involves different knowledge, public and private, that compete in shaping SEA contents.

Thus, the SEA can be deconstructed in two different spheres. One concerns its fixed elements that are established through European and national laws. In fact, the Member States introduced the strategic environmental assessment through national norms, setting the framework of this tool on determinate elements like the organisations and decision tasks of different levels of public administration, role of SEA authorities, role of environmental

agencies, supporting tools and structures for public administration activities, contents and features of SEA's documents. It might be stated that these components constituted the "institutional hardware" of the SEA. Within this context, the objects of the analysis are:

– **The SEA national procedural framework**: Member States have implemented the SEA Directive in their national legal system, producing several differences regarding what type of PPPs should be submitted to the SEA and which authorities should be involved within this process. In doing so, different procedural frameworks were established. Often, these differences reflect the level of "consideration" that the SEA achieved as a decision support tool for environmental issues in EU countries. Within this context, the role of SEA's legislation, process and subjects that composed the SEA national framework are analysed in order to understand in which ways these elements influence the capacity of this instrument in providing opportunity.

– **The SEA authorities**: Member States are defined through national law, and statutory authorities must be involved within this process. As such, their role in supporting the SEA-making as well as their contribution in enhancing assessors' knowledge was evaluated.

– **The SEA supporting tools and measures**: some countries have set out tools and solutions in order to support the practitioners, public and private, during the SEA-making (like guidelines, workshops and seminars, web databases and archives, etc.). Within this context, the impacts of the statutory supporting tools on the environmental assessment process and on the capacity of the SEA to provide opportunities were analysed.

– **The role of politics**: the planning process always begins with a political decision. As such, politics is an inherent element of every PPPs. However, in some cases the politics can add pressure on assessors and planners, pushing timing schedule or influencing determinate decisions. On the contrary, a strong political legitimacy can enhance the effectiveness of the SEA process, avoiding potential conflicts and delays.

The second regards the "mobile" components of this process that make the entire machine run. As an interdisciplinary process (Gazzola, 2011), the SEA requires a set of different knowledge, skills and expertise in order to comply with the different stages. It is worth pointing out that the knowledge investigated within this task concerns both public admini-

stration and civil society that are generally involved in the SEA through public participation. Within this framework, two main sides are analysed:

– **The professional expertise**: in which the SEA is a highly specialised instrument that requires competencies on PPPs-making as well as knowledge on the environment and its dynamics. As such, the quality of the expertise that manages this process directly affects the achievement of the SEA. Probably, the cultural background of the assessors and of the practitioners involved within the environmental assessment could play a core role in enhancing the capacity of the SEA to provide opportunity to decision makers. Within this context, the skills of practitioners, public or private, that conducted the SEA are evaluated in order to understand how they contributed to shaping these opportunities.

– **The civic engagement**: public participation is widely recognised as a fundamental source of knowledge that is generally defined as tacit. This type of information is acquired through daily life experience and it is an expression of local identity that is difficult to gather through studies or analysis. As such, the contribution from citizens' involvement could be a source of innovation because aspects and elements neglected from technical investigation could be raised. Within this context, the civic engagement and its impacts on the SEA were analysed and evaluated.

2.5 Conclusion

As a wide concept, opportunity covers multiple situations in SEA literature even though its meaning is not well defined yet. Without a clear understanding of what opportunity means in determinate contexts, both the comprehension of what is the SEA extent and what should be the SEA improvement stages can be limited. The Cambridge Dictionary described the opportunity as *an occasion or situation that makes it possible to do something that you want to do or have to do, or the possibility of doing something*. Nonetheless, the complexity of environmental domain probably requires a deep exploration and a proper definition that takes into account the peculiarity of SEA. In doing this, several attempts developed into other disciplines can suggest possible lenses for this analysis. Moving from philosophy to economic disciplines, a few common elements can be identified:

– Opportunity requires or brings innovation.

– Opportunity, and/or its triggering, is always connected with a set of conditions, which can be external and internal, endogenous and exogenous...

Starting from these preliminary considerations, the SEA's literature investigated how authors intend opportunity and which elements are more widespread. In order to support this analysis, three different categories of possible opportunities were introduced.

The first grouped the entire volume of studies where the SEA is a way to settle the Directive's objectives. A considerable volume of academic publications describe opportunity in the situations where the SEA achieved its proper expectations. If on one hand the accomplishment of the Directive's aims is certainly a good demonstration of the usefulness of this tool, in the other it is worth remembering that opportunity requires innovation and there is no one innovative way or application case in the carrying out of prefixed tasks.

The second, named SEA's Discovered Opportunities, described the attempts to consider as opportunity the cases in which the SEA was adopted outside the Directive's frame, as generating a little bit more than its proper aims. The studies included in this category analyse the extent of cases in which the SEA was applied and the opportunity to trigger social and mutual learning through the SEA, suggesting possible, even though tiny, improvements for practices and PPPs-making.

The last category identified the real opportunity, the experiences where the SEA is used in innovative ways or produces innovation for the public decision making process. Only a few contributions were included in the last section.

Although the review performed a wide overview about how the topic of opportunity was treated within the SEA debate, the definition of the concept of opportunity remains largely unexplored.

3. THE METHODOLOGY

This chapter explores the research methods of this thesis, why they were chosen and how they were used to achieve the research objectives.
The next paragraph defines what kind of research it is. Subsequently, the research strategy is described, explaining the research aim and objectives. Finally, the research design is presented through an articulation of different and successive stages, addressing methods adopted.

3.1 The Research Strategy

The research strategy aims to describe the framework set out in order to relate theoretical with empirical stages, organising steps and tasks.
As for the majority of the studies developed within social sciences discipline, this research is qualitative. As such, it attempts to investigate a phenomenon within the SEA practice, involving different perspectives and theories for proposing an explanation of the topic of opportunity.

This research is partially deductive and partially inductive. As deductive study, the research analysed theories in order to construct hypotheses on what opportunity could be for the SEA. Moreover, it is also an inductive research because, based on the findings, the research tries to generalise results, proposing a new theoretical construct on the extent of the concept of opportunities within the SEA context.

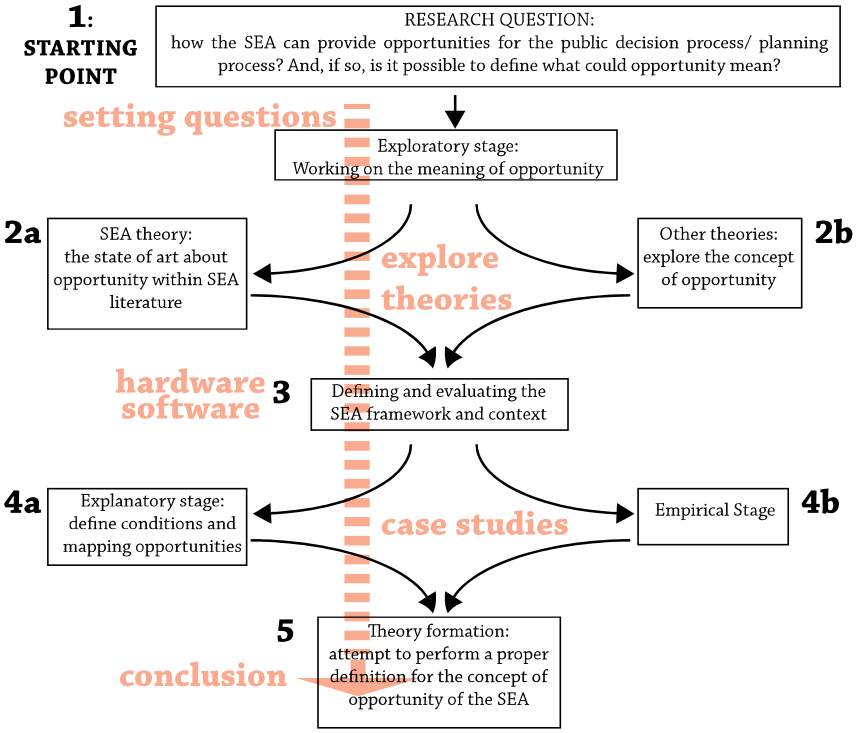
With regards to the research strategy, as shown in figure 1, the first step was principally exploratory. It was based on the analysis of whether the concept of opportunity was already treated within disciplines developed outside planning and SEA contexts. Subsequently, the same exploration focused on the SEA literature. Within this context, what types of meaning the opportunity has already assumed was investigated.

The third stage was largely explanatory and it sets the framework for analysing the SEA's opportunity.

The fourth step tested the theoretical reflections on select case studies. In doing so, different types of opportunities as well as the conditions that fostered (or hindered) the formation of these were identified.

The last stage was engaged in performing a definition for the concept of opportunity within the SEA context, testing the results gathered through the case studies analysis.

Figure 1: The stages of the research strategy



3.2 The case study method

This phase was mainly concerned to test the findings of exploratory stage on the selected case studies. The research methodology of the case study is particularly used to answer the questions "how" and "why". The aim of the case study method is to investigate how a decision and/or a set of decisions was/were taken, how this/these was/were implemented and what kind of results were achieved (Schramm, 1971).
Notwithstanding, the case study is probably the proper methodology in order to evaluate how certain variables influence something that generally is the object of the research. In fact, according to Yin (1994: 13) *...you would use the case study method because you deliberately wanted to cover contextual conditions – believing that they might be highly pertinent to your phenomenon of study*.

Within this frame, the Italian and Scottish contexts were identified; subsequently, two SEAs for each countries were selected as case studies.
The Italian and Scottish territorial governance frameworks are based on similar hierarchical organisation in which three levels of planning and/or programming are identified. In addition, the Italian and Scottish SEAs are based on a tier system in which the central government holds the competence for all national interest PPPs, while subordinate SEAs are managed by lower authorities. However, it is worth remembering that the different institutional organisation between Italy and Scotland do not allow a pure comparison. In fact, the Italian State is based on more than 8.000 municipalities that exert duties for urban and territorial governance. On the contrary, the City Council in Scotland has only 32. As such, the scale of the case studies cannot be equally compared. Nevertheless, this research tries to investigate and compare how the institutional side of the SEA works, keeping constant a set of 6 comparison elements which were previously described (as institutional hardware and intelligent software). Thus, the different scale of the cases does not limit this research.

Italy

The Italian context was selected grounded on a set of preliminary considerations:

- As a research of a PhD in Town and Regional Planning, the topic had to concern planning issues.
- The SEA in Italy is mainly applied to planning decisions (Ministry of the Environment, Land and Sea protection, 2012) and, as such, it is totally affected by similar

dynamics that interest plan-making.

– According to the disciplines that already define this concept, the study of opportunity could imply whether or not a tool or a process (in this case the SEA) is able in providing innovations.

– The interest for the environmental dynamics in Italy is not well established yet. It is worth reminding that it is only with sentence n.151 of the Constitutional Court that the link between environmental protection and quality of life were made explicit and recognised (Repubblica Italiana, Corte Constituzionale, 1986[1]).

– Last but not least, the implementation of the SEA in Italy needed three different legislative stages in order to comply with EU requirements. Moreover, due to the empowerment of regional governments, the normative fragmentation increases the peculiarity as well as the complexity of this context. In fact, it is worth noting that Italy went through a process of decentralisation, which started in the 1980s and resulted in the transferring of spatial and strategic planning competencies from central government to its twenty regions[2] . Fifteen regions exert their legislative power within the framework defined by central government, while five regions and two provinces operate with special autonomy. Within this administrative framework, SEA competencies have also been transferred to the regions, who have set their own legislation within their regional planning frameworks implementing and defining in detail the contents and practice of SEA[3] . The regions therefore are one of the most relevant actors in the Italian SEA process.

Based on this premise, Italy seems to be an interesting case to test the SEA capacity in stimulating opportunity for the public decision making process, emphasising constraints and possible "powerful elements" in order to trigger innovations in environmental protection strategies.

Even with differences, several Regions introduced norms about environmental evaluation for plans and programs before the central government enacted the Legislative Decree n.152, the principal reference for the SEA in Italy, only in 2006. These regions were:

– Calabria, which introduced a kind of sustainability assessment through the regional law n. 19/2002 (Calabria Region, 2002);

– Emilia-Romagna, which instituted with regional law n. 20/2000 a type of evaluation ex ante in order to assess the environmental and territorial sustainability of plans, named "valutazione preventiva della sostenibilità ambientale e territoriale"

1 This process is completed with the sentence of the Constitutional Court n. 641 (Repubblica Italiana, Corte Constituzionale, 1987)
2 The Italian government is organised through tiers in which the functions are hierarchically distributed through territorial administrative levels; these are Central Government, the Regions, the Provinces and the Municipalities.
3 In a small number of cases SEA competencies have been transferred to provinces.

(Emilia Romagna Region, 2000).

– Piemonte, which introduced a first form of SEA in 1998 with the law n. 40 (Piemonte Region, 1998).

– Toscana, which introduced several indications for an assessment for the environmental effects of planning process with the law n. 5/1995 (Tuscany Region, 1995) and it defined the contents of a first environmental assessment tool for strategic plans with the DGR n. 1541/1998 (Tuscany Region, 1998).

– Veneto, which established the SEA in 2004 through the law n.11 (Veneto Region, 2004).

Among them, the Toscana region was chosen.

Toscana's government holds a long tradition in environmental and landscape planning, probably because its territorial resources represent a unique heritage in Italy. Moreover it is worth reminding that these environmental and landscape resources are pillars for many economic activities that largely contribute to regional wealth.

Also, the regional government pays serious attention to the topic of public access to decision making process. In fact, even though first consideration on the value of citizen involvement was introduced with the law n. 1/2005, public participation became a core element of planning as well as SEA process in 2013 with the law n. 46. This norm de facto disciplined time and space of the participation into public decision making, entrusting the power to assign specifics found for these initiatives to a special authority[4] . So, given that the large consensus on the importance of participation into the SEA process, the Toscana framework was considered as an interesting case for this topic. In order to understand if, and how, the normative evolution influenced the SEA implementation, two cases were chosen. One of them was implemented before the introduction of the law on the public debate n. 46/2013. Another, instead, is more recent and it took benefits from special found to establish a participative SEA.

The first case was the Piano Strutturale (Strategic Plan) of Chianciano Terme's Municipality. It was a long process in which two different mayors and relative administrators took part.

The second is the Regolamento Urbanistico (Operational Plan) of Scansano's Municipality. It represents a sort of pilot case study because, as stated before, it won a public tender of the Authority of Participation for the setting of a "participative SEA".

The main differences between these cases are that the first regards a strategic planning in which strategies are defined and indicates the future development and management of the city. On the contrary, the second represents another kind of planning action that is applied in order to specifically define the way in which implement strategies defined within the Strategic Plan (Piano Strutturale).

4 Autorità per la partecipazione – Authority for the public participation

The normative and instrumental differences between these two types of plans are described in detail in chapter 4.

Scotland

The second context concerns Scotland. Similarly to Italy, even though with a different angle, the Scottish parties were relevant actors in implementing the environmental assessment for PPP.
In fact, in 2003 the government coalition that won the election pursued a role of world leader in environmental protection, emphasising the SEA and extending its application to the whole system of public PPP (Jackson and Illsey, 2007). So, although in opposite terms, the two contexts were influenced by a strong political culture, where in Italy it sometimes contributed to hindering the usefulness of SEA and, instead, in Scotland several solutions were set up, probably thanks to this political support.

In order to analyse comparatively the Italian case with another European context, a set of criteria were identified:

– The SEA is supported by a strong political will;
– The SEA is widely applied in public decision making;
– The public administration framework is the core in implementing and improving SEA process.

Although several European Countries attempted to improve the administrative framework[5] of the SEA in different ways (Schmidt et al., 2006), Scotland was distinguished with regards to the political legitimacy of the SEA and the emphasis that has been conferred to this tool. According to Jackson and Illsey (2007), the partnership agreement of the coalition that won the Scottish parliamentary election in 2003 was based on the importance of environmental concerns as the core element for making public policies. Within this agreement, in particular, the SEA application to all PPPs under the Scottish jurisdiction was a key step. Through the Scottish Environmental Protection Act (2005), these "promises" were formally introduced into the national normative system.

5 In UK the SEA was included in a large setting already developed of environmental assessment tools; In Germany since the EIA act the government tried to address the SEA measures within the tiers system based on the Leanders; in Italy the regional governments organisation if in one contributed to increase complexity and fragmentation, in the other it produced some pilot experiences in coordinating competences and agencies within the most virtuous regions;

Scottish Ministers lauded the Act as offering Scotland the opportunity to be a world leader in Strategic Environmental Assessment (ibid., 2007: 617). Based on these premises, Scotland was identified as a good context for this research.

The contribution of Professor Antony Jackson of Dundee University was fundamental to select appropriate case studies. After a brief explanation about the nature of the Italian cases, he suggested to evaluate a similar plan that was made by a municipality for a possible comparison with the Operational level of the Italian plan.
In addition, with regards to the SEA applied to a strategic level, he presented the opportunity to study a different kind of tool, probably incomparable with other Italian cases that took into account all of Scotland, setting rules and strategies for the whole subordinates planning and policies level.

Reflecting on these opportunities, the Local Development Plan of Dundee City and the National Planning Framework 3 were selected. The former is likely similar to an Italian town plan – the operational part, while the latter represents a new procedure for the Italian context and as such it can be useful to understand whether the capacity of SEA in providing opportunity is increased if it is applied to a real strategic decisions.

3.2.1 The retrospective approach technique for the case study analysis

Already concluded cases were chosen. In this way, the data gathering was easier and cases from two different contexts were manageable. In order to examine these cases, a retrospective studies approach was selected.
This method is based on the analysis of certain events and processes that are investigated in respect of their meaning for the focus of the study. Within this context, the exploration generally starts to the end of the process and comes back until the beginning (Flick, 2014).

3.2.2 Case study analysis step 2: the comparison

In order to explain whether the ways in which the SEA has been implemented could influence its capacity to trigger opportunity for the decision making process, the second step of case study analysis concerns the comparison between SEAs from two different national context.
As such, similarities between SEA frameworks were fundamental aspects for the selection of the comparative contexts.

3.3 The Research Design and the data collection

The research design is *...a plan for collecting and analysing evidence that will make it possible for the investigator to answer whatever question he or she has posed. The design of an investigation touches almost all aspects of the research, from the minute details of data collection to the selection of the techniques of data analysis* (Ragin, 1994: 191).

Within this frame, the design of this research was based on three main phases (figure 2):

– *Exploratory stage*: a relevant phase in which the theory was investigated through literature review and specific questionnaire surveys.

– *Empirical stage*: it was designed in order to comply with the research object 3, which tested the considerations developed through theory investigation. Cases from Italy and Scotland were selected and analysed.

– *Theory formation stage*: it represents the conclusion phase in which the reflections arose in both theory and case studies were used with the purpose to perform the definition of the concept of opportunities for the SEA.

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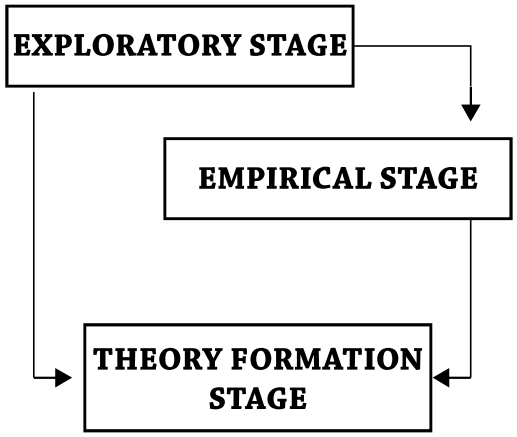
Figure 2: The research design scheme



3.3.1 The data collection: the primary data

The interviews represent a fundamental element of the qualitative research. As such, this study has used this mean for the definition of all stages of the research.

Since its early moments, the interview was applied in order to define the state of art of the SEA in both Italy and Scotland. Particularly for Italy, the interviews contribute to define the angle of this research, helping to select the regional context for the case studies selection as well. However, the largest contribution came from the questionnaire interviews, which were used for all sections of this research. In fact, the questionnaires were submitted for a preliminary understanding of the perception of usefulness of the Italian SEA, which represented the first input for the selection of this research topic. Subsequently, this method was applied to the definition of what opportunity could be for the SEA, involving a list of 20 SEA experts. Finally, the questionnaire was the main methodology to gather primary data for the case study analysis. Three different methods were adopted in structuring the interview:

– The first was the narrative interview, which is a fundamental element in a retrospective study. According to Hermanns (1995: 183), *in the narrative interview, the informant is asked to present the history of an area of interest, in which the interviewee participated, in an extempore narrative*. And *...the interviewer's task is to make the informant tell the story of the area of interest in question as a consistent story of all relevant events from its beginning to its end*. In order to orient the narration on the research topic, a list of basic questions was previously shown and discussed. Through this expedient, the narrative data meaningfully cover the issues that arose in the research questions and objectives.

– The second was the problem-centred interview, that is an approach designed to support the narrative data, concentrating the attention on specific issues or aspects with respect to the object of the research (Flick, 2014). Furthermore, it is a valuable technique in coping with limited time for discussion or in cases where it is possible to gain information just through structured questions and/or written questionnaires. For this reason, this method was mainly used for the email and questionnaire interview.

– The last was the focused interview (Merton and Kendall, 1946). The design of the interview through this approach is based on four main parts: a) non-direction, which is generally used to bring the interviewee within the research framework; b) the specify, in which specific elements are brought into the conversation—*To increase specify, you should encourage retrospective inspection* (Flick, 2014: 213); c) the criterion of range that means to take into account all aspects included within the research question; and d) depth or personal context, which aims to gather the subjective opi-

nions of the interviewee regarding their role in the process or a personal evaluation of the result achieved. This approach was used in face-to-face and telephone interviews as well as to establish the structure of the questionnaires.

Finally, as a common element between face-to-face and questionnaire interviews, to each interviewee was described:

– The frame of the research.

– The aim of the research.

– The reason why his/her contribution could be relevant.

– The structure of the interview: practically a list of written questions was previously sent to each subject interviewed in order to create a common understanding about what kind of information was needed.

3.3.2 The interviews

Based on the preliminary analysis on the way in which the SEA was implemented within Italian regions, a set of eight interviews were structured.

Table 6: The list of interviewees for general understanding of the SEA implementation within Italian regions

Name	Institution	Position	Type of Interview	Aims of the interview
Pietro Pettini	Grosseto Province (Tuscany Region)	Head of NUPAV (Nucleo Unificato Provinciale di Valutazione e Verifica – Unified Provincial Team for the Assessment and Verification)	Problem-Centred interview(Semi-structured)	General understanding of the Italian and Tuscany region SEA
Lucia Gracili	Grosseto Province (Tuscany Region)	Vice-Chair of NUPAV (Nucleo Unificato Provinciale di Valutazione e Verifica – Unified Provincial Team for the Assessment and Verification)	Problem-Centred interview(Semi-Structured)	General understanding of the Italian and Tuscany region SEA
Rocco Olivadese	City Council of Orvieto (Umbria Region)	Head of City Council Planning Office	Focused Interview	General understanding of the Italian and SEA
Pio Tacconi	Latina Province (Lazio Region)	Planning Officer	Focused Interview	General understanding of the Italian and SEA

These subjects were identified through a web analysis on the public institutions which have recently managed an SEA procedures, given that this kind of environmental assessment was pretty a new tool for several regions. Within this context, two planning officers from Grosseto Province (Tuscany), a planning officer from Latina Region (Lazio) and one from the city council of Orvieto (Umbria) were interviewed. Their contribution was principally helpful in defining the context of the research, highlighting the current limitations that affect the SEA implementation and the strengths of the SEA within these regions (Table 6).

In addition, the direct interview was also used to define which cases could be analysed for the Scottish context. In doing so, the contribution of Professor Antony Jackson of Dundee University was fundamental in selecting appropriate case studies. Based on a preliminary research on academics that analysed the SEA framework in Scotland, Professor Antony Jackson concentrated his academic publications on the implementation of the SEA in Scotland, publishing the most quoted article on this topic.
Finally, the interview was used for gathering necessary knowledge on the case studies. Excluding the case study on the SEA of the Scansano Operational Plan that was followed directly on the field, the narrative interview technique was applied in order to collect a general understanding on the SEA process, its evolution and the main elements analysed within the research (Table n. 7).

Table n. 7: The list of the interviewees for case studies analysis

Name	Position and Role	Type of Interview	Case Study
Sonia Occhi	Environmental Consultant/ Assessor in charge for the SEA of Chianciano Terme Strategic Plan	Narrative Interview	SEA of Chianciano Terme Strategic Plan
Graeme Purves	Chair of BEFS (Built Environment Forum Scotland)	Narrative Interview	SEA of Scottish National Planning Framework
Andrew Mulholland	Planning officer at Dundee City Council/ Assessor in charge for the SEA of Dundee City Local Development Plan	Narrative Interview	SEA of Dundee City Local Development Plan
Claire Myles	Planning Officer at Dundee City Council/ Assessor in charge for the Habitat Appraisal of Dundee City Local Development Plan	Conversation based on a semi structure interview	SEA of Dundee City Local Development Plan

3.3.3 Questionnaire surveys

The questionnaire based interview was the principal method for acquiring primary data within this research. Given its wide application in all stages of the thesis, the analysis of the questionnaire interview is organised by phases, underlining the why the questionnaire was used and the response rate received.

In the early stages, a questionnaire based interview was submitted to the Head of the SEA department of 15 Italian regions in order to understand the perceived usefulness of the SEA in Italy. In fact, due to the devolution process, the regions are becoming the key actor for the SEA process (De Montis, 2013). The questionnaire included 7 structured questions in which multiple choices were selectable. Almost 74% of the interviewees decided to participate in this survey.

In a second stage, the questionnaire survey was prepared in order to support the theoretical analysis of what opportunity could be for the SEA context. For this reason, a group of eminent SEA experts was involved into this research. The principal internet bibliographic databases of the four main journals in which SEA academics and practitioners used to publish their work were explored. These are the Environmental Impact Assessment Review, Impact Assessment and Project Appraisal, Journal of Environmental Assessment Policy and Management and Journal of Environmental Planning and Management. The authors were selected based on the number of publications, excluding authors that published less than five articles on the SEA topic. In addition, the number of quotations has been analysed in order to complete this selection.

The first hypothesis was to select a list of twenty eminent experts. Given that this research focuses on the Italian and Scottish contexts, ten of these were from Italy and Scotland . The remaining ten were identified through the criteria of publications as defined above.

The questions submitted were:

- What do you think an opportunity(ies) for and/or within SEA could mean?
- Are there different types and/or forms of opportunities? Please give some examples.

The 45% percent of the SEA experts interviewed participated in this survey (see table n. 8). Among them, two come from Italy and three from Scotland.

Finally, the questionnaire survey was also used to gather knowledge for the case studies analysis. For each case, an analysis of institutional agencies and stakeholders from civil society were taken into account. In order to identify these subjects, the section relative to the public consultation of the environmental reports was investigated. In doing so, a former list of subjects, public and private, were selected.

Each questionnaire aimed to understand whether the SEA provided opportunities for de-

cision making and decision makers. The questionnaire was organised in two sections, in which a former part that investigated the status of the SEA implementation in that country and the conditions which allowed or hindered the formation of the opportunities through multiple-choice questions. In the second section, the questionnaire invited the interviewees to suggest possible angles in order to better study the research topic.

However, it is worth remembering that the case of Scansano was partially followed directly, so the use of questionnaires was limited.

Within this context, each case study is separately analysed.

The response rates were variable: for Case Study 1, almost 60% of interviewees decided to participate in this survey; for Case Study 2, almost 50% took part in this survey; for Case Study 3, almost 75% answered the questionnaire interview; finally, for Case Study 4, only 30% participated in this survey.

Table n. 8: The list of SEA experts which answered to questionnaire survey

Name	Role and Position
Alessandro Bonifazi	Indipendent researcher and consultant / MITO project on spatial data infrastructure at Politecnico di Bari
Andrea De Montis	Associate Professor in the department of Territorial Engineering at the University of Sassari
Antony Jackson	Honorary research fellow in the department of Environment, part of School of Social Sciences, at the University of Dundee
Bram Noble	Professor in the Department of Geography & Planning, School of Environment & Sustainability, at the University of Saskatchewan
Elsa Joao	Senior Lecture in the Department of Civil and Environmental Engineering at the University of Strathclyde
Hens Runhaar	Associate Professor of at the Copernicus Institute of Sustainable Development at the Utrecht University and a Special Professor of Management of biodiversity in agricultural landscapes at the Wageningen University and Research Centre
Maria Rosario Partidario	Associate Professor in the department of Civil Engineering and Architecture at the IST - Instituto Superior Técnico
Peter Phillips	Senior Consultant at Collingwood Environmental Planning and is based in Glasgow at the University of Strathclyde, where he is also a guest lecturer in Strategic Environmental Assessment (SEA)
Thomas Fischer	Professor of the School of Environmental Sciences at the University of Liverpool

Table n. 9: Case study 1 - the SEA of Chianciano Terme Strategic Plan

Name	Role
Arch. Sonia Occhi	Consultant – SEA designer
Arch. Anna Maria Ottiaviani	Head of planning office of Chianciano Terme City Council
Marco Rossi	City Council Committee Member from 2004 to 2014
Professor Gabriella Ferranti	Meyor of Chianciano Terme City Council 2009-2014

Table n. 10: Case study 2 - the SEA of Scansano Operative Plan

Name	Role
Arch. Daniela Giura	Head of planning office of Scansano City Council
Arch. Adalgisa Rubino	Member of Assessment Team (MHC Progetto Territorio)
Arch. Sara Giacomozzi	Member of Assessment Team (MHC Progetto Territorio)

Table n. 11: Case Study 3: the SEA of the Dundee City Local Development Plan

Name	Role
Andrew Mulholland	Planning officer of Dundee City Council – SEA designer
Claire Mayles	Planning officer of Dundee City Council – Habitat Appraisal designer
Robin Campbell	Operation Manager at Scottish National Heritage
Silvia Cagnoni-Watt	Planning Officer at Scottish Environmental Protection Agency

Table n. 12: Case Study 4 - the SEA of the Scottish National Planning Framework 3

Name	Role
Professor Antony Jackson	Honorary Research Fellow at the University of Dundee
Susan Dean	Principal Policy Officer at Scottish Environmental Protection Agency
Mandy Catteral	Scottish Property Federation
Fiona Rice	Policy and Advice Manager – Environmental Assessment – at Scottish National Heritage
Kate Bellew	Royal Society of the Protection of the Bird – Scotland

3.4 The data collection: the secondary data

The literature review investigated the institutional documents (like studies published by the Italian Ministry of Environment, ISPRA , Scottish Government, Scottish Environmental Protection Agency, European Union, European Commission – Environmental Department, IAIA); academic publications from Internet search engines and/or web archives (like Scholar, ESBCO, Scopus, Web of Knowledge) and library resources.

In the first phase, the analysis was on how different disciplines declined the concept of opportunity. Relevant contributions were gathered from internet search engines and, above all, through library search. The philosophical theory regarding social mobilization as well as different strands in financial and business studies were explored through classic handbooks and/or thematic encyclopaedias as well as through object-centred research with internet search engines. The research objective 1 – task 2 was achieved with these findings.

In the second stage, documents published by the European Commission as well as the IAIA were taken into account. The aim was to identify the main research lines and whether (or not) the concept of opportunity already assumed specific meaning.
The academic publications were analysed through internet search engines and archives by using a word combination of "SEA" and "opportunity" in order to strictly select only the publications which already treated the topic. The application of the Boolean operator AND ensured to notably reduce the volume of studies found through the web search engines, maintaining a controllable dimension for this analysis. The results of this step were finalised to answer at the research objective 1 – task 1.
The volume of literature examined (institutional documents – internet search engines – library and web library) required the setting of proper methods to organise these findings. For this reason, three different categories were established.
Since the introduction of the Directive 2001/42/EC, the SEA should comply several aims and/or expectations. The exploration of SEA theory has highlighted that often these expectations were described as SEA's opportunity. These findings were grouped in a first category. Subsequently, stressing the potential innovations that can be triggered through the SEA, an "antagonistic" category was set up. Ultimately, another category that described the situation in between was established.

3.5 The data analysis

In the first step, the environmental reports of four cases were analysed, identifying the main stages of these processes as well as the principal stakeholders that were involved. In addition, the documents related to them (like national and/or regional guidelines, normative and regulations, legal opinions, agencies reports, consultation statements, plans and/or programmes over levels and so on…) were also taken into account in order to integrate the contextual knowledge.

The entire volume of these findings were investigated through the technique of content analysis. According to Schreier (2014: 170), *qualitative content analysis is a method for systematically describing the meaning of qualitative data…* and *this is done by assigning successive parts of the material to the categories of a coding frame*.

Within this context, in a first stage the necessary material was identified and analysed. In doing so, these materials were summarised through the technique of *summarizing content analysis* (Flick, 2014: 431), which is finalized to paraphrase all documents, reducing their volume through the skipping of less relevant passages.
This stage allowed the organisation of the information into three main categories: the SEA's decider expectation, SEA's discovered opportunities and the SEA's invented opportunities. In doing so, the data gathered in the theoretical stage was integrated and connected with the issues, each developed into specific case studies.

In a second step, it was possible to select the necessary interviews. In fact, reassessing the data was possible to identify which kind of information was impossible to get through documents analysis. Therefore, a list of subjects to interview was set. Each contribution was addressed in a specific stage of the research, improving elements in order to accomplish different research objectives and tasks.

3.6 Ethical consideration

In order to achieve its objectives, this research used the interviews (face-to-face, via telephone and questionnaire-based) as a fundamental source of knowledge. As such, issues regarding ethical considerations were addressed.

In particular, the interviews were preceded by a preparatory stage, which included:

– The explanation about the motives and aims of the research;
– A description of the background of the research;
– A brief introduction regarding the background of the researcher;
– Finally, a description of the structure of the interviews (number of questions, type of questions, and time (only in the case of face-to-face meeting)).

In order to secure the participants, all interviewees were asked if they wanted to keep their contributions anonymous, particularly for questionnaire-based survey. The majority of the participants decided to be cited in the thesis.

The interviews were recorded. However, in order to encourage interviewees to highlight hidden facts in reconstructing the case studies, this research avoids addressing a few specific sentences that could overcome the level of confidentiality adopted within this study.

3.7 The limitations encountered

The limitations of this research derived from:

– The timing: the comparison between two different countries probably limited the timing for the analysis of case study, above all with regards to the case of Scottish National Planning Framework, which represents a totally new experience with respect to the Italian SEA practice.
– The primary data: the participations in interviews and the questionnaire survey were generally weak, or perhaps a wider involvement could improve the quality of the understanding. However, the case of Scottish National Planning Framework was particularly affected by this limitation. In fact, as highlighted by many interlocutors invited to participate in this survey through face-to-face interview as well as questionnaire submitted by email, the Scottish Government seems to have recently changed its internal policy in participating to external surveys, limiting the possibility for the officers to take part in this kind of research. Unfortunately, this situation reduced the understanding of some issues that are not generally written but are hidden between lines. Notwithstanding, the knowledge acquired was sufficient to accomplish the topic of the research.

4. THE INTRODUCTION OF THE CONTEXT FOR THE CASE STUDY ANALYSIS

This chapter represents the connection between the theories review and case study analysis. The aim is to introduce the SEA framework in Italy and Scotland that forms the contexts in which the four cases were selected. This part investigates the way in which this tool has been implemented in each country, emphasising the strengths and weaknesses of the SEA. Thus, the SEA legislation has been analysed. In addition, the structure of governance of both Italy and Scotland is explained, highlighting the competencies and tasks of each level of government.

As opposed to Scotland, in Italy the governance duties for several matters were transferred from the central government to regional. Due to this devolution process, the regions hold competence for the urban and environmental governance and, as such, can promote and enact proper laws and rules. For this reason, a specific section is introduced in order to illustrate the regional context in which the two Italian cases were chosen, explaining the normative peculiarity set out by this region.
Ultimately, the third paragraph describes the main differences between the Italian and Scottish SEA frameworks, establishing several comparison elements. These are: a) the law(s) that introduced the SEA; b) the statutory authorities involved within the SEA process; c) the types of plans and programmes that must be submitted to the SEA; d) the elements and tools established by the national governments in order to support the SEA-making; e) and public participation and its role within the SEA process.

This chapter is structured into three main sections. The first analyses the Italian context. The second describes the Scottish SEA and the third compares the two frameworks, emphasising five main elements as defined above.

4.1 The SEA implementation in Italy

In the 1990s, European countries encompassed new environmental awareness for policy making, recognising the necessity of increasing the protection of the environment in all tiers of government. According to Toschi (in Ronzani, 1998: 173), within the planning culture developed a strong need for the real integration of environmental issues into the plan-making, embracing the environment in every decision stage. Also in the 1990s, the attention on public finance as a core element of public administration consolidated the adoption of assessment tools as support for decision makers. In fact, a change in the legitimacy of policy making occurred, emphasising the understating about the possible impacts derived from public decisions (Moro, 2005).
The environmental concern of Italian politics appeared in the 1960s, but it was mainly based on sporadic reforms without setting a systematic scheme for the integration of the environment into policy-making. The first act was introduced in 1966 to fight air pollution. Between the 1970s and 1980s, the protection was extended to water pollution and solid waste management. The 1980s were probably the more fruitful season for environmental protection reforms, seeing the protection of the sea from detergents, the implementation of laws about the quality of drinking water, the establishment of air quality standards, the increase in landscape protection, the addressing of noise pollution and the enacting of the Environmental Impact Assessment. In addition, the Ministry of Environment was officially established in 1986.

A real integration of environmental policy within high spheres of decision making was probably hindered by a lack of political consensus on environmental issues.
According to Lewansky (Lenschow, 2002, p. 78), *...looking at the Italian situation up to the mid 1990s, policy actors appeared to be hardly affected by the examples set by more advanced countries in adopting innovative targets, approaches and instruments in order to increase policy effectiveness*. In fact, *...some elements of the ecological modernisation paradigm ... had not yet permeated the political-administrative culture*.

However, Directive 2001/42/EC represented a strong turning point for the integration of the environment within high decision-making tiers. Through the Directive, the European

Union gave four years to Member States to formally introduce the environmental assessment for plans and programs within their respective constitutions. The Italian Government established the SEA in 2006, with two years of delays, complying with EU standards. Nevertheless, the translation of European law into national norms required a long process in which three different acts were needed.

4.1.1 The planning framework in Italy

The Italian planning system is still based on a fundamental law n. 1150 of 1942, commonly called Legge Urbanistica Fondamentale (Fundamental Urban Planning Law). According to the framework of the law, urban planning is organised in hierarchical tiers. On the top, the coordination planning acts are usually set by the regions or provinces. In the middle, the general planning act, in which the Piano Regolatore Generale PRG (Town Plan) is the typical instrument, is set by municipalities, defining rules for land use development and management. Finally, on the bottom, the "implementation planning act" is the level in which PRG's strategies and rules are implemented through specialised tools like the Piano Particolareggiato (Detailed Plan) and Piano di Lottizzazione (Parcelling Plan).

Even though this structure is still the national reference for urban planning, the devolution process, which began in the 1980s, conferred to Italian regions normative autonomy for urban governance. Within this context, several innovations were introduced. The principal regards the Piano Regolatore Generale (PRG) that, similar to Anglo-Saxon experiences, disjoints this tool into two levels, one more strategic and commonly known as Piano Strutturale – PS (similar to Strategic Development Plan) and another named Piano Operativo – PO (similar to Local Development Plan), which set the ways in which the strategies of the Piano Strutturale are implemented.

Although several innovations were promoted within regional norms, the hierarchical organisation in tiers is still the pillar of Italian planning. Currently, regions usually produce two kinds of plans, one for regional strategies of territorial development and another for landscape management. Provinces set a coordination plan, which, similar to regions, addresses strategies and environmental protection issues. Finally, municipalities adopt two types of plans: a) one for land use development and management, and b) another to set the way in which these strategies are implemented.

4.1.2 The SEA framework in Italy

The road towards SEA implementation in Italy has been a rather tumultuous one (Zoppi, 2008), requiring multiple pieces of legislation.

Legislative Decree (LD) n. 152 "norme in materia ambientale" was adopted in 2006 and provides the main framework for environmental regulation in Italy, including regulations for SEA practice. A number of integrations followed. LD n. 4/2008 produced several integrations, mainly regarding screening (plans for which are to be subjected to the SEA), scoping (about the release of a separate document outlining the main issues to include in the SEA report), and the introduction of three distinct authorities in charge of proposing, prosecuting, and approving the SEA. The implementation of the EU Directive in Italy was finally completed in 2010, with LD n. 128/2010 (De Montis, 2013). Therefore, to fully comply with the European environmental assessment framework, the Italian Government enacted three LD (in 2006, 2008, and 2010). This was done without taking into consideration the experiences matured by the regions that had introduced the SEA into their legal frameworks as early as 2000 and/or transposed the requirements of the SEA Directive directly into their regional planning frameworks in advance of the central government. It is worth noting that Italy went through a process of decentralisation, which started in the 1980s and resulted in the transferring of spatial and strategic planning competencies from the central government to its twenty regions . Fifteen regions exert their legislative power within the framework defined by the central government, while five regions and two Provinces operate with special autonomy. Within this administrative framework, SEA competencies have also been transferred to the regions, which have set their own legislation within their regional planning frameworks, implementing and defining in detail the contents and practice of the SEA . The regions, therefore, are one of the most relevant actors in the Italian SEA process. In a large part of Italy, they are the competent authority for approving SEAs and plans at the provincial and municipal levels.

Table n. 13: The vertical organisation of SEA competence within the Italian Government framework

Level of Government	Institution	Competence
Central State	Ministry of Environment	All plans or programmes of national interest
Regions	Specialised offices and/or department for environmental matters	- Differences from region to region - All plans and programmes of regional interest - All plans and programmes subordinate
Municipality	(Only in some regions) Special offices or department or commission for environmental matters	(Only in some regions) All plans and programmes of municipal interest

Source: Personal elaboration based on national and regional norms

So far, almost all regions have introduced special norms in order to discipline contents and relation of the SEA within the regional context with the exception of the Basilicata region[1]. In addition, the competent authority, which is probably one of the most important and "thorny" contents of the SEA in Italy[2] , changes among regions.

This authority can be a special department of an institution or an office upon which regional governments confer this title. The law gave to this authority the power to approve (or not approve) the SEA, concluding the plan- and program-making as well. As such, it is likely the most important authority for the Italian SEA process.

Table n. 14: The SEA competent authority, region by region

Region	SEA competent authority
Abruzzo	The same institution in charge for the plan approval (Municipalities approves the SEA of City Council PPs, Region approves the SEA of Region PPs)
Basilicata	Region
Calabria	Region
Campania	Region
Emilia-Romagna	Region/Province
Friuli-Venezia Giulia	Region/Municipality
Lazio	Region
Lombardia	The same institution in charge of the plan appro-val(Municipalities approves the SEA of City Council PPs, Region approves the SEA of Region PPs)
Marche	Region/Province/Municipality
Molise	Region
Piemonte	The same institution in charge of the plan approval
Puglia	Region/Municipality
Sardegna	Region/Province
Toscana	The same institution in charge of the plan approval
Umbria	Region/Province/Municipality
Valle d'Aosta	Region
Veneto	Region

Source: Adapted from Ministry of the Environment, Land and Sea protection, 2012, p.29

1 For a synthetic reconstruction of the entire scenario of SEA regional law, see ISPRA on its website at http://www.isprambiente.gov.it/it/temi/valutazione-ambientale-strategica-vas/normativa-via/normativa-di-riferimento-per-la-vas

2 For a valuable analysis, see Cimellaro and Scialò (2011:23)

Based on the report of the Directorate on Environmental Assessment of the Ministry for the Environment, Land and SEA Protection (Ministero dell'Ambiente della difesa del Territorio e del Mare, 2012) the region is the competent authority for every subordinate plan and program in Basilicata, Calabria, Campania, Lazio, Liguria, Molise, Sicilia, Valle d'Aosta and Veneto. On the contrary, in Abbruzzo, Lombardia, Toscana, Umbria and Marche, the competent authority is the institution that approves the plan or program. Instead, in Friuli Venezia Giulia and Puglia, the authority in charge of SEA approval is the region, for every regional and provincial plan and programme, and the Municipality. Moreover, a peculiar situation seems to be the Emilia Romagna and Sardegna regions, which, according to the report of the Ministry of the Environment, decided to confer this role to the region as well as the Province[1] (Table 14).

The picture of the Italian SEA framework shows a highly fragmented situation in which the environmental assessment is perceived and developed in different ways, presenting important differences from one context to another. These fragmentations hindered a fruitful exchange in terms of experiences and good practices, limiting the possibility to organically reform the entire SEA national framework.

4.1.3 The state of the art of Italian SEA

The implementation of the SEA achieved divergent results between regions, creating interesting cases in contexts where environmental concerns were already well established. However, it might be stated that the SEA in Italy did not accomplish an adequate level of consideration as a decision support tool and, as such, is often perceived as only another administrative burden. According to Besio et al. (2013), the lack of integration between the SEA and planning process as well as the inadequate interest in environmental issues within the plan-making brought to a rhetoric use of the SEA contents. In so doing, many Italian practitioners and planning officers acknowledge this instrument as useless for improving practices. Likely due to this trend, public administration often prefers to avoid the application of the SEA to plans and programs. Rinaldi (2014) argues that this decision is often justified with measures that are not relevant for the SEA application or with prescriptions regarding only existent normative requirements that, as such, must be taken into account anyway.

The preference of avoiding the SEA's application is manifest when analysing the data of the Ministry of the Environment, Land and Sea Protection (2012) in which the number of PPPs submitted and excluded to the SEA are compared. As shown in Table 15, only a limited num-

1 However, it is worth reminding the reader that the recent reform known as "ddl Boschi" (Italian Government, 2015) de facto eliminated the Provinces as public institutions with administrative and governmental power. Therefore, in light of this constitutional innovation, the last two regions probably changed their framework with regards to the SEA management.

ber of PPPs evaluated through the SEA.

The analysis of these data is integrated with the results of the questionnaire survey submitted to 15 Italian regions (see figure 3) on the perception of usefulness of the SEA in Italy. The major trend to systematically exclude the PPPs to the SEA application is justified by Basilicata region, explaining that the general planners and decision makers do not recognise the potential of this tool and look at the SEA as a limitation of their role within PPPs decision making process. Stressing the power relation within public decision, Scattoni and Falco (2012) contended that the Italian planning system is often influenced by strange and patron-client relationships. In the light of these considerations, it might be stated that sometimes the potential of the SEA in improving the level of transparency of decision making can be perceived as a threat rather than a strength of this tool. This is further supported by Bonifazi et al. (2011, p.32), who agree that the "lack of political consensus around environmental protection" is hindering advancements in SEA practice and increased belief in its added value.

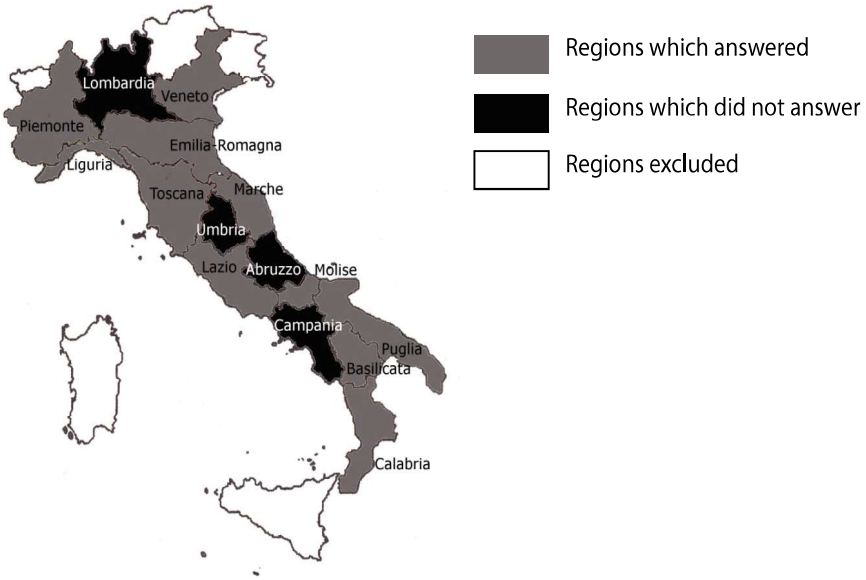
Table n. 15: Screening procedures in Italy in 2012

Region	Plans and programmes not subjected to the SEA	Plans and programmes not subjected to the SEA with prescriptions	Plans and programmes subjected to the SEA	Total
Abruzzo	n/a	n/a	n/a	n/a
Basilicata	18	9	2	29
Calabria	0	12	0	12
Campania	7	6	3	16
Emilia Romagna	52	206	3	261
Lazio	n/a	n/a	n/a	n/a
Liguria	0	12	1	13
Lombardia	0	196	8	204
Marche	4	101	5	110
Molise	2	0	0	2
Piemonte	2	0	1	3
Puglia	0	61	13	74
Toscana	69	19	9	97
Umbria	13	8	1	22
Veneto	28	125	2	155
Total	195	755	48	998

Source: Adapted from Ministry of the Environment, Land and Sea Protection, 2012, p.76

Within this context, the knowledge from academic and institutional literature is enhanced with the findings of questionnaire survey submitted to the heads of the SEA department of 15 Italian regions (as previously said) . For this survey, the regions with special normative autonomy were excluded from the analysis. The inadequate knowledge on how the SEA works, or should work, with the planning is underlined by regions as the principal problem which affect the capacity of the SEA in supporting policy- and decision- makers. This is probably also derived from the educational background of the subjects that should manage the SEA, which includes engineers, architects, biologists, foresters, sociologists and lawyers. Due to their sector-based backgrounds, probably, some of these subjects can assume a too limited understanding of environment and its dynamics, failing in supporting the approach promoted by the Directive 2001/42/EC. According to Rega and Bonifazi (2014), the emphasis could be principally on the biophysical aspects, forgetting to taken into account the cultural and social connection of environmental dynamics. In addition, this evidence is further relevant in a country in which the major application of the SEA is on the planning process. As such, the planner could be the most adequate profile. In line with this consideration, the NCAPLPC (2013) contended that planners should obtain exclusive competence for the conduction and management of the SEA.

Figure 3: Regions included in the questionnaire survey



Finally, based on the last section of the questionnaire in which regions were invited to propose possible enhancements, further critical areas were identified.
First of all, the fragmentation of Italian planning framework has produced a context in which each region introduced normative and measures for the SEA process. In doing so, few regions really introduced measures in order to enhance the SEA management.
Based on this finding, the regions have autonomously generated a deep imbalance in the way in which the SEA is applied and implemented among regions, contributing to limiting the perceived usefulness of this instrument.

4.1.4 A brief introduction to the Italian case studies

Two cases were selected in Italy and both are situated in the Tuscany region. As described within the Methodology chapter, the environmental governance in Italy is a regional duty established through a series of laws enacted in the 1980s, 1990s and 2000s. However, only a few regions hold a well-established tradition in terms of environmental topics, anticipating national norms and tools. In particular, these regions are Calabria, Emilia-Romagna, Piemonte, Tuscany and Veneto.
Among them, Toscana's government represents a sort of vanguard for environmental protection in Italy, particularly regarding the impacts derived from town and regional planning. Since 1995, the fundamentals of the environment assessment for plans and programmes have been established. The regional law n. 5 of 1995 (Tuscany Region, 1995), art. 5(3) introduced as a pillar for urban governance the concept that every territorial transformation must be evaluated and analysed in order to understand the possible effects on the environment. As such, the regional law sets the principles for all planning levels and tools under Toscana's jurisdiction. In line with the framework set in 1995, three years later the regional government established the "Valutazione degli Effetti Ambientali" (Assessment of the Environmental Effects, Tuscany Region, 1998), which implements the principles defined by the law n. 5/1995. In detail, according to the Delibera di Giunta Regionale (Regional Committee Resolution) n. 1541, the environmental assessment of the town plan must contain a) the identification of the areas of environmental interest; b) the description of the aims of the territorial transformations; c) a detailed description of the strategies set and their possible impacts on the environment; and d) the level of risk of the areas and resources affected and possible mitigations, defining also the necessary economic resources for the implementation of these measures. In these terms, it might be defined as a sort of prototype of the SEA, emphasising a special sensitivity on sustainability[1] .

1 Within this context, several attempts were produced. For example, the Assessment of Environmental Effects of the Grosseto City Strategic Plan approved in 2006, probably represents one of the first experiments with this instrument in Toscana.

This instrument was improved one year later, introducing several innovations in the way in which environmental, economic and social issues were taken into account.

Through the regional law n. 49/1999, art. 16, the "Valutazione Integrata" (Integrated Assessment, Tuscany Region, 1999) was set out as a tool that should verify the coherence of urban governance acts with the general aim of sustainable development within three main spheres: economy, society and environment (Cavalieri et al., 2005).

This normative process, which started before the Directive 2001/42/EC and which attempted to promote instruments to verify the impacts of planning, underlined the attention the Toscana government paid to environmental issues.

Currently, the SEA is disciplined through the regional law 10/2010 (Tuscany region, 2010), which was integrated in 2012 with the regional law n. 6 (Ibid., 2012). Within this context, the SEA covers the entire regional planning hierarchy according to the law n. 65 of 2014 (Ibid., 2014). The regional government prepares the "piano di indirizzo territorial" (PIT) that addresses issues and strategies for both urban and landscape governance. The first subordinate level is the "piano territoriale di coordinamento provinciale" (PTC) that, similarly to PIT, sets strategies and environmental protection areas for the territory under provincial jurisdiction. On the bottom, the municipalities adopt the town plan, which is based on two instruments: one known as "Piano Strutturale" (Strategic Plan), which sets the strategies for the entire municipality area and another named "Piano Operativo" (Operational Plan), which implements developments set into the Strategic Plan.

In addition, the Tuscany region is one of the principal regions in Italy supporting public participation as a pillar of public decision making. Although this principal was already declared in the regional law n. 1/2005 (Ibid., 2005), it became a core element in 2013 with the law n. 46 on public debate. Acknowledging the relevance of public participation to decision making, the law instituted a special authority that can evaluate and assign funds in order to support civic engagement practices. Within this context, the SEA is one of the spheres that can receive these resources. Given that public participation is currently considered a pillar for the strategic environmental assessment, it is worth exploring which impacts can result from this sort of "subsidy."

Based on these considerations, the Toscana region seems to be an adequate context through which to analyse the aim of this research. In doing so, the SEA of Strategic Plan of Chianciano Terme and the SEA of Operative Plan of Scansano were selected. The former plan was prepared before the introduction of the law on public participation. Therefore, it might be interesting to evaluate whether the new norm has produced an enhancement for the SEA in providing an opportunity for public decision making.

4.2 The Scottish SEA

Before the introduction of the SEA Directive, several countries established guidance and/or norms in order to prevent possible negative impacts on the environment caused by public policy implementation. The United Kingdom was probably a pilot experience in merging the concept of sustainable development into public decision tiers. In fact, environmental appraisal for projects (DoE, 1989), policies (DoE, 1991) and development plans (DoE, 1993) were introduced. However, these tools extended the economic appraisal methods to environmental issues without taking into account possible integrations between these two spheres (Jackson and Illsey, 2006).

The Sustainability Appraisal, SA, established in the 1990s, was introduced in order to cope with this limitation. The guide developed by the Department for the Environment, Transport and the Regions defined the SA as *a systematic and iterative process during the preparation of a plan or a strategy which identifies and reports on the extent to which the implementation of the plan or strategy would achieve the environmental, economic and social objectives by which sustainable development can be defined in order that the performance of the strategy and policies is improved* (DETR, 2000, para. 2.1).

Although the sustainability appraisal was de facto an innovation in environmental assessment practice, it was criticised for its failure in equally compared economic aspects with social and, above all, environmental elements (Smith and Sheate, 2001a). Currently, the SA is mandatory only in England and Wales, and covers all statutory land-use plans and programmes (Jackson and Illsey, 2006).

In 1999, Scotland gained significant autonomy from the UK for several governmental matters. Among them were land-use management and environmental protection. Thanks to this new autonomy, the Scottish Government promoted a new approach for the environmental assessment field with respect to the UK. Thus, the SEA was introduced, complying with EU law rather than with the UK approach and emphasising the core role of this tool for policy-, program- and plan-making in Scotland.

4.2.1 The planning framework in Scotland

Planning in Scotland is organised in vertical tiers and is controlled by the "Planning etc. Scotland Act", passed in 2006 (Scottish Government, 2006). Through this norm, three different instruments were established. One is the National Planning Framework (NPF), which *set out in broad terms how the Scottish Ministers consider that the development and use of land could and should occur* (art. 3A(2)); the NPF is updated every five years and represents a sort of political

manifesto for land and urban governance. The first subordinate level is the Strategic Development Plan (SDP). Based on Minister designation, multiple local planning authorities should be joint in order to create a new "institution," covering a wide region that represents the land of SDP (art. 4). This new authority, which can be called the "strategic development planning authority" (art. 4(5)), must prepare the SDP, addressing strategies for subordinate local developments. At the bottom, the Local Development Plan (LDP) concluded the entire planning process (art. 15). This instrument, which is produced and adopted by each single City Council, aims to implement strategies addressed in the highest planning tiers.

4.2.2 The SEA framework in Scotland

The government established in 2003 was fundamental for the definition of the Scottish SEA framework. The manifesto of the coalition which won the election stated, *a Scotland that delivers sustainable development; that puts environmental concerns at the heart of public policy and secures environmental justice for all of Scotland's communities* (SE, 2003, p. 5). As a first action towards these aims, the new government decided to extend the application of the SEA to all public PPPs under the Scottish jurisdiction (SE, 2003, p. 47).
The strategic environmental assessment was officially formalised through the Environmental Assessment Scottish Act (EASA), enacted in 2005. The extension of PPPs submitted to the SEA is a way to consider the environment as the core of PPPs making into the whole structure of public administration.

According to Jackson and Illsey (2006: 369), *the Act is regarded by the Scottish Ministers as a flagship piece of legislation. It is seen as demonstrating their administration's commitment to high and equitable environmental standards, offering an opportunity for "Scotland to be a world leader in Strategic Environmental Assessment"* (SEEG, 2004, p. 1)".

In order to achieve the top leader position, proposing a "better way to do" the SEA, the Scottish Government has provided several activities for supporting the spread of necessary knowledge within the public as well as the private sector.
First, the SEA is applied to all PPPs under Scottish jurisdiction. Attention paid to environmental topics starts with the NPF, in which the SEA is applied to real strategic decisions in order to define which aspects the subordinate level should take into account to pursue adequate protection of the environment. In doing so, the Scottish Government aims to produce a sort of cascade effect (Jackson and Illsey, 2007), considering the environment as a pillar of public decision making. Within this context, the SEA is applied to the Strategic Development Plan and Local Development Plan as well, assessing how determinate developments

can affect the environment and considering for each level of governance the proper details in terms of information and data.

Secondly, the EASA act instituted three special authorities that must be consulted in all SEA processes. They are the Scottish Environmental Protection Agency (SEPA), Scottish National Heritage (SHN) and Historic Scotland (HS). Given that they hold specialised knowledge heritage, their role is to enhance the quality of information analysed during the SEA-making, supporting the officer and practitioners in defining and choosing the proper data for the assessment.

Thirdly, in order to cope with the eventual increase of administrative burden, the Scottish Government introduced the SEA Gateway, which can be considered a sort of fundamental connection between responsible and consultation authorities. In so doing, it coordinated and managed every stage of the SEA process, like screening, scoping and public consultation. Moreover, the Gateway stores the entire official communication among the authorities involved in the SEA-making. In this way, the SEA Gateway participated in increasing the transparency of the whole process, tracking the evolution of the SEA step-by-step. The volume of practices kept and managed within the Gateway is also a valuable source of knowledge for practitioners who aim to improve their work.

According to Jackson and Illsey (2006: 380), *acquisition of a body of finalised SEAs via the Gateway Unit will enable practitioners to review and refine their methodological approach to the assessment of PPPs pitched at different strategic levels, from higher level policy documents to area-specific programmes.* Moreover, using the Gateway's database, it can be possible to map the environmental effects of PPPs, proposing a multi-scale approach to the management of negative impacts on the environment (Jackson and Illsey, 2007).

Fourthly, the Scottish Government organised an annual workshop named SEA Forum, which updates the knowledge of officers and practitioners usually involved within the SEA. Although the aim of this appointment was to create a high level of expertise among Scottish SEA-makers, it seems to be a valuable opportunity to establish and consolidate professional networks.

4.2.3 The state of the art of the Scottish SEA

The SEA in Scotland seems to be a well-established instrument that is widely applied to all sectors. Based on the Report on the Scottish SEA Activity in 2011, published by the Scottish Government (http://www.gov.scot/Resource/0039/00394455.pdf), town planning is the principal sector in which the environmental assessment is applied. Notwithstanding this, the SEA is largely applied for tourism planning as well as for the definition of new policies and norms (Table 16).

Although the SEA in Scotland represents a way to mainstream the environmental concerns in all tiers of government, several challenges still exist. According to Jackson and Illsey (2007, 2014), the Scottish SEA, even though it achieved considerable results in extending environmental protection to the entire PPPs-making, failed in promoting environmental justice and accomplishing an adequate level of public involvement. The lack of public understanding regarding what the purpose really is, as well as the process of the SEA, represents the principal limitation. In line with these considerations, the results of the general part of the questionnaire interviews submitted for the case study analysis highlight the fact that public participation is often limited to consultation on the environmental report. According to Ewen Cameron of Scottish National Heritage, the main weakness of Scottish SEA is the public involvement that does not manage to influence the assessment outcomes. Similarly, Susan Dean, Principal Policy Officer at SEPA Planning Service, affirmed that, although the public consultations of the environmental report promote increased transparency, these do not necessarily contribute to shaping decisions. According to Dean, *engaging the public in plan making processes requires significant resources to be effective*.

Table n. 16: Number of PPPs submitted to the SEA during 2011 by sector

Sector	Total Number of PPPs Active in 2011	Percentage
Agriculture	0	0.00
Community	2	1.05
Economic	0	0.00
Education	1	0.52
Energy	3	1.58
Fisheries	1	0.52
Forestry	5	2.62
Health	0	0.00
Industry	0	0.00
Legislation/Policy	23	12.04
Miscellaneous	5	2.62
Telecommunications	0	0.00
Tourism	23	12.04
Town and Country Planning and Land Use	113	59.16
Transport	6	3.14
Waste Management	8	4.19
Water Management	1	0.52
Total	191	100

Source: Report on Strategic Environmental Assessment Activity within Scotland in 2011 (Scottish Government, 2011

Many efforts were made in implementing the SEA and several encouraging results were achieved. Notwithstanding this, civic engagement seems to be the principal challenge that the Scottish Government should pursue. In fact, the SEA Forum and other measures to consolidate the use of the SEA among practitioners attain healthy levels of legitimacy. Maybe, similar initiatives should be pursued to enhance public understanding and accountability, emphasising the role the local society can play through this instrument in supporting environmental protection and enhancements

4.3 Italian and Scottish SEAs: A brief comparison

The research explored and compared the Italian and Scottish contexts. The strategic environmental assessment has been implemented with several differences. In fact, even though the Directive 2001/42/EC set a common framework for all European countries, the national framework developed within each state influenced the effectiveness and usefulness of this tool. Within this context, several important elements were compared. These were the laws that introduced the strategic environmental assessment and its process; the SEA authorities; the PPPs subjected to the SEA within the two countries; the role of public participation and the type of supporting measures available.

4.3.1 The law(s) that introduced the SEA

The Italian Government formally introduced the SEA in 2006 with the Decreto Legislativo (legislative decree) n. 152 named "Testo Unico – Norma in Materia Ambientale ". It is worth remembering that the Directive 2001/42/EC had to be transferred into the normative system of Member States in 2004. Due to this delay, the European Commission opened an infringement procedure that was retired with the establishment of L.D. 152/2006. However, the part regarding the SEA of this L.D. de facto was not implemented.

The "reasons" were multiple. The L.D. 152/2006 was enacted with the aim of avoiding a sentence from the European Court and contained just a basic element of the SEA as described in the Directive. In addition, the Italian Government explained that the complexity of the new instrument required the reform of the internal legal system to be fruitful when implemented. Notwithstanding this, in 2007 the European Court ruled against Italy for its non-fulfilment with regards to the application of the Directive 2001/42/EC (Sentence of the European Court, 2007). Based on this premise, the Italian Government set out two other decrees to make the Italian SEA comply with the EU standard. In fact, the Decreto Legislativo (legislative decree) n. 4 of 2008 and the Decreto Legislativo (legislative decree) n. 128 of 2010 concluded the implementation process in Italy. Likely, the long normative process based on three different decrees hindered the consolidation of the SEA within the gears of public administration, limiting the perception of usefulness for the environmental asses-

sment in Italy.
To the contrary, the Scottish Government officially introduced the SEA in 2005, with the Environmental Assessment Scotland Acts (EASA). This law, probably leaner than the Italian law, was the result of a process that started in 2003 and was supported by strong political legitimacy.

4.3.2 The SEA authorities

Both Italian and Scottish SEA norms emphasise the role of several authorities that participated in conducting the environmental assessment.
In Italy, the SEA authorities are officially two: the responsible and the competent. The responsible authority is the "subject" that formally makes the SEA. On the other hand, the competent authority is the institution that must verify whether the SEA complies with normative standards, approving (or not) the environmental evaluation and, thus, concluding the plan-making process. Given that in Italy the SEA framework reflects the hierarchical organisation of the planning system, the central state holds competence for all processes of national interest while the subordinate level is directly disciplined by the regions.
Thus, the national government (or one of its departments delegated) is the responsible authority for all PPPs of national interest and the Ministry of the Environment, Sea and Land Protection, particularly the General Directorate for Environmental Assessments, is the competent authority.
Due to the devolution process that occurred in the 1980s, 1990s and 2000s, the duty for several matters was transferred from the central government to the regions, including environmental governance. Currently, every region decides the SEA framework through regional law, establishing autonomously the competent authority for PPPs under regional jurisdiction. The result of this decentralisation is a highly fragmented picture. In fact, several regions directly exert this decisional power while others transfer this task to subordinate institutions like provinces or municipalities. In doing so, the quality of the database and expertise developed during this first ten years of the SEA's implementation changed as well, reflecting the variation of "sensitivity" established within the regions.

On the Scottish side, the responsible authority is the same as the Italian because, as stated in Art. 2 (2) (EASA, 2005), it is "the authority by whom, or on whose behalf, the plan or programme is prepared." In particular, the art. 2(4) is more detailed in identifying "the (a) Scottish Ministers; (b) any holder of an office in the Scottish Administration which is not a ministerial office; (c) the Scottish Parliament; (d) the Scottish Parliamentary Corporate Body; (e) a Scottish public authority with mixed functions or no reserved functions; (f) any

other person, body or office-holder of a description (and to such extent) as may be specified by the Scottish Ministers by order" as the subjects that can be designed as the responsible authority.

In addition, in Scotland the government established three different authorities that must be consulted during the entire SEA process because they represent preferential knowledge on specific matters that can affect environment and society. They are the Scottish Environmental Protection Agency (SEPA), Scottish National Heritage (SNH) and Historic Scotland (HS).

4.3.3 PPPs subjected to the SEA

The Directive 2001/42/EC set a first list of PPPs that should be submitted to the SEA. According to Art. 2 (European Commission, 2001), "...an environmental assessment shall be carried out for all plans and programmes, (a) which are prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use and which set the framework for future development consent of projects listed in Annexes I and II to Directive 85/337/EEC, or (b) which, in view of the likely effect on sites, have been determined to require an assessment pursuant to Article 6 or 7 of Directive 92/43/EEC."

The Italian Government translated almost the entire list into national law, without extension or improvement.

On the other hand, Scotland overcomes the boundaries of the Directive 2001/42/EC, enhancing the cases in which the SEA should be applied. In addition to the Directive's list, the Scottish Government extents the environmental assessment to all PPPs under a national jurisdiction *that sets the framework for future development consent of projects* (art 5(3c), Scottish Government, 2005).

4.3.4 Supporting the SEA process: the structural elements

The SEA process in Italy is quite linear. It is based on the role of the responsible authority that makes the SEA and the competent authority that decided (a) whether to submit the PPP to the environmental assessment into the screening phase; and (b) whether to approve the SEA and, if so, whether to conclude the PPPs-making process. Tools, studies and agencies in support of practitioners, public and private, that are involved with the SEA-making are generally weak. Although the availability of guidelines and other kinds of supporting instruments change slightly from region to region, their quality seems to be not yet adequate (Geneletti et al., 2011).

The regional environmental protection agency and the ISPRA are the main public institutions that hold useful knowledge and expertise. Generally, the success of the SEA is still too

much related to the sensitivity of the practitioner that makes the SEA. Given that the SEA is fundamental to the planning process, almost all public tender for a new town plan requires the preparation of the environmental assessment as well. Therefore, many practitioners, mainly planners, have reinvented themselves as SEA-makers, often without holding the necessary knowledge. In this sense, the SEA is perceived just as another *administrative hurdle* (Jackson and Illsey, 2007).

The SEA process in Scotland is also quite linear. The role of Consultation Authorities (CAs) seems to be one of the core elements of a supporting institution in order to improve the quality of knowledge among officers and practitioners. Nevertheless, the SEA Gateway and SEA Forum are the other two pillars of the Scottish SEA. The SEA Gateway is a special public service that carries out the role of connection between the responsible authority, CAs and the public. Every SEA document and act is sent to the Gateway and from there is sent to all authorities involved. In this way, on one hand the administrative burden is reduced and on the other hand the entire process is traceable, increasing transparency.

In addition, the SEA Forum aims to improve practitioners' expertise. Given that the SEA represents a somewhat new tool, this annual appointment is a sort of "vocational training" organised by the Scottish Government. This is likely because in Scotland consultants are generally hired to prepare the SEA, unlike in Italy, where the environmental assessment is sometimes conducted within the public administration as well. The guidelines published by the Scottish Government completed the stock of SEA-supporting tools in Scotland.

4.3.5 Public participation

Both Italian and Scottish norms limit civic engagement to consultation regarding the environmental report. In doing so, it might be stated that the role of social involvement seems to still be a challenge. Although several cases in both countries are participation-based, the public understanding, as well as the contribution of lay knowledge in shaping the SEA contents, seem to be inadequate.

4.3.6 Conclusion

To summarise, it can be stated that the devolution process and the relative transfer of power from the central state to regions has created a highly fragmented context, which is likely one of the most important elements hindering a proper improvement of SEA practice. The Scottish framework seems to emphasise the centrality of the SEA management, proposing solutions in order to help practitioners and reduce administrative burden. However, it is worth noting that Scotland as a state is smaller, not only in regards to Italy but also with respect to several Italian regions. Therefore, the variety of dimensions between the Italian

and Scottish contexts probably affected the difficulty of organising and managing the SEA implementation.

Table n. 17: A brief comparison of the Italian and Scottish SEA framework

Italy	Scotland
Law Introduced with d. Lgs. 152/2006. After that, d. Lgs. 4/2008 (aligning the contents of Italian SEA with European Directive's Standard). Finally, d. Lgs. n. 128/2010 (SEA's law integrations due to infringement procedure of EU). Almost all regions have enacted norms to introduce the SEA within their normative framework.	**Law** Environmental Assessment Scotland Acts (EASA) 2005
SEA Competent Authorities Hierarchical structure: - Environmental Minister for PPP of National Interest - Regions, Province or Municipality (differences among regional contexts) for other PPP.	**SEA Competent Authorities** The emphasis is on the responsible authorities, which are similar to the Italian context. (RA is the authority by which, or on whose behalf, the plan or programme is prepared, Art. 2(2).) There are three authorities which must be consulted: - Scottish Environmental Protection Agency - Scottish National Heritage - Historic Scotland
SEA is applied to - agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use	**SEA is applied to** almost all PPP (art. 5(3)): a) agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use; b) which sets the framework for future development consent of projects listed in schedule 1; c) which, in view of the likely effect on sites, has been determined to require an assessment pursuant to Article 6 or 7 of Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna (as last amended by Council Directive 97/62/EC); d) which does not fall within paragraph (a) or (b), but sets the framework for future development consent of projects.
Predominant application of SEA -Local plan, town plans	**Predominant application of SEA** Emphasis on regional plans/strategic plans and politics in order to achieve a sort of cascade effect (Kelly et al., 2012)

Participation within SEA The law mentions the consultation, which represents the bare minimum (introduced by the Directive 2001/42/EC).	**Participation within SEA** Attempts to move beyond directive requirements (art. 15(4)): If the Scottish Ministers consider that a period referred to in subsection (3)(b) is not likely to give (as the case may be)—(a) the consultation authorities; or (b) the public—(i) affected or likely to be affected by; or (ii) having an interest in, the plan or programme, an early and effective opportunity to express their opinion of the plan or programme and the accompanying environmental report, the Scottish Ministers shall, within 7 days of receipt of the advice under subsection (3)(b), specify such other period as the Scottish Ministers consider will give the consultation authorities, or (as the case may be) the public, such an early and effective opportunity.
SEA supporting tools - Some regions have tried to set a sort of guideline (inadequate: Geneletti et al., 2011)	**SEA supporting tools** National Guidelines, SEA Gateway and Gateway Unit

Source: Author elaboration based on Italian and Scottish norms

5. THE CASE STUDY ANALYSIS

This chapter describes the empirical stage of the research in which four case studies were investigated.
The aim is to understand whether the SEA provided opportunities for decision making and, if so, what types of opportunities were generated, emphasising cases where the SEA triggered something more than the classical expectations defined within the Directive. In doing this, the conditions that ensured, or hindered, the formation of these opportunities were analysed and explained.

The case studies selected are: a) the SEA of Chianciano Terme Strategic Plan; b) the SEA of Scansano Operational Plan; c) the SEA of Dundee City Local Development Plan; and d) the SEA of Scottish National Planning Framework 3.

The first case is the SEA of the Strategic Plan of Chianciano Terme City Council. Chianciano Terme is located in the south of Tuscany. Its economy is historically based on thermal areas. In the 1990s, the sector of thermal care suffered a deep crisis, influencing the entire local economy. In 2004, the local government decided to promote a new vision for Chianciano Terme, starting with the Strategic Plan. Its process was long and full of hurdles. In fact, throughout the ten years of the process, two local governments and two project teams worked on this plan. It is worth noting that in 2004 not one single norm of the SEA had been introduced yet. In fact, this environmental assessment was established on a national level through the Legislative Decree n. 152/2006 and within the Tuscany region only in 2010

with the regional law n. 10. However, the Integrated Assessment (IA), a tool that aimed to evaluate the impact of planning on the economic, social and environmental sphere, was already enacted in 2004 and was applied to a part of the Strategic Plan. The SEA officially commenced in 2010 and used the study developed through the IA for the construction of the SEA preliminary report. Therefore, the SEA of Chianciano Terme represents one of the first attempts at this environmental assessment in Tuscany. Due to its pilot experience as well as the contextual hurdles that were encountered during its evolution, this SEA was selected as a former case study.

The second case is the SEA of the Operational Plan of Scansano City Council. Scansano is a small town situated in the southwest of Tuscany. Its economy is strongly related to agriculture and its particular cultivations. The Operational Plan began in 2014 and was adopted in December 2015. Using a specific fund established in the Tuscany region in order to enhance public participation within the urban governance, the project team prepared a participative SEA. Likely, this case of SEA was the first, which took benefits from this regional law that supports civic engagement. As such, the study of the participative-based environmental assessment represents an innovative case. For this reason, the SEA of the Operational Plan of Scansano was selected for this research.

The third case is the SEA of Dundee City Local Development Plan. Similar to Scansano in Italy, the Local Development Plan represents the bottom level of the planning hierarchy in Scotland, which implements the decisions established within the Strategic Development Plan. Dundee is a city located in the central part of Scotland, on the east side. Given the similar planning framework between Italy and Scotland as well as the comparable type of plan to which the SEA is applied, this environmental assessment was selected as the first foreign case study.

The last case chosen is the SEA of the Scottish National Planning Framework 3 (NPF). The NPF is the long-term strategy for Scottish planning which covers the entire nation. Although it is an application of the SEA to a real strategic dimension, it is not entirely comparable to an Italian case. Through the SEA, the NPF sets a sort of environmental agenda for all subordinate level of PPPs. In fact, covering all of Scotland and identifying national developments, the SEA should promote a new way to cope with environmental issues. Based on this premise, the SEA of NPF 3 was selected as the fourth case study.

Within this context, each analysis was organised into three main parts in which the first section aims to describe the entire SEA process, focusing on the methodology adopted rather than concentrating on the contents of the SEA.

In the second section, as the core of the case study investigation, the *institutional hardware* and *intelligent software* of each process were described.
In order to analyse how the SEA has triggered these opportunities, the lens was on the fix and mobile components of the organisation and operation of the public administration. As widely illustrated in Chapter 3 – The methodology, within the institutional hardware was included:

– *The SEA national procedural framework*: in which the role of SEA legislation, process and subjects that composed the SEA national framework are analysed in order to understand what roles they have played in providing opportunity.

– *The SEA authorities*: in which the role of the statutory authorities involved within the SEA process is evaluated.

– *The SEA supporting tools and measures*: in which the contributions of the statutory supporting instruments are analysed.

– *The role of politics*: in which the way that politics legitimise the entire process is evaluated.

On the other hand, the intelligent software aims to describe the role of knowledge within the SEA process. Within this category is included:

– *The professional expertise*: in which the skills of practitioners, public or private, who conducted the SEA are evaluated in order to understand how they contribute to the triggering of opportunities through the environmental assessment.

– *The civic engagement*: in which the role of public participation in producing knowledge for the SEA is analysed.

Ultimately, each case is concluded with a paragraph in which the opportunities are described. In this section, the analysis of institutional documents is integrated with the results from the interviews.

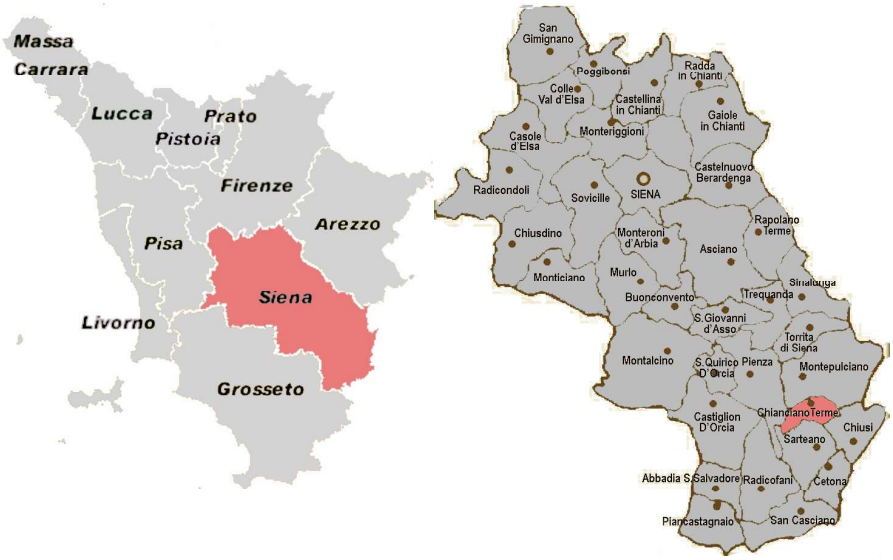
5.1 Case study 1: the SEA of Chianciano Terme Strategic Plan

5.1.1 Introduction

The strategic environmental assessment of Chianciano Terme Strategic Plan (SP) is the first case study. The peculiarity of this SEA stems from its long process, which crossed two different political administrations. Moreover, during the plan-making stage, some normative innovations in the evaluation tools were introduced, influencing the development of the SEA.

Historically, Chianciano Terme holds a well-established spa tradition that came about during the second half of the 20th century, a very important era for thermal care. This strong vocation was the pillar of the local economy. However, in the 1990s thermal treatments were excluded from public health services. In this way, the whole system of services connected to the thermal area started to decline.

Figure 4: Tuscany and Chianciano Terme



The annual number of tourists decreased from 1.500.000 to 870.000 and, due to this reduction, almost fifty hotels were closed. In addition, the increasing number of competitors within the thermal care sector, as well as the inadequate quality of the hospitality services that were unable to innovate their offerings, aggravated the crisis (Osservatorio Turistico di Destinazione, 2012, https://issuu.com/03471/docs/odtchiancianoter).

In order to cope with this situation, a new Strategic Plan was promoted, attempting to set a vision for redeveloping the entire local economy and modernising structures and vocations. Within this context, the SEA of the strategic plan carried out a difficult challenge of "advocating" for the environmental concerns, counterbalancing pressures from economic and social spheres. For this reason, this case study was selected in order to investigate which role the SEA played and whether this has provided opportunities for Chianciano Terme decision makers. In doing this, the role of *institutional hardware* and *intelligent software* in allowing or preventing the opportunities was analysed.
Chianciano Terme is a city located in the southeast of Tuscany, within the Province of Siena. Its population is about 7.134 inhabitants and it is quite old as well (see Table 18).

Apart from the natural resources related to the thermal area, the territory of Chianciano Terme is a part of a high-quality landscape heritage, commonly known as Valdorcia, which represents a key value for local society.

Table 18: The population of Chianciano Terme between 2007 and 2015

Year	%0-14	%15-64	%65	Population
2007	10.8 %	61.7 %	27.5 %	7.199
2008	10.8 %	62.5 %	26.7 %	7.367
2009	11.0 %	62.6 %	26.3 %	7.467
2010	11.1 %	62.4 %	26.5 %	7.483
2011	11.3 %	61.7 %	26.9 %	7.447
2012	11.6 %	60.4 %	28.0 %	7.043
2013	11.2 %	60.5 %	28.3 %	6.886
2014	10.9 %	60.3 %	28.8 %	7.112
2015	10.7 %	60.0 %	29.4 %	7.134

Source: http://www.comuni-italiani.it/052/009/statistiche/

5.1.2 The SEA of Chianciano Terme Strategic Plan

In order to cope with the deep crisis that affected the entire touristic sector of Chianciano Terme, which was the pillar of the local economy for a long time, the local government decided to propose a new vision for the city through a new town plan.

The Strategic Plan of Chianciano was a long and complex process that lasted ten years and crossed two different local governments and project teams. In December 2004, the City Council officially started the process for the new town plan's strategic part. The City Council delegated a group of consultants to design the new plan. During the first stage, a wide analysis of the local heritage (considering economic, social, normative and environmental issues) was prepared, which constituted the baseline for the new strategic plan.

Given that the first regional law on the SEA was introduced in 2010, the early part of the town plan was developed without the support of the environmental assessment. However, a strong "breaking point" occurred in 2008 when the project team decided to resign. At this stage, the analysis of the state of the art of Chianciano Terme and a first scheme for the new town plan were already done. This first part of the Strategic Plan was characterised by an intense participation, often conducted by the Chianciano Terme mayor. In 2009, another important change happened in Chianciano Terme. The City Council election established a new local government. The mayor decided to publish a tender in order to designate another project team. Nevertheless, the wide analysis of the City Council heritage already produced was conserved and used as a baseline for further planning activity. The architect Ciampa won the competition for the Strategic Plan. However, the preparation of the Integrated Assessment (IA), and, afterwards, of the SEA, was entrusted to the architect Sonia Occhi, who was the only practitioner who had participated in the old team as well.

Since 2009, the plan, as well as the integrated assessment (IA), has been started again. Nonetheless, further hurdles occurred within this process, mainly derived from the institutional framework. The period in which the plan was made represented a time of important changes within the public administration. The publication of the Legislative Decree (Decreto Legislativo) n. 4 of 2008 (Italian Government, 2008), which integrated the Legislative Decree n. 152 of 2006 (Italian Government, 2006) for the environmental assessment section, has "obliged" the regions to adopt special norms to comply with national legislation. Although in some cases the environmental impacts of the planning process were already evaluated through specific tools, regions like Tuscany, for example, decided to modernise environmental assessment equipment, introducing new ways to assess PPPs-making. In January 2011 during an informal meeting between the project team and the Tuscany region, it was communicated that the normative on the SEA would be enacted very soon and, as such, every town plan would have to comply with this new instrument. At this stage, a first plan

proposal and preliminary report of IA were done. Thus, the process was further interrupted. However, in 2011 the SEA officially started and adopted the studies prepared within the Integrated Assessment as a preliminary environmental report. So, the SEA evaluated the external coherence between the Chianciano Terme SP aims and the objectives of overarching PPPs. Considering the objectives and their relative actions proposed in the town plan, the Arch. Occhi selected the PIT[1] of the Tuscany region, PTCP[2] of Siena Province, PAI[3] of Arno River and the PAI of Tiber River, examining the coherence between the objectives of each plan with the actions proposed within the SP of Chianciano Terme. In this way, a set of feedback was delivered to planners that, improved the plan proposal, as described in 2.7 of the SEA ER (City Council of Chianciano Terme, 2013) (see Table 19).

Table n. 19: Extract of the indications delivered to planners based on the external coherence evaluation

Strategic Plan of Chianciano Terme			Recommendation for planning and planners	Planners feedback
General Aims	Specified Objectives	Actions		
Sustainability	A- Improving urban and land quality	A1- Adaptation of public standard and services	Take into account the PTCP – Objective 01: - promoting a reorganisation of public facilities more oriented to the users' needs; - Rationalise the localisation of structures which supply facilities, supporting a barycentric collocation	- Included within the NTA of SP, in the art. 10 (9).
		A2- Increase the housing offer, encouraging reallocation of old buildings, substitution or completion of areas already built		
		A3- Identify new model of development for economic and social housing		
		A4- Improving urban settlements through new protected paths, new neighbourhood services, new parks for residents	Take into account the PTCP objective 04 – facilitate the mobility of people, wares and information	Included within the NTA of SP, in the art. 10 (3,4).

Source: Author elaboration based on Table 8 of the SEA Environmental Report (City Council of Chianciano Terme, 2013: 43)

1 Piano di Indirizzo Territoriale Regionale – Regional framework for land use and landscape planning
2 Piano di Coordinamento Territoriale Provinciale – Provincial coordination plan
3 Piano Stralcio di Assetto Idrogeologico – Hydrogeological management plan of river basin

The period between 2011 and 2013 was probably the core of plan- and SEA-making. The contribution of the environmental assessment in shaping the plan contents was well documented in section 5 of the SEA Environmental Report (City Council of Chianciano Terme, 2013: 172). The assessment was based on a set of sustainability targets, which Arch. Occhi produced through a systematization of EU objectives and national studies already published on the topic of sustainable development. This methodology tried to link different forms of expertise which operated within the environmental field and which often are disjointed from each other. In cases where this disconnection occurred in Italy, the fragmentation of knowledge hinders the establishment of a broad vision on environmental governance, limiting the impact of tools like the SEA. The efforts done within this SEA aimed to bring together this knowledge, emphasising European and national contributions to sustainable development. At the beginning, the European aims were gathered from the Renewed Sustainable Development Strategy (Council of European Union, 2006) and the Sixth Environment Action Programme (European Commission, COM, 2001/0031final). The result of this stage was integrated with Italian documents, taking into account the decision of CIPE n. 57 of 2002 on the National Strategy for the Sustainable Development (CIPE, 2002). This first part has set the main topics for the environment. In a second stage, the study of ISPRA on the SEA indicators was intertwined with European aims and SP objectives. Through analysis of the coherence between European and national studies with the objectives of the Strategic Plan, the knowledge was systematised, setting a set of sustainability targets for the strategies proposed for Chianciano Terme. Based on these targets, a list of proper indicators was established, describing the unit of measure and the subject that should be provided to gather data for further evaluation (see Table 20).

Table n. 20: Extract of the Sustainability Criteria for Chianciano Terme SP

Num	Sustainability criteria	Component	Environmental Issue
C1	**Climate Change**		
C1.1	Did the choice involve the energy production from renewable energies?	Climate factors and energy	Energy generation from renewable resources
C1.2	Did the choices of SP enhance the energy efficiency?	Climate factors and energy	Energy saving
C1.3	Did the choices of SP reduce the greenhouse gas emission?	Climate factors and energy	Greenhouse gas emission
C1.4	Did the choices of SP not reduce the forestry areas?	Climate factors and energy	Greenhouse gas emission

Source: Author elaboration based on data of SEA Environmental Report (City Council of Chianciano Terme, 2013: 151)

Within this framework, the environmental assessment explored the potential impacts of each plan's objectives and actions. It is worth noting that the final external coherence is well documented within the environmental report (City Council of Chianciano Terme, 2013: 235), in which it is widely described how the SEA influenced planning decisions. In addition, these considerations were applied in order to set the framework for the second part of the town plan, that is, the Operative Plan, in which are defined the ways in which the strategies proposed within the SP were implemented. Thus, the context for further developments was established, specifying the principal elements of a local environmental agenda.

In a second stage, the evaluation focused on the level of sustainability of plan objectives and their relative actions. To achieve this aim, the assessment has compared each plan objective (and its actions) with the sustainability criteria. Through the support of a specific matrix, each combination attained a value between 1 and 0 in which:

– 1: the actions are coherent with the sustainability criteria and contribute to the achievement of the sustainability criteria;

– 0.5: the actions are partially coherent with the sustainability criteria and partially contribute to the achievement of the sustainability criteria;

– 0: the actions are not coherent with the sustainability criteria;

– NP: the actions are not relevant for the sustainability criteria.

Table n. 21: Proposal of indicators for Sustainability Criteria evaluation

Source	Sustainability Target	Indicator	Unit of measure	Notes
PEAR – Piano Energetico e Ambientale Regionale (Regional Plan for Energy and Environment)	Reduction by 2020 of greenhouse gas emission by 20%	% of C02(eq.)		Data: City Council Carbon Footprint of City Council of Chianciano Terme
PEAR – Piano Energetico e Ambientale Regionale (Regional Plan for Energy and Environment)	Reduction of energy consumption by 20%	Total energy consumption	Ktep	Data: City Council Organised by sector Gross Internal consumption
PEAR – Piano Energetico e Ambientale Regionale (Regional Plan for Energy and Environment) and ISPRA	Energy generation from renewable resources (covering 16.5% of total energy consumed)	Energy generation from renewable/ Gross Internal consumption	%	Data: City Council
	Preserve forestry areas	Forest	Hectare	SEA team proposal

Source: Author elaboration based on data of SEA Environmental Report (City Council of Chianciano Terme, 2013: 151)

In doing so, the SEA proposed a clear methodology in which it was possible to trace all decisions. In addition, the results of this stage set the framework for the monitoring step. In fact, the identification of the positive and negative effects derived from planning strategies allowed the definition of a former list of probable critical issues, orienting the monitoring activities and avoiding the waste of resources in preparing a broad analysis.
In December 2013, after nine years, with a unanimity of opinions, the City Council Committee approved the town plan and its SEA, concluding the entire process.

Table n.22: Synthesis of Strategic Plan Objectives

Strategic Plan Objectives
A – Improving urban and land quality
B – Quality improvement of local mobility
C – Diversification of local production system
D – Diversification and enhancement of touristic offer
E – Increase the investment attraction
F – Enhancement of rural land and agriculture activity and, in cases where it is possible, supporting of the short production chain
G – Habitat protection
H – Protection of rural land developed around the historic centre
I – Stimulating energy production from renewable resources

Source: Author elaboration based on General Report of new Town Plan, Strategic Part, of Chianciano Terme (City Council of Chianciano Terme, 2013: 5)

Table n.23: Sustainability evaluation of criteria C1: Climate Change

SP Objectives	Sustainability Criteria C1				Standardised Total
	C1.1	C1.2	C1.3	C1.4	
A	1.00	0.63	0.67		0.76
B			1.00	1.00	1.00
C		1.00	0.50	1.00	0.83
D		0.50	0.50	1.00	0.67
E		0.50	0.50	1.00	0.67
F	0.50		0.25	1.00	0.58
G				1.00	1.00
H				1.00	1.00
I	1.00	1.00	1.00	1.00	1.00
Total	0.83	0.73	0.63	1.00	0.83

Source: Extract of SEA Environmental Report of Chianciano Terme Strategic Plan (City Council of Chianciano Terme, 2013: 245)

5.1.3 The SEA's institutional hardware and intelligent software

The SEA national procedural framework

The case of Chianciano Terme presents an emblematic situation because no one norm on the SEA was enacted in Tuscany when the new town plan began.

However, since 1995 this region has introduced a set of norms for the assessment of planning impacts on the environment. In fact, the prototypes of SEA have carried out an important role within this process. In 2008, alongside the plan making, the Integrated Assessment was developed. This tool, in accordance with art. 16 of the regional law n. 49/1999 (Tuscany Region, 1999), had to verify the coherence of urban governance actions with the general aim of sustainable development within three main spheres: economy, society and environment (Cavalieri et al., 2005). Within this framework, a first analysis of the environmental baseline and its possible sensitive areas was prepared. Likely, due to its typical approach that aimed to assess equally the impact on the economy, society and environment, the baseline prepared through the Integrated Assessment adopted a perspective different with respect to SEA lens.

In 2010, the introduction of the regional law 10 and, above all, its integration through the regional law 6/2012 represented a turning point for the SEA of Chianciano Terme Strategic Plan. This variation within the regional legislative context influenced the focus and contents of the evaluation. Thus, the introduction of the SEA broke this balance, pushing the heart of the assessment towards the environment. However, it is worth noting that the elaboration produced for the IA was applied for the SEA preliminary report, addressing important issues regarding the external coherence between the Strategic Plan of Chianciano Terme and the overarching PPs.

Probably, the deep changes occurred in the regional legislations within the nine year process have had a role in preventing the exploitation of the full potentiality of the SEA. The preparation of the first part of the plan supporting by the Integrated Assessment has probably emphasised a different type of understanding regarding how the environment could be affected by planning strategies.

The authorities involved within the SEA

The regional law defined three main authorities involved within the SEA process, reflecting the framework established through national legislation. They are (Tuscany Region, 2010):

– *The proceeding authority* (Autorità procedente, art. 4): that is the public administration that makes and approves the plan; in the case of Chianciano Terme, it was the City Council;

– *The competent authority* (Autorità competente, art. 12): that is the public administration that exerts the duty of deciding whether the PPPs should be subjected to SEA, expresses qualified opinions and, through a collaboration with the proceeding authorities, supports every SEA stage. In the case of Chianciano Terme, this authority was the Commission for the Landscape (art. 88 – 89, Tuscany Region, 2005).

– *Proponen*t (proponent): that is the subject, public or private, which makes the plan. In this case, it was Arch. Anna Maria Ottaviani, Chair of the Planning Office of the City Council of Chianciano Terme.

Among them, the competent authority is the only one involved with the SEA-making.
However, the contribution of this authority within the SEA of Chianciano Terme SP was marginal. In accord with the regional legislation, its main task was the evaluation of environmental assessment reports and the preparation of the qualified opinion that concluded the SEA. In doing so, the Competent Authority mainly exerted the duty of controlling the quality of SEA documents rather than participating in shaping the contents of the assessment.
Notwithstanding this, a series of agencies has taken part in the SEA process, with the most valuable contributions derived from the regional environmental protection agency[1] and from regional offices. Nevertheless, these "other" institutions are usually invited by the proceeding authority that identified the subjects that hold competence for environmental issues. In the case of Chianciano, a long list of institutions[2] was included within the SEA process, but only a small number of them contributed with comments. The entire list of responses from these institutions and how their comments were taken into account within the SEA is described in the attached 1, SEA Synthesis Statements (City Council of Chianciano Terme, 2013: 19). Based on the SEA preliminary report, the institutions' responses principally focused on the need to clarify the methodology for the coherence evaluation as well as for the sustainability appraisal of SP strategies, without adding particular knowledge to this process.

The role of politics

The long process, from 2004 to 2013, of both Strategic Plan and SEA of Chianciano Terme

1 In Italy they are usually known as ARPA- Agenzia Regionale per la Protezione Ambientale.
2 Regione Toscana- Direzione politiche territoriali e ambientali, autorità di bacino del Fiume Ombrone, Ufficio Tecnico Regionale del Genio Civile, Provincia di Siena – aree politiche del territorio – U.O. Assetto del Territorio, Azienda USL 7, ARPAT- Dip. Provinciale di Siena, AATO 4 Alto Valdarno, Autorità ATO dei Rifiuti Comunità di Ambito Toscana sud, Nuove Acque SPA, Sienambiente, Soprintendenza BB.AA. di Siena, Soprintendenza Beni Artistici e Storici di Siena, Autorità di Bacino Fiume Arno, Autorità di Bacino Fiume Tevere, Enel Distribuzione, Estra energie srl, Telecom Italia spa, Wind, Vodafone Omnitel, Terrecablate, Unione Comuni Valdichiana Senese, Comune di Chiusi, Comune di Montepulciano, Comune di Pienza, Comune di Sarteano.

has crossed two different political governments. In fact, although the political party that won the election in 2009 remained the same, the mayor and its staff changes.
Data from interviews and questionnaires suggested that this modification occurred in itinerary strongly influenced the plan- and SEA-making. In fact, the different ways in which two different local governments have approached plan- and SEA-making can likely partially affect the results of this tool. The great emphasis on the public debate that characterised the first stage and the conclusion of the collaboration with the former project team probably put some pressure on the timing schedule. The need to conclude the town plan process in 2013 as well as the limited time for completing the project of the Strategic Plan and the SEA reduced the space for better participation. Confirming this perspective, Marco Rossi, council member during the entire plan process, highlighted that the interruption of collaboration with the first project team and the switch of local government occurred in 2009 put pressure on the timing schedule, reducing space for adequate citizen involvement in the second stage of plan- and SEA-making.

The Intelligent Software

Professional expertise

Within the SEA of Chianciano Terme Strategic Plan, the role of planner and its knowledge were fundamental in achieving a good standard for the environmental assessment.
It is worth noting the contribution of Arch. Occhi. Officially, she represented the only connection between the first and the second project teams.
The SEA was somehow a new tool in the Tuscany Region and in 2009 was fairly new in all of Italy. During the preliminary part of the interview, Arch. Occhi presented their background, underlining her attention on the topic of the SEA since its early steps. In fact, Arch. Occhi revealed that she was a member of the group ENPLAN, a European Project that in 2000 studied the way in which the SEA was implemented in Italy. As such, she represented one of the small groups of Italian practitioners that developed expertise with this tool since its first stages. Thus, the cultural background of Arch. Occhi was one of the principal conditions that influenced the conduction of the environmental assessment. Likely, this experience and sensitivity on the SEA topics represented an added value for the case of Chianciano Terme.
The methodology adopted seems to confirm these considerations. In line with the questionnaire findings, the clear approach adopted allowed an increasing of the understanding about the possible negative effects that plan implementation could caused on the environment, steering the formation of planning strategies. In fact, through a systematisation of environmental objectives and indicators developed within European and National bodies, a set

of sustainability criteria was prepared, establishing a linear and traceable approach. In addition, the quality of the plan designed facilitated the work on the SEA.
Arch. Occhi contended that a well-structured plan, in which the objectives and actions are clearly identified and described, ensures that the environmental assessment takes into account the proper issues and, therefore, proper data and information for the evaluation.

The contribution from civic engagement

The first stage of plan making, from 2005 to 2008, was characterised by public participation. However, the SEA had not yet been introduced. During the second time of the Strategic Plan of Chianciano Terme, the civic engagement received less emphasis. Due to the restricted timing schedule and given that the context analysis was concluded, citizen involvement was limited to a series of meetings during which the environmental assessment was presented only marginally. Likely, the economic crisis affecting the local context was the main attractor for the public, which paid less attention to the environmental topics and instrument. This evidence seems to be confirmed by the comments made during the consultation; for the SEA, only five responses were presented and only from public institutions.

5.1.4 Conclusion

The case study analysis aimed to investigate whether the SEA provided opportunities for the Strategic Plan of Chianciano Terme. It is worth noting the particular context in which the plan was generated. The strong economic crisis that hit the thermal care represented the core reason for the new town plan and, as such, the issues related to this sector became the main argument for politics and planners. The SEA appeared only in a second moment. In fact, when the plan-making began, no one norm on the SEA had been introduced yet.

However, the breaking point between the two project teams and the change of local government somehow hindered the plan-making. In doing so, the SEA was developed during the same time that the plan's strategies were shaped, adopting the preliminary investigation done for the IA as the SEA preliminary report.
In this case, the SEA represents a real application of the environmental assessment as an "environmental advocacy" tool because, given the relevance within this process of the economic issues, the environment could be neglected or receive less emphasis. Thus, although the SEA probably promoted only a valuable integration between environmental topics with social and economic issues, complying with its principal expectation, without overcoming this class, it is worth noting that it played an important role in shaping planning decisions.

Thus, the SEA of Chianciano Terme Strategic Plan achieved the **"desired expectation"** without overcoming the Directive's boundaries (Table 24). In fact, the SEA of Chianciano Terme Strategic Plan triggered a valuable integration of environmental concerns within the planning process, stimulating a well-documented system of feedback between assessor and planners. In doing this, the expertise of Arch. Occhi was fundamental in shaping a clear methodology, which took into account and systematised indications from both European and national bodies. However, it is worth noting that some political uncertainties likely hindered the entire process. In particular, the interruption of collaboration with the first project team, the publishing of new tender for the town plan design and the start of new plan-making through the new project team likely caused some delays in the timing schedule, leaving limited space for proper public participation activities.

Although the SEA was well conducted and prepared, the valuable expertise of the assessor is probably not enough to establish new environmental values within the local society. Likely, the case of Chianciano Terme required a double reflection on what could have been done better. Raising issues related to "public education" covers only part of the problems. In contexts where other key arguments usually absorb the entire debate, it is likely worth studying alternative solutions, which can involve citizens in shaping decisions without spending much money and time. In this sense, some new technologies and web resources could offer interesting solutions.

Table n. 24: The opportunity of the SEA of Chianciano Terme Strategic Plan

Type of opportunity	Favourable conditions	Hindering conditions
SEA's desired expectation	The professional expertise	Institutional hardware: SEA national political framework, Political uncertainties Intelligent Software: Civic Engagement

5.2 Case study 2: the SEA of Scansano Operational Plan

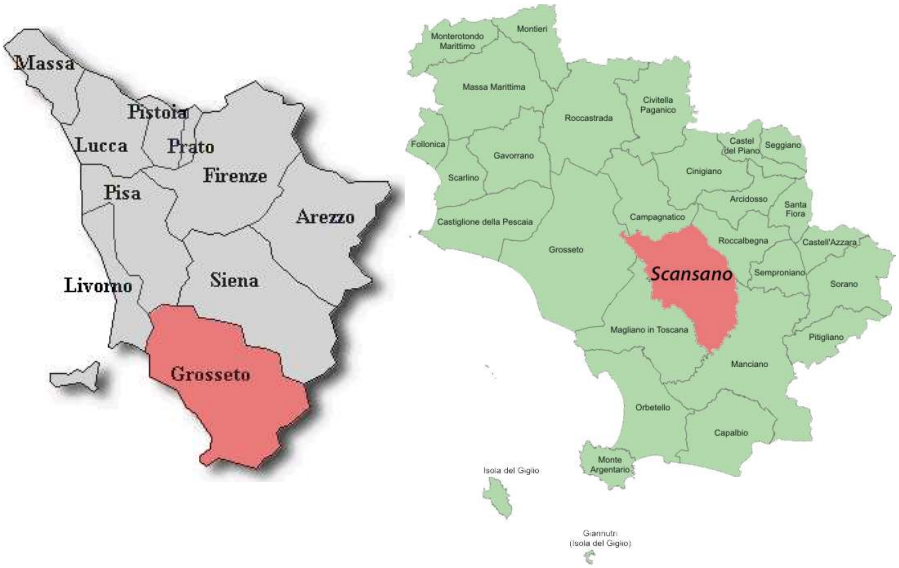
5.2.1 Introduction

The second case study is the SEA of Scansano Operational Plan (OP) adopted on 22nd of December 2015.

The SEA of Scansano Operational Plan can be considered as a pilot case study. In fact, in 2013 the Tuscany Region introduced the law n. 46 on the *public debate and the promotion of public participation for regional and local policy-making* (Tuscany Region, 2013). In accordance with this law, a Regional Authority was instituted with the duty to evaluate and fund specific projects in supporting of civic engagement. The SEA of Scansano Operational Plan was the first strategic environmental assessment process that received this public funding for the participation. As such, it might be considered as a pilot case study because for the first time an Italian SEA was funded in order to be conducted with a participative-based approach.

Scansano is a town situated in the south of Tuscany. It is part of a complex system of small municipalities in which the main city is Grosseto. Its population is about 4.500 inhabitants (City Council of Scansano, 2015a) that are spread out on a highly fragmented urban area where the principal settlement is Scansano, in which lives the 33% of the population.

Figure 5: Tuscany and Scansano

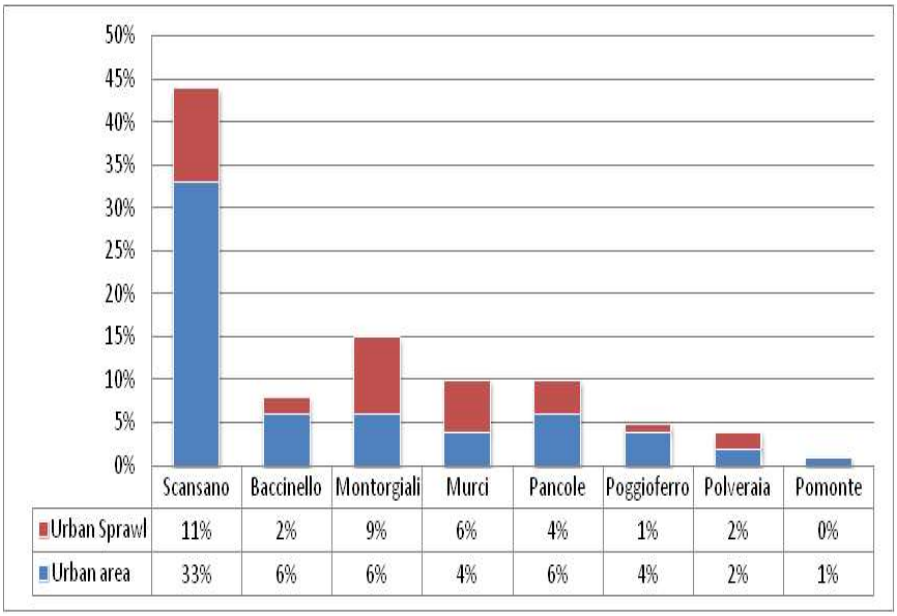


In addition, several villages are located around the main centre, that are Montorgiali, Pancole, Murci, Baccinello, Poggioferro, Polveraia and Pomonte (see figure 6).
This particular structure is derived from its agricultural vocation that historically characterised the local economy. It is worth reminding that the agricultural land is 97% of the whole City Council area (Scansano City Council, 2015a: 61).
Within this context, the wine sector represents the principal excellence for Scansano in which the famous Morellino is produced. Currently, the tourism sector is increasing, particularly for the offers strictly related to the bio life style and agricultural side.

With regards to the environment, Scansano holds a rich natural heritage where two Sites of Regional Importance are defined. These are the "Medio Corso del Fiume Albegna" (Cod. Nat. 2000 IT51A0021) and the "Torrente Trasubbie" (Cod. Nat. IT5190103).

The landscape is another value for the local society. In fact, the wine vocation and the geo-morphological shape of Scansano land contributed to define the typical landscape of this part of Tuscany.

Figure 6: The population of Scansano



	Scansano	Baccinello	Montorgiali	Murci	Pancole	Poggioferro	Polveraia	Pomonte
Urban Sprawl	11%	2%	9%	6%	4%	1%	2%	0%
Urban area	33%	6%	6%	4%	6%	4%	2%	1%

Source: Based on data of General Report of the Operative Plan (Scansano City Council, 2015a)

5.2.2 The SEA of Scansano Operational Plan

The peculiarity of the context in which the Operational Plan was made

The City Council of Scansano approved the Strategic Plan in 2008, setting a broad vision for the entire municipal area. Within this framework, the early works for the Operational Plan commenced in 2009. A series of important events has influenced the planning process. From the beginning, the citizens' involvement received great emphasis.
Based on the "Google map" web application, an interactive map of Scansano was established where all citizens could localise problems. Through easy symbols, everyone could suggest issues regarding nature, green space, sport, culture, accessibility, free time, housing and workplace, producing a well-constructed overview about the problems that affect local society. This technology promoted the incremental approach to plan-making in which decisions are shaped based on the problems perceived by citizens.

In 2010, the Tuscany Region introduced the Strategic Environmental Assessment with the regional law n. 10. In doing so, the SEA became another content of the planning process, which must be prepared alongside the new Operative Plan.
In 2012, the SEA of the Scansano Operational Plan officially begun with the identification of the Competent Authority that was (is) the NUPAV[1] of Grosseto Province.

However, in 2013 the Tuscany Region approved the law for the public debate and the promotion of public participation in policy-making. Since 2005, the citizens' involvement was considered a pillar of urban governance acts. Notwithstanding, the regional law n. 46 of 2013 (Tuscany Region, 2013) attempts to move beyond the previous norms, instituting a special Authority for the Public Participation[2] with the duty to evaluate and finance specific projects that encourage civic engagement.
Within this context, the project *Valut-Azioni in Comune* of Scansano received a financing for the conduction of a participative-based SEA. It is worth remembering that the case of Scansano was the first SEA funded by the Authority for the Public Participation and, as such, it represents a pilot case.

In addition, in 2014 the law n. 64 *Norme per il governo del territorio* (Tuscany Region, 2014) was established, introducing several modifications for the planning process.

1 Nucleo Unificato Provinciale di Valutazione e Verifica – Provincial Unified Unit for the Verification and Evaluati
2 Autorità per la Partecipazione - http://www.consiglio.regione.toscana.it/oi/default.aspx?idc=47

The major innovations regarded the Strategic Plan in which the perimeter of urban area must be defined. Due to this new norm, a variation of the approved strategic plan was required. In addition, art. 232 introduced a special block for new buildings, urban renovations, demolition and reconstruction operations for all Municipalities without the Operational Plan/Planning Code. In this way, the law n. 65/2014 has halted the construction activities for the entire territory of Scansano.

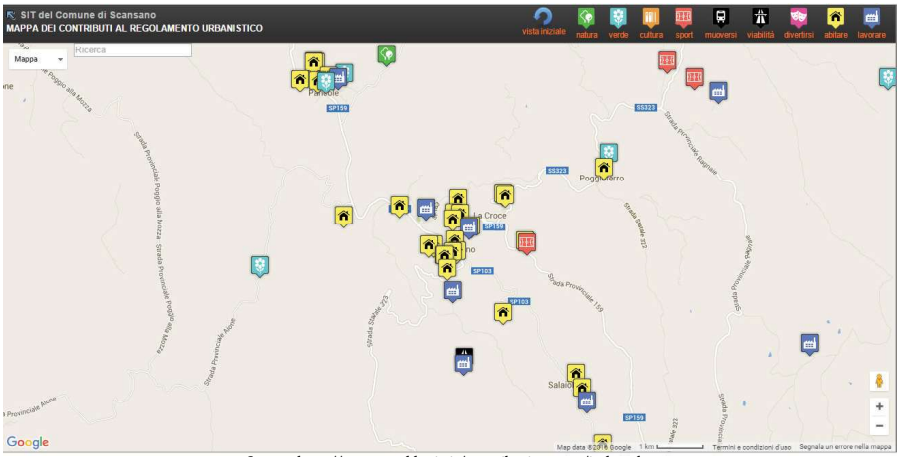
Likely, this solution has increased the pressure on time schedule because the building sector as a whole was blocked until the approval of the new Operational Plan.

Within this particular context, the SEA of Scansano Operational Plan was conducted. In the next part, the project *Valut-Azioni in Comune* is briefly described and subsequently the SEA process is reconstructed.

A support to the civic engagement: the project "Valut-Azioni in Comune"

The citizen involvement was a pillar of this process. Since the early stages, the establishment of the map of contributions invited all population to participate in shaping planning decisions. This approach, commonly defined as incremental, begins with the identification of the problems perceived, emphasising possible conflicts among stakeholders and society. Through a sequence of continuous contributions of information, the necessary knowledge is produced. In this way, the database is the result of these interactions. Almost 80 recommendations were presented between 2008 and 2015, covering all categories set within the Google map application.

Figure 7: The map of citizens issues for the new Operational Plan of Scansano



Source: http://scansano.ldpgis.it/contributi_gmaps/index.php

Given that the SEA was a relatively new tool, these contributions only marginally encompassed environmental assessment topics. Thus, always based on the incremental approach, in 2013 planners and assessors of Scansano Operational Plan prepare the project *Valut-Azioni in Comune* which was submitted to the Regional Authority for the Public Participation. This project proposed a new way to conduct the SEA, emphasising the citizens' engagement and exploiting the potential of this tool for promoting the participation of plan and environmental assessment. The Authority for the Public Participation decided to finance this idea of participative-based SEA.

The participative process involved citizens from the early stages of the planning process, inviting the local society in shaping the necessary knowledge for planners and assessors. The construction of knowledge concerned to understand the perception of values within local community. Citizens proposed problems and opportunities for Scansano. Based on this first database, the assessment team prepared the SEA preliminary report, setting the framework for the evaluation of the effects of planning decisions.

The local community contribution for the evaluation of the evolution of plan-making occurred alongside the formation of plan choices. Particularly, these activities were structured using specific workshops spread out on the entire Scansano area with the aim to involve as much of the population as possible.

BOX 1: The response of the Authority for the Public Participation[1]

The project seems to be ambitious and contextualised in a complex twist of structural and contingent problems. The attempt to overcome the classical form of application of the SEA legislations seems to be interesting, taking into account seriously the constitutive reasons of this tool that turned out a mediocre institutional instrument. Therefore, the proposal seems to acquire high level of translocal interest and it constitutes an attempt to establish an innovative laboratory for an instrument that has lost credibility above all within local society. The whole work aims to refurbish not only "methodologically" but also regarding the analytical and decisional functionality of a "public sphere" local, vital and effective in permeating and orienting the administrative policies. The same chosen to "restart" from the SEA proves this intention.

Thus, the project proposed participatory activities for the SEA-making of the Scansano Operational Plan, which is currently at the beginning. The project most consistent for both methodology and cost prevision.

Source: Author's translation based on the Report of the Communication Guarantor (Scansano City Council, 2015c)

1 Il progetto pare ambizioso e contestualizzato in un fitto intreccio di criticità strutturali e contingenti. E' interessante il tentativo di superare gli schematismi paraburocratici dell'applicazione della legislazione in materia di Vas prendendo (finalmente) sul serio le ragioni costitutive di quello che si è sin qui rivelato (in generale) un deludente strumentario istituzionale. Pertanto la proposta assume un carattere di notevole interesse translocale e si configura come il tentativo di costituire un laboratorio innovativo per una strumentazione che ha perso molta della sua credibilità, specie agli occhi della cittadinanza. Il tutto con intenti di "recupero" non solo "metodologico" ma anche e soprattutto di funzionalità analitica e decisionale di una "sfera pubblica" locale vitale ed efficace nel permeare e orientare le politiche amministrative. La stessa scelta di "ripartire" dalla Vas sta a testimoniare questo intendimento. Il progetto prospetta dunque attività di partecipazione per la messa a punto della Valutazione Ambientale Strategica in relazione al regolamento Urbanistico in fase di avvio. Il progetto + consistente sia per quanto la metodologia che per le previsioni di costo

Initially, the participation was based on a questionnaire survey, which was submitted during the first public meetings. The local society values were investigated through the SWOT analysis approach (http://open.toscana.it/web/valut-azioni-in-comune/home).

In order to facilitate the understanding and, so, the participation of citizens, the four main points (strengths, weakness, opportunities and threats) were adapted within the questionnaire structure through a system of simple questions.
Citizens recognised the quality of natural and cultural heritage as the major strengths of Scansano. Meanwhile, the principal weaknesses were the lack of adequate mobility infrastructures (traffic and parking, streets, pedestrian paths) as well as the shortage of a meeting place.
However, the environment seems to be the key element for the local community, which described the possibility to develop activities connected to the natural resources as the main opportunity. In fact, the enhancement of the touristic offer, increasing the link with the agricultural and environmental values is the principal chosen, followed from the need to improve the quality agriculture production as well as the protection of the biodiversity and landscape. The abandonment of rural settlements is perceived as the principal risk for this possible environmentally-based development (City Council of Scansano, 2016).
This database was integrated with a series of specialised meetings with the local economic stakeholders and associations.

The analysis of problems was further improved through territorial workshops localised in three strategic points in order to collect the entire basin of rural population.

- The first was situated in Pomonte, encompassing the villages of Murci and Poggioferro as well.
- The second was in Pancole in which converged also the population from Polveraia and Montorgiali and the last occurred in Baccinello, in which people from Preselle were invited as well.

These meetings investigated the peculiarity of these contexts, principally agricultural-based, emphasising the issues which affected these areas often marginalised (Table 25).

In a second step, a specific forum of the SEA was conducted. Named "Participated Assessment and Monitoring ", this meeting was organised in two sections in which at the beginning the debate focused on the state of art of the environment, presenting and discussing the analysis on the natural and cultural heritage. Based on these findings, the second section concerned the assessment.

This phase still used the SWOT analysis as a framework to involve opinions concerning possible effects derived from plan implementation.

The public was invited to discuss the impacts on planning, also suggesting eventual mitigation measures. In doing so, the local community contributed in underlining probable environmental problems and proposing solutions in order to avoid or correct these critical issues. Ultimately, a set of indicators was established on the basis of the knowledge developed through the debating.

Table n.25: The public meetings of the SEA of Scansano Operational Plan

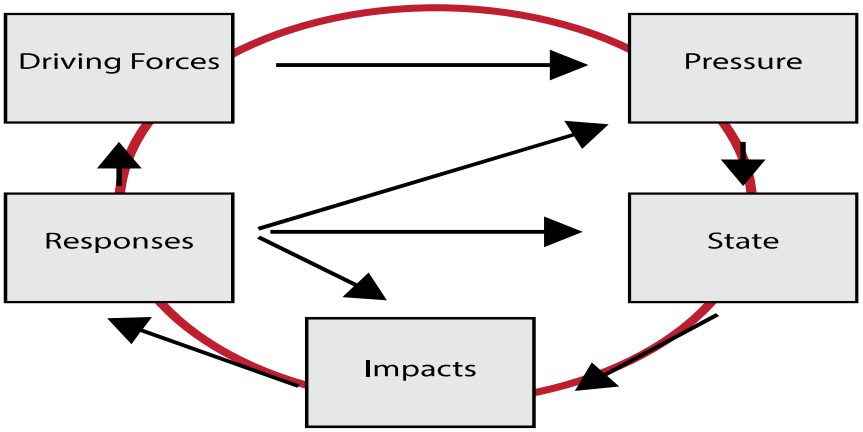
Data	Type of Meeting	Title
25/09/2014 (15.00)	Explorative/early stage	Un territorio da Abitare, incontro con le realtà produttive del territorio (A territory to live, meeting with the local productive stakeholders)
25/09/2014 (18.00)	Explorative/early stage	Un territorio da Abitare, incontro con le realtà associative del territorio (A territory to live, meeting with the local associations)
25/09/2014 (21.00)	Explorative/early stage	Un territorio da Abitare, assemblea pubblica con la popolazione (A territory to live, meeting with the population)
18/11/2014	Thematic meeting/ early stage	Focus tematici: Territorio Rurale e Agricoltura (Rural and Agricoltural Land)
24/11/2014	Thematic meeting/ early stage	Focus tematici: Ospitalità e Accoglienza (Hospitality)
23/02/2015	Localised Workshop/ assessment and indicators	Incontro nella frazione di Pomonte (Meeting in the village of Pomonte)
25/02/2015	Localised Workshop/ assessment and indicators	Incontro nella frazione di Pancole (Meeting in the village of Pomonte)
27/02/2015	Localised Workshop/ assessment and indicators	Incontro nella frazione di Baccinello (Meeting in the village of Pomonte)
1/12/2015	Presentation of participative assessment and the Operational Plan/ conclusive stage	

Source: Delibera del Consiglio Comunale n. 60/2015 (City Council deliberation n. 60, City Council of Scansano, 2015e)

The SEA of Scansano Operational Plan

The sustainability of the operational plan was pursued by adopting an incremental approach for the plan- and SEA-making. Within this context, the public participation carried out a very important role in setting the proper knowledge for planners and assessors.
Citizens underlined the problems that affected Scansano, proposing possible strategies or enhancements as well. In doing so, the SEA prepared the framework for the assessment, the sustainability targets and indicators, integrating data from institutional documents and policies with the tacit knowledge developed through debating. The involvement of local community principally occurred during the early stages of SEA-making, before the adoption of the preliminary Report.
The coherence analysis was the main task of the SEA during the early stages of the process. At the beginning, the environmental assessment verified the coherence between the Strategic Plan objectives and those defined within the Operational Plan. Secondly, the same analysis was made between operation plan and the objectives of overarching PPPs.
In order to collect and organise the environmental baseline, the SEA adopted the DPSIR (Driving Forces-Pressures-State-Impacts-Responses) framework (Figure 8). This model is particularly used to assess and manage environmental problems (Gobbi and Amodeo, 2004). The driving forces generally represent the socio-economic efforts driving human activities, which amplify or reduce environmental tensions. Pressures are the stresses that human activities caused on the environment. State describes the condition of the environment. Impacts represents the effects on the environment. Responses depict to the responses by society to the environmental issues.

Figure 8: DPSIR framework



The DPSIR framework was principally adopted to classify the indicators set for the assessment. Through the SEA, each environmental component was singularly analysed. The components taken into account were:

– Human health: air quality, noise pollution and electromagnetism
– Water
– Soil
– Energy
– Waste
– Biodiversity
– Landscape

In doing so, the evaluation of the possible effects derived from plan implementation was achieved by establishing a matrix in which were explained (Figure 12):

– The sustainability targets (macro and specific objectives)
– The indicators and their relative nature with regards to the DPSIR framework
– The availability of data
– The judgement regarding the current status of the environment and its possible evolution due to the plan implementation.

Figure 9: The values for the assessment of the current status of the environment

The current status of the environment and its coherence with the sustainability objectives					
☺	Positive Condition	😐	Uncertain Conditions: data did not allow to express a judgement	☹	Negative Condition

Source: SEA Environmental Report (City Council of Scansano, 2015b: 54)

Figure n.10: The values for the assessment of the possible evolution of the environment

Data availability					
+++	Excellent	++	Good	+	Sufficient

Source: SEA Environmental Report (City Council of Scansano, 2015b: 54)

Figure n.11: The values for the assessment of the availability of data

Possible evolution of the environment							
☺	Gradual enhancement	😐	Trend stable	☹	Gradual deterioration	-	It is not possible to express a judgement

Source: SEA Environmental Report (City Council of Scansano, 2015b: 55)

The core of the assessment was the selection and construction of the SEA's indicators. Based on national and regional bodies, a first list of criteria was performed. It is worth underlining that the SEA environmental report is lacking an adequate description regarding the type of studies or institutional documents in which these indicators were already defined.

Notwithstanding, some of these indicators are the result of the public participation process. In fact, citizens principally contributed to the landscape issues, which is probably perceived as a fundamental value of the local community. The stock of information regarding the problems that could affect the environment and the entire territory in general have defined clear directions for planners and assessors. Bringing the local community at the core of SEA-making probably promoted a sort of new environmental accountability, consolidating this factor as the "social identity" element of the Scansano population. This large series of inputs was translated in specific indicators. The major interest was on the landscape and rural land, emphasising the creation of new development vision based on the natural heritage and its linked and indirect local productions. In addition, the SEA was encouraged to improve the protection of local area from waste abandonment, setting proper indicators and recommendations. Supporting the defence the integrity of landscape that is considered a pillar of Scansano population, citizens were invited to use the SEA in order to prevent and fight this form of urban neglecting (SEA Environmental Report, p. 93).

Figure 12: Example of assessment matrix adopted within the SEA of Scansano Operation Plan

Human Health: air, mobility, noise pollution and electromagnetism							
	Sustainability Targets		INDICATORS	DPSIR	Data	Status	Trend
	Macrobjectives	Specific Objectives					
AIR	To reduce the percentage of population exposed to atmospheric pollution	Emission reduction	Emissions organised by types of activities	P	+++	☺	☺
		Improving the air quality	Status of air quality (DL 155/2010)	S	++	☺	☺
			Status of air quality based on biomonitoring through the lichens analysis	S	++	☺	-
			population exposed to atmospheric pollution	S	++	☺	☺

Source: SEA Environmental Report (City Council of Scansano, 2015b: 63)

Within this framework, the SEA evaluated singularly the impact derived from the Operational Plan implementation on each environmental component through the indicators established during early stages. In each point, a brief description about the source of data gathered was presented. The current status of the environmental component and its possible evolution trend were examined. The evaluation is concluded with the assessment matrix that summarised the considerations already described.

However, it is worth underlining that the "face symbols" as judgement values leave uncertainty about the precision of the assessment. Likely, better explanations of how planning decisions really affect the environment is needed. Also, a description of how the SEA influenced Operational Plan could be advisable.

5.2.3 The SEA's institutional hardware and intelligent software

The SEA national procedural framework

The SEA of Scansano Operational Plan has encompassed the introduction of two important regional laws that probably influenced its achievements. In fact, the establishment of a specific fund for the promotion of the public participation, instituted through the regional law n. 46 of 2013, carried out a fundamental role within the SEA process. The particular framework instituted by the Tuscany Region, which since 2005 emphasised the public participation as a pillar of policy-making, allowed the creation of adequate environment for the promotion of a new way to conduct the SEA. Moreover, the new regional law on the urban governance added another important innovation. In accordance with the law n. 65 of 2014, art. 36(4), in order to avoid unfruitful duplication, the informative and participative activities of PPPs subjected to the SEA are coordinated with the activities disciplined by the regional law n. 10/2010 (Regional norms for the SEA, EIA and Habitat Appraisal). In these terms, the law recognised the public participation as a key element for the integration between planning and SEA process. In doing so, the SEA received a double legitimacy because on one hand it enhances the environmental information of planning process and in the other it sets the space for the participation for both plan and SEA.

The authorities involved within the SEA

The analysis of the SEA's documents cannot allow a real comprehension about the role of the statutory authorities. However, the little information on this point suggested that the contributions from these authorities was truly weak because their interactions were limited to the consultation on the SEA preliminary SEA documents and on the environmental report.

Reflecting the role that Italian legislation conferred to these authorities, the nature of their comments is mainly oriented in underlined lacks of SEA reports rather than in suggesting possible enhancements.

The SEA's supporting tools and measures

The SEA of Scansano Operational Plan has exploited technological and procedural supports. In fact, the establishment of the problems' mapping through a google map application set an innovative way to collect the opinions of local community, localising these issues and organising critical elements through a set of very easy categories. In doing so, the use of this technology de facto invited all population to take part to the process, emphasising the transparency and traceability of the evolution of problems' mapping.

In a second place, the institution of a special authority to encourage and support public participation for policy-making allowed the establishment of the SEA through a participative-based approach. Understanding the innovative approach, the Regional Authority for the Public Participation decided to finance the project Valut-Azioni in Comune. In this way, the SEA of Scansano Operational Plan had the opportunity to conduct the environmental assessment, involving local community during the entire process, promoting the citizens' contributions for the creation of adequate data and information. In addition, the Valut-Azioni in Comune was the place in which indicators were shaped, emphasising the knowledge brought from civic society. The financial support probably was a fundamental key factors in overcoming the classical barriers (like limitation in resources) which usually affected the public administration in setting proper spaces for public participation.

The role of politics

The case study analysis revealed that no particular pressures arrived from politics. On the contrary, the political sphere has legitimised the entire process, participating in almost all the public encounters. However, the findings of questionnaire survey suggested that politics still don't perceive the application of the SEA as useful, probably because the political subjects have not yet developed a clear understanding about what this could imply for planning process. Based on this premise and given that the SEA was applied in order to structure the participative process of the operation plan, it might be assumed that the political attention to the public participation was derived from the strong interests for planning decision rather than for the SEA development.

The intelligent software

The professional expertise

The adoption of the incremental approach represents an unusual choice for plan- and SEA-making in Italy. This model begins with problem analysis, emphasising the construction of decisions through a continuous series of inputs from all subjects involved within the process. Thus, the choice of planning and assessment teams to apply this model allowed the creation of adequate condition for analysing the environment in broad ways, involving the entire local community. Given that the SEA is widely recognised as a value-based tool, the establishment of the environmental directions for planning require an understanding of the perception of the local community. In doing so, the attention of assessors in selecting the proper approach facilitated the identification of the key environmental aspects. It is worth underlining that even the results of the questionnaire survey suggested that the expertise of planners/assessors represents a key aspect for this SEA in proving opportunity. The development of a participative-based SEA was a challenge for the Italian context. In order to exploit the potential sets by the financing of Tuscany region, the clear methodology based on the incremental approach for plan- and SEA-making probably facilitated the contribution of citizens, encouraging the formation and sharing of new awareness for and within the local community. However, less relevant was the methodology chosen for the assessment matrix, which is likely still too vague due to the judgement being based on "face-symbols".

The contributions from civic engagement

The citizens were the key factors of this SEA process. Thanks to the project "Valut-Azioni in Comune", an adequate environment was created, encouraging the population to take part in the SEA-making. The Tuscany Region holds a long tradition with regards to the citizens' involvement. The setting of suitable space for the discussion facilitated the contribution from the local community. Citizens underlined the importance of the landscape and rural space. Perhaps, the SEA managed to attract the local population because the natural heritage already represented an important value for this society. The knowledge of the local community was particularly useful for the construction of the environmental baseline as well as the creation of proper indicators. In this way, the environmental assessment invited the local community to identify local values, understanding how to preserve this values and how to promote possible environmental-based developments. According to the questionnaire findings, the citizens play a very important role in creating knowledge and in stimulating the formation of the opportunity. In fact, the Arch. Daniela Giura, Head of Scansano Planning Office, suggested that major opportunity regards the local community. The SEA promoted

new awareness within planners and society. Citizens achieved new consciousness of their actions and this also because they participated in shaping planning decisions through the SEA. Similarly, the assessor team of the Scansano operational plan highlighted that the participative approach allowed even empowerment of the local community in shaping and sharing a possible solution for the enhancement of the local environment.

5.2.4 Conclusion

The Operational Plan of Scansano was a long process in which several significant events occurred during its formation, influencing the contents and decision making of this process. In 2008, the Strategic Plan, that is the overarching tool in which the general strategies for the development and management of Scansano were defined, was approved. Since 2009, the preliminary works for the Operational Plan, which is the instrument that sets the implementation of the overall strategies, begun. From the beginning, the local community involvement was emphasised. In fact, a "Google map" application was used to invite citizens to identify and localise critical issues. This problem mapping constituted a first knowledge that was integrated with data and information gathered within institutional database. In 2012, the plan-making and the SEA commenced.
However, the introduction of the regional law on public participation in 2013 and the new urban governance norm approved in 2014 produced several procedural innovations, slowing down the entire process. Nevertheless, the institution of the Regional Authority for the Public Participation de facto represented a fundamental element for the SEA of Scansano. In fact, this authority financed a project named *Valut-Azioni in Comune* in which the planning and assessment teams of Scansano promoted a participative-based SEA. These regional resources allowed to structure this approach for the SEA-making. Thus, the citizens' involvement can be considered as the distinctive element of the environmental assessment of Scansano Operational Plan, where the local community contributed in shaping the information for the environmental baselines as well as for the definition of proper indicators reflecting the perceived values of this society.

Within this context, the SEA achieved the "**desired expectations**". The consideration of the environment within planning process was well-established as well as the participation and transparency were enhanced. In addition, the powerful involvement of local community promoted the consolidation of the protection of environmental heritage as a fundamental value.

The SEA of Scansano Operational Plan attempted to move beyond the Directive's expectations. Adopting a participative-based approach, citizens were encouraged to highlight and share the kinds of values they perceived as pillar for their everyday life. The strong agricultural vocation probably influenced this result. The importance of landscape and rural land appeared as the principal components where all local community recognised to be the identity of this place. Likely due to this social identity, the SEA was applied in order to discuss and shape an environmental-based development vision.

As such, the SEA provided an "**invented opportunity**", triggering an innovative approach for setting the directions for the enhancement of local environment. In fact, the SEA of operational plan provided the establishment of consciousness about the centrality of the natural heritage, probably also setting the directions for future development. In doing so, citizens gathered awareness on how planning can affect the environment. For example, the local community accepted the reduction of 20% of the new building opportunities in favour of the most effective enhancement of environmental resources. In addition, through the public participation a remarkable contribution of knowledge was brought within the SEA process. It is worth remembering the participation in shaping the indicators for the assessment of the impacts on landscape and waste management. Nevertheless, the social involvement was facilitated by the Regional Authority for Public Participation, which supported the entire process through a specific funding. In addition, the incremental approach adopted for plan- and SEA-making allowed citizens to contribute in more effective way. Notwithstanding, probably a different type of involvement of statutory SEA authorities could have produced new data and information, providing further opportunities. Also, the political legitimacy, supporting the development of the SEA, might promote further enhancement for the local environmental governance. Finally, the analysis of opportunities was partially limited by a lack of information on the SEA Environmental Report of how the SEA influenced the Operational Plan decisions. Likely, a specific section in which explain point by point which contribution the SEA really gave to planners could be useful.

Table n. 26: The opportunity of the SEA of Scansano Operational Plan

Type of opportunity	Favourable conditions	Hindering conditions
SEA's invented opportunity	Institutional hardware: SEA's supporting tools and measures Intelligent Software: The professional expertise Civic Engagement	Institutional hardware: The role of politics The type of contribution for statutory authorities

5.3 Case study 3: The SEA of Local Development Plan of Dundee City

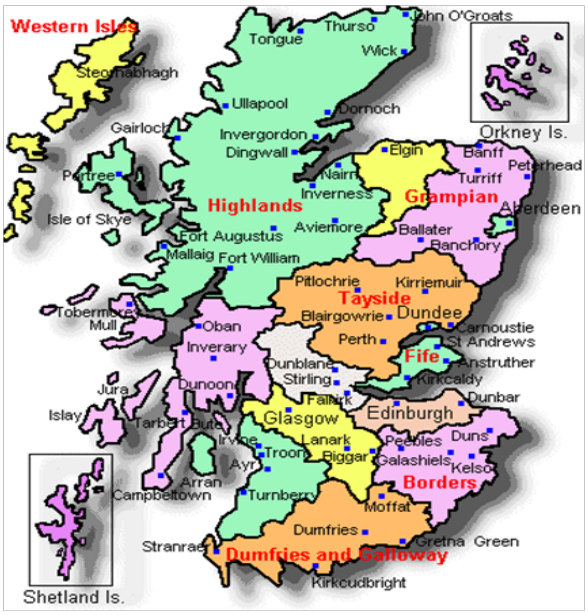
5.3.1 Introduction

Case study 3 is the Strategic Environmental Assessment of Dundee City Local Development Plan.

Dundee City is located in the central part of Scotland, east side, and situated on the north bank of the River Tay's estuary. It is the fourth largest city in Scotland and its population is 148.260 inhabitants, with a high percentage of young people (Dundee City Council, 2015).

Until the 20th century, Dundee was an industrial city in which several industrial productions alternated. Historically, this land was characterised by a strong presence of leather artisans. Notwithstanding this, a real industrial boom occurred in the 19th century, when the shipping industry and jute became a sort of symbol for Dundee. Currently, Dundee's job market is based on public services, with a strong focus on health and social assistance as well as on the university and its indirectly related employment opportunities (see Table 27).

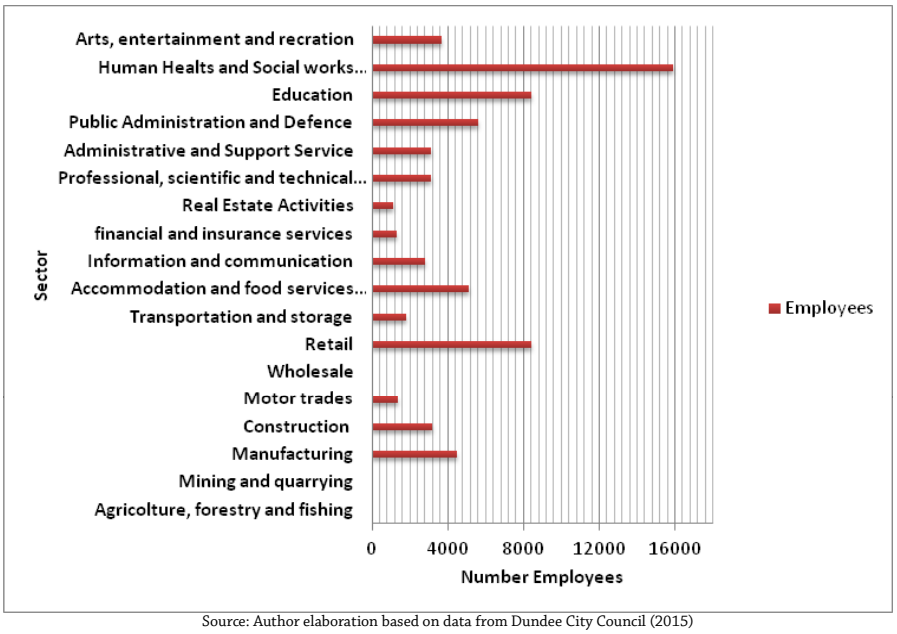
Figure 13: Scotland and its main cities



With regards to the local environment, Dundee holds a rich, natural heritage, including 17 conservation areas and a complex system of watercourses. Among these sites, there are the largest reed beds in Britain, internationally important over-winter geese and nationally important wader species, as well as the estuarine environment that involves European Protected Species like otters, bats, dolphins and porpoises (Dundee City Council, 2013: 20)

Within this context, the LDP was promoted. The overall framework was established through the TayPlan, that is, the Strategic Development Plan that set the vision for the area of Dundee, Perth, Angus and North Fife. The SEA of TayPlan first identified the main directions for environmental governance, providing a framework for subordinate planning levels.
The SEA of Dundee City LDP was started in 2010 with the Scoping Report submitted to the SEA Gateway on the 20th of September 2010 and adopted on the 5th of December 2013. The publication in January 2014 of the Post Adoption Statement Report concluded the SEA process. Based on overarching strategies, the SEA attempted to address localised actions within a wide vision of environmental protection promoted through the higher tiers of Scottish planning. In doing so, the collaboration between Dundee's planning officers and the Consultation Authorities involved was a very important element that has characterised the entire SEA process.

Figure 14: Employment in Dundee by industry sector 2013



Source: Author elaboration based on data from Dundee City Council (2015)

The analysis was completed through interviews, both face-to-face and via email questionnaire. The first interviewee was Andy Mulholland, Dundee's planning officer who conducted the SEA. He was interviewed in order to identify the key aspects of the SEA process, stressing strengths and limitations encountered. As fundamental actors of the Scottish SEA, a questionnaire survey was submitted to Consultation Authorities (CAs). They were invited to reflect on: a) whether the SEA stimulated opportunities and b) which things could be done better. The understanding of which conditions have supported the generation of SEA's opportunities requires a deep knowledge of the whole process, highlighting the hidden elements and facts that are sometimes not written within official reports. Given that CAs followed the entire SEA process, participating in shaping SEA content, they are a preferential source of information in order to integrate data acquired through documents' analysis.

5.3.2 The SEA of Dundee City LDP

The inheritance of TayPlan

In Scotland, the planning system is based on three levels of urban governance. The National Planning Framework (NPF) sets the main strategies, addressing issues and developments to subordinate levels and adopting a proper lens for each tier. In order to connect national strategies with local planning, the Scottish Government established the Strategic Development Plan (SDP), which usually covers several Municipalities, instituting appropriate authorities for preparing the SDP and its SEA.

Within this framework, the Scottish Government instituted the TayPlan authority, including Dundee, Angus, Perth and North Fife. Given its strategic nature, the TayPlan addressed general lines, aims and issues in order to perform a vision for this territory. In so doing, the SEA set the environmental agenda for this region, identifying the topics that should be taken into account through Local Development Plans. In particular, the environmental assessment established requirements for subordinate actions, focusing on how the TayPlan vision can impact the landscape and the cultural and environmental heritage.

The SEA of TayPlan adopted a sort of checklist as a methodology in order to suggest to subordinate authorities which kinds of information should be taken into account. According to the TayPlan Authority, *the SEA initially considers the Vision in broad terms, and analyses the potential for improvement of environmental considerations within the overarching strategy* and it also *is useful in identifying weaknesses in the framework which can then be fed into the spatial assessment to give consideration of cumulative effects with environmental impacts of the proposed spatial strategies* (TayPlan Authority for Dundee Angus Perth and North Fife, 2010: 47).

So, TayPlan set topics that should be implemented through LDPs and the SEA focused on which types of knowledge the environmental governance needed. In doing this, a list of questions was defined and transferred to local authorities (see Table 28).

The SEA of Dundee City LDP

The Local Development Plan is the instrument that implements and develops strategies established into overarching planning tiers. Similar to LDP, the SEA adopts environmental targets defined in higher levels and tries to address strategic vision on local environment, analysing possible impacts.

Table n. 27: TayPlan's SEA objectives and related sub-criteria

Topic	Strategic Environmental Assessment Objective	Assessment questions (Will it)
Biodiversity	To conserve and enhance the diversity of species and habitats	…protect and enhance valuable wildlife habitats and species, both those statutorily designated and those of local value? …affect habitat fragmentation?
Human Health	To improve the quality of life for communities in the TayPlan area To maximise the health and well-being of the population through improved environmental quality	…create and sustain vibrant and diverse communities? … positively enhance and promote the perceived sense of place held by the community? …reduce health problems relating to environmental pollution?
Soil	To safeguard soil quality and reduce soil sealing or contamination and to protect areas of peat and carbon-rich soils	…make use of previously used/brown field land and buildings? …minimise the amount of prime agricultural land required to implement the strategy?
Water	To protect and enhance the water environment and to prevent and minimise flood risk To maintain catchment processes and hydrological systems within the TayPlan area	…maintain natural processes? … prevent deterioration and enhance ecological status of the water environment?
Air	To protect and enhance air quality	…reduce levels of pollution to air and minimise greenhouse gas emissions? …encourage the transfer of freight from road to rail or water? by car?
Climatic Factors	To ensure climate change mitigation To ensure climate change adaptation	…avoid exacerbating the impacts of climate change? …manage existing and avoid new flood risks? …ensure adaptation to the effects of climate change?

Material Assets	To promote and ensure high standards of sustainable design and construction To meet the Zero Waste Plan Targets	…encourage energy efficiency? …ensure new development is undertaken in line with sustainable principles? … encourage the safe treatment and disposal of residual waste?
Cultural Heritage	To protect and, where appropriate, enhance the cultural and built environment	…protect [and enhance] the historic environment? …ensure high design quality, respect for local character, distinctiveness … in new development?
Landscape	To protect and enhance the character, diversity and special qualities of the TayPlan area's landscape	…improve or maintain the landscape character of the area? …respect landscape capacity, visual amenity, and the spatial diversity of communities?

Source: TayPlan Authority for Dundee, Angus, Perth and North Fife, (2010), Environmental Report: the SEA of the Strategic Development Plan 2012-2032. TayPlan: Scotland's SusTAYnable Region, p. 44-46

Within this context, the exploration of the SEA of the Local Development Plan of Dundee City emphasises principally the methodological aspects rather than the contents of the assessment.

The SEA process officially started on the 20th of September 2010 when the Scoping Report was sent to SEA Gateway.

At the beginning, planning officers prepared a wide exploration of the environmental resources of Dundee. Based on this data, the possible impacts derived from the overall strategies' implementation were investigated. The method adopted consisted of a detailed series of tables in which a first part of the environmental dynamics with and without LDP implementation was analysed.

This section, named an *environmental baseline* (for example, see Table 29), was set in order to facilitate a first contact with Consultation Authorities (CAs). In a second part, a first proposal of object-led indicators was described, reflecting the issues raised in overarching SEAs (see Table 30).

Since its early stages, the SEA was considered a way to enhance environmental knowledge for the LDP, stressing its role in terms of environmental "learning" rather than as an advocacy tool. In line with this understanding of the function of the SEA, CAs on the 25th of October 2015, appreciating the clear and linear methodology, suggested possible improvements in terms of environmental information. Historic Scotland recommended the "Scottish Planning Policy," "Scottish Historic Environment Policy" and the "Memorandum of Guidance on Listed Buildings and Conservation Areas" (Historic Scotland, 2010). The attention of SEPA, instead, focused on flooding risks and water environment, proposing text improvements in order to better define SEA's objectives (Scottish Environmental Protection Agency, 2010). In addition, the importance of the language adopted, constantly accentuated during the entire SEA process, was raised in all CAs responses.

This attention supports the concept of the SEA as a way to improve the comprehension of the environmental dynamics and, as such, its contents must be clear and easy to communicate.

The consultations on the Scoping Report were systematised within the Environmental Report and submitted to SEA Gateway on the 10th of October, starting the second phase of the SEA process. The CAs contributed to the enhancement of information and data for the SEA indicators. The matrices and tables were the core elements of SEA methodology. Given that the LDP is the last stage of the Scottish planning process in which developments are localised, Dundee's planning officers explored each plan's proposal through environmental indicators set within the SEA. In doing so, the assessment was described through a set of coloured matrices organised with respect to the six main strategies addressed in the LDP.

Table n. 28: Example of how environmental topics were analysed within the SEA Scoping Report of Dundee LCD

SEA topic	Environmental Baseline Summary	
Biodiversity, flora, fauna	Description of the environment: Dundee shares a boundary with the River Tay stretching over 16 kilometres of coastline. Activities within Dundee have the potential to have a significant impact on biodiversity and habitats, both within the city and on the Tay. These include: the largest reed beds in Britain; internationally important numbers of over-wintering geese; and nationally important wader species. The city and river benefit from several species of mammals which have European Protected Species Status, including: Otter, Bats, Dolphins/Porpoises, Red Squirrels, Swift, Salmon, Brown Hare, Peregrine Falcons and Sand Martins. There is a variety of locally important nature conservation areas and flora as well as a developed green space and wildlife corridor network. Woodland cover accounts for 4.3% of the local authority area spread over 37 woodland sites, with the Camperdown Elm being first cultivated in that estate.	
	Problem:	Consequence:
	much of the coastline and internal rivers are at an increased risk of flooding in the future.	without action, flooding will put our international, national and local biodiversity at risk.
	impact of individual and cumulative development pressure along the coastline on biodiversity, e.g., from pollution and vibration.	potential loss of habitat and long-term disturbance of internationally important species, e.g., impact on birds and from increased usage.
	existence of non-native invasive species along water courses.	spread goes unchecked and destroys native species.
	effect of other development pressures on habitats and species including international, national and local designated sites and European Protected Species.	potential loss of biodiversity networks, wildlife corridors and species. the age structure of Dundee's trees may continue to worsen.

Source: Extract of SEA Scoping Report of Dundee Local Development Plan (Dundee City Council, 2010: 10)

Table n. 29: SEA objectives and indicators

Topic	SEA Objectives (TayPlan Objectives)	SEA Indicators (LDP Dundee)
Biodiversity	To conserve, protect and, where possible, enhance the diversity of species and habitats	Effect of Plan on indicators for: a. Nationally and internationally important habitat and species resource b. Locally important habitat, species, open space and woodland resource
Population	To improve the quality of life for communities in Dundee	Effect of Plan on indicators for: a. Impact on population demographics. b. Impact on communities
Human Health	To maximise the health and well-being of the population through improved environmental quality and access	Effect of Plan on indicators for: a. air quality b. open space and access (core paths, cycleway provision) c. vacant and derelict land d. preventing, reducing, treating, recycling and diverting waste from landfill
Soil and Land	To protect soil quality and greenfield/prime agricultural land, and to reduce brownfield, derelict and contaminated land in the plan area	Effect of Plan on indicators for: a. ratio of brownfield to greenfield/prime agricultural land developed b. impact on soil quality and contaminated land
Water	To avoid flood risk and conserve natural water systems and the quality of the water environment	Effect of Plan on indicators for: a. flood risk, prevention, enhancement b. control of development within areas at risk of flooding and flood plains c. promotion of Sustainable Urban Drainage d. water quality and contamination
Air Quality	To protect and enhance air quality	Effect of Plan on indicators for: a. impact on air quality legislative limits in AQMA b. mode of travel to work/school

Climatic Factors	To reduce greenhouse gas emissions and ensure climate change adaptation	Effect of Plan on indicators for: a. energy efficiency and renewable energy b. sustainable development and construction c. promoting sustainable transport
Material Assets	To protect and promote the material assets of Dundee City	Effect of Plan on indicators for: a. residential development on greenfield/brownfield land b. city centre infrastructure c. housing stock/regeneration d. education
Cultural Heritage	To protect and, where appropriate, enhance the historic environment	Effect of Plan on indicators for: a. listed buildings b. conservation areas c. scheduled monuments d. sites of archaeological interest, e.g., gardens and designed landscapes
Landscape	To protect and promote the character, diversity and special qualities of the Dundee area's landscape	Effect of Plan on indicators for: a. open countryside landscape b. riverfront landscape. c. city landscape

Source: Extract of SEA Scoping Report of Dundee Local Development Plan (Dundee City Council, 2010: 35)

Figure 15: Example of how policies of the LDP were evaluated within the SEA

Policy Assessment - sustainable natural and built

		Policy/ Proposal	Likely Significant Effects						Mitigation / Reason
SEA Objective	Resource Indicator		Positive Effect	Neutral/No Effect	Negative Effect	Temporary/ Permanent	Over time	Summary of potential impacts including Secondary/ Cumulative/ Synergistic	
1	a								
		1 - Policy 29: Low and Zero carbon generating technology							n/a
		2 - Policy 30: Biomass Energy Generating Plant						Policy 44 Air Quality states that an air quality impact assessment may be required and this must propose appropriate mitigation. Policy 33: National and International Nature Conservation Designations requires a HRA for any development that could have a significant effect.	Biomass has been directed to GEDAs which includes Dundee Port which is adjacent to the Tay Estuary. An air quality assessment may be required as an integral part of the planning process for all applications with biomass energy generating plant other than small domestic scale plant. All biomass plant serving more than a single domestic property will be expected to mitigate emissions by installation of appropriate abatement technology.
		3 - Policy 31: Wind Turbines						Policy 33: National and International Nature Conservation Designations requires a HRA for any development that could have a significant effect.	Dundee is unable to accommodate large scale wind farms due to proximity to residential and urban areas. Proposals involving the production of energy from wind turbines will be supported subject to: - the Council being satisfied that there will be no significant negative effects in relation to number, height, visual impact, shadow flicker, noise, residential amenity, electro-magnetic interference, proximity to roads and railway lines, or historic and nature conservation interests including impact on birds, and cumulative impact.

Source: SEA Environmental Report of Dundee City Council Local Development Plan, annex 4, http://www.dundeecity.gov.uk/sites/default/files/publications/CD_LDP_Annex_4_Sustainable_Natural.pdf

In total, the SEA evaluated the 57 developments proposed, named "policy" within the LDP.

The method established and analysed whether the policy could produce effects on the environment and the temporal horizon of these impacts, describing briefly which types of problems could be generated. In addition, a special part for the mitigations was defined (for an example, see Figure 15).
Based on these matrices, a well-articulated phase of consultations was conducted. The CAs were the main stakeholders, which participated alongside Dundee's planning officers to shape the SEA contents. Openness was an important characteristic of this SEA process that allowed the establishment of a considerable database on the environment and its dynamics. The entirety of negotiations with CAs were summarised in Appendix 7 of the Environmental Report, SEA's annex, as well as in the supporting documents of the Dundee City Council Local Development Plan (http://www.dundeecity.gov.uk/sites/default/files/publications/CD_LDPSEA_Annex_7_Site_Assessment.pdf).
The post-adoption statements, sent to the SEA Gateway on the 20th of January 2014, de facto concluded the SEA process. As defined in art. 18 of Environmental Assessment Act (Scottish Government, 2005), this document should reconstruct the entire process, summarising how the SEA influenced the plan-making, thereby describing the real impact that this instrument achieves in terms of planning decision making. In detail, the first part of the post-adoption statements illustrated through a table how SEA's feedback was considered within the LDP and, subsequently, the articulated consultations with CAs were detailed as described. The latter element further underlined the important role that CAs played during this process, contributing to knowledge formation and the shaping of each element of the assessment.

5.3.3 The SEA's institutional hardware and intelligent software

The SEA national procedural framework

The Environmental Assessment Scottish Act (EASA) set in 2005 (Scottish Government, 2005) clearly describes the key features of the SEA. In this way, new procedures can be more easily integrated into the existing planning framework. Since its application for the National Planning Framework, the vertical organisation of SEA tasks is allowed to define what should be taken into account at lower levels, facilitating the planning officers' ability to adopt adequate levels of detail for each scale. As such, the Scoping Report, which is the document that starts the SEA process, should be prepared considering the entire stock of possible impacts based on the information already analysed within overarching tiers. The

SEA of Dundee LDP was established within the framework already set into TayPlan. Thus, starting with the Scoping Report, Dundee's planning officers prepared a wide analysis of the environmental conditions, focusing on the topics raised within the SEA of TayPlan. In addition, a first set of indicators was defined, offering to CAs adequate material for the consultations, which were the key factor of the SEA of the LDP. Thus, the framework introduced through the EASA acts somehow facilitated the engagement of officers and authorities in selecting and composing the necessary contents for the environmental assessment.
In addition, apart from the vertical organisation, the Scottish legislation identified three main authorities that must be consulted during the SEA-making. These authorities are the Scottish Environmental Protection Agencies (SEPA), Scottish National Heritage (SNH) and Historic Scotland (HS). The Scottish Government considers the environment to be a pillar of Scottish society and the application of the SEA to all tiers of decision making is somehow a sort of protection for environmental issues from "daring" economic interests that generally affect the planning process. Within this context, the strong connection between planning and consultation authorities allows for the establishment of better awareness, encompassing cultural and historical heritage as well.

The authorities involved within the SEA

As introduced before, the CAs are the principal institutions involved alongside the planning authority, which prepares the plan and SEA. Thanks to this normative legitimacy, the CAs established strong dialogue with the Dundee City authority during the entire SEA process. In doing so, they made considerable contributions in terms of knowledge, integrating data already analysed within the SEA with their specialised databases. As mandatory authorities for the SEA, they participated in all levels of environmental governance, following and interacting from national strategies to local planning. In this way, CAs are probably the only stakeholders that maintain a complete overview on how environmental concerns are properly addressed in each government tier. Also within the interviews, both Dundee's planning officers and CAs officers recognised that these continuous interactions increased the centrality of the environment within the LDP, exploiting the SEA as a preferential connection between planning issues and environmental protection concerns. According to Mulholland, Dundee's planning officer who managed the preparation of the SEA, the contributions of CAs were fundamental. Given that these authorities held specialised databases, the continuous interaction between Dundee planning officers and CAs promoted the creation of high-quality knowledge of the local environment. This knowledge was very useful in shaping the plan's contents.

The SEA's supporting tool and measures

The Scottish Government strongly emphasised its support of practitioners and officers involved in the environmental assessment sector. Within this context, the SEA Gateway played a very important role in Dundee's case (and likely for all of the Scottish SEA). Through the Gateway, planning and consultation authorities were connected. In this way, all official documents as well as the responses of CAs were collected and systematised. Although the reduction of the administrative burden seems to be a first achievement of this solution, it is worth noting that the SEA Gateway established a sort of "procedural memory" in which the entire evolution of the SEA of the LDP was described. As such, it allows for better management of the SEA process, offering a database particularly for the consultations and describing which subjects took part in the process. Both traceability and transparency are the principal achievements of the SEA Gateway.

The role of politics

Planning is a political process and, as such, decisions in planning are always political. The government legitimacy that supported the SEA is an expression of politics and, so, it demonstrates a role in achieving determinate qualitative objectives.

With regards to the SEA of the Dundee LDP, no particular political interference occurred during this process. This consideration was mainly based on the interviews. In general, political pressures seem to affect the timing schedule rather than decisions or strategies.

The Intelligent Software

The professional expertise

The SEA as a process involves two spheres of knowledge: one regards the public administration and its organisation and the other, defined in many ways (tacit), is principally based on everyday living experiences. Within this context, the institutional knowledge describes the former category. The attention of Dundee's planners to involve the expertise from the Consultation Authorities allowed to the SEA the improvement of the comprehension about the environmental dynamics. Acknowledging the relevance of the contributions of these authorities, Dundee's planners developed the SEA through a linear approach in order to encourage the consultations. Ewen Campbell, Operation Manager as SNH, contended that the SEA effectively integrated the environment into the plan, and claimed that this was possible due to the openness of Dundee's planners, who established a strong dialogue with CAs. However, probably derived by this emphasis on the technical knowledge, the structure of these documents could be considered too technical, appearing at some points comprehensible only for those with determinate expertise.

The contribution from civic engagement

Although public participation is considered a pillar of the SEA, the social involvement within the SEA of the Dundee LDP was marginal and ineffective. According to the Statement of Consultation (Dundee City Council, 2013) document, in which the entire consultation process was chronological summarised, the SEA was discussed and consulted only internally and with CAs. The only space for public participation was the consultation period on the SEA Gateway, in which not one response arrived from the local society.

The absence of real public involvement was also raised within the interviews and questionnaire survey. Likely, the strong technical nature of SEA documents further hindered the public understanding of the SEA process and aims.

5.3.4 Conclusion

The aim of the case study was to investigate whether the SEA of Dundee City LDP provided opportunities for Dundee decision makers and, if so, which types of opportunities were generated. In addition, the elements or conditions that have allowed, or hindered, the "opportunity building" were analysed.

Within this framework, the entire SEA process was explored through the analysis of institutional documents as well as data from interviews. Since the scoping report, the SEA of LDP was developed with the considerations defined on higher levels of planning, in particular within the TayPlan and its SEA.

The planning officers prepared a clear analysis of the environmental baseline that constituted the basic framework for the consultation. It's worth noting the role of CAs which were the key stakeholders of this process. In fact, the connection between Dundee's planning officers and CAs allowed the creation of a wide stock of information about the environment and its dynamics. As such, the SEA was a source of knowledge that systematised information, in some cases already existent, within the planning framework set for the LDP in order to create a new environmental database for Dundee's planners.

The SEA Post Adoption Statement Report (Dundee City Council, 2014: 39), in the section "Reasons for adopting the Dundee Local Development Plan", stated, "Comments received from Key Partners and others on the environmental impacts and opportunities associated with proposed development sites have been retained by Dundee City Council and form a database used in assessing development proposals through the Development Management function." Reading between the lines and integrating these considerations with interview findings, the role of the SEA seems to continue after its conclusion, perhaps producing something that can overcome classical SEA expectations. Within this context, the SEA was a sort of "knowledge catalyst" that collected and systematised information and data already

existing within a new framework. This new and wide database was transferred to the Development Manager in order to establish a new way of implementing the LDP in a more "environmentally based", extending the approach of the SEA in a case that overcome the Directive's setting. As such, the SEA provided a "**discovered opportunity**". In fact, the SEA has triggered an innovation for the environmental governance, extending its approach for the protection of the environment in a case generally excluded by the Directive. In doing this, the SEA played a role even after its conclusion. Thus, the opportunity of the SEA regards the way in which knowledge is produced and organised within the planning process. The presence of a clear normative framework in which tasks and roles are clearly defined has facilitated the dialogue between institutions, which seems to be the key factor in this opportunity. In addition, the traceability of the entire process through the Gateway probably supported more efficient management of the SEA process and, at the same time, increased the transparency. In doing so, the institutional hardware fixed the proper framework for triggering the SEA's opportunities.

However, several challenges are still open. The limited participation of civil society can, in part, hinder the consolidation of the SEA as a positive tool. Public understanding seems to be a real weakness. This means that, apart from the CAs, the involvement of other subjects was truly feeble. Likely, the reason stems from the common perception of the SEA as another technical tool that is difficult to understand in terms of how it works as well as how it can affect the planning.

In order to trigger opportunities for public decision makers, the SEA requires coping with "public education issues." It is not certain whether a better contribution from the public could allow something more or hinder opportunities already generated. Nonetheless, the lack of public participation eliminated a kind of knowledge.

Scottish attention on the formation of planning officers has probably increased the quality of public expertise, but in this way, the SEA acquired strong technical dress, further reducing the space for public participation. Likely, the SEA of Dundee LDP lost at least the chance to spread this valuable knowledge in order to create new environmental values within the local society.

Table 30: The opportunity of the SEA of Dundee City Local Development Plan

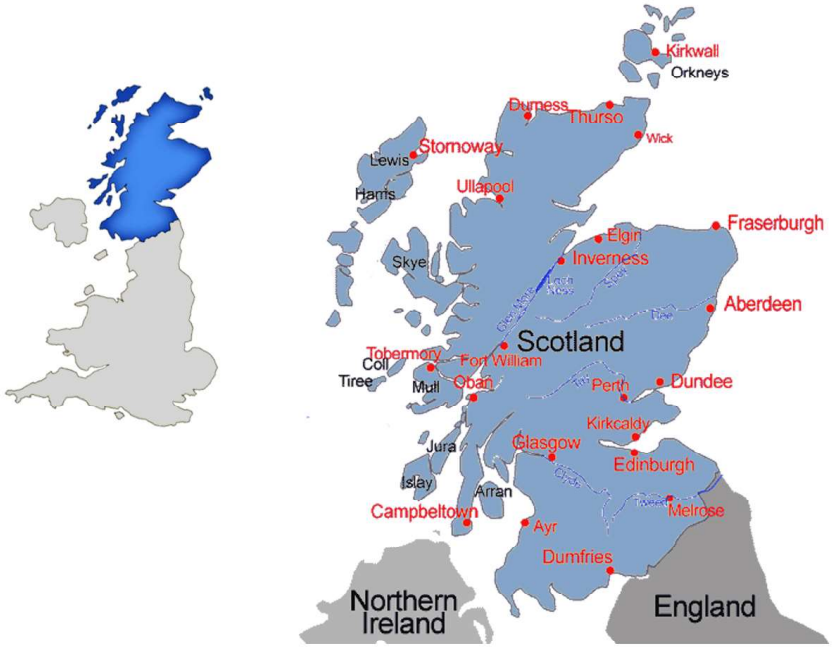
Type of opportunity	Favourable conditions	Hindering conditions
SEA's discovered opportunity	Institutional hardware: SEA national procedural framework The authorities involved within the SEA SEA's supporting tools and measures	Intelligent software: Civic Engagement

5.4 Case Study 4: the SEA of Scottish National Planning Framework 3

5.4.1 Introduction

The last case study is the Strategic Environmental Assessment of the Scottish National Planning Framework (NPF) 3. The NPF is the Scottish Government's national spatial planning policy. The aim of this case study is to understand what kinds of opportunities the SEA can provide when it is applied to a real strategic level. Historically, Scotland has been a member of the United Kingdom. However, in 1999 the Scottish Parliament was elected for the first time, achieving special autonomy for several matters. Among them, the Scottish Government attained competence for urban and landscape governance. Important innovations in national policy instruments were introduced. Within this context, the SEA of the National Planning Framework was set out.

Figure 16: Scotland and its major cities



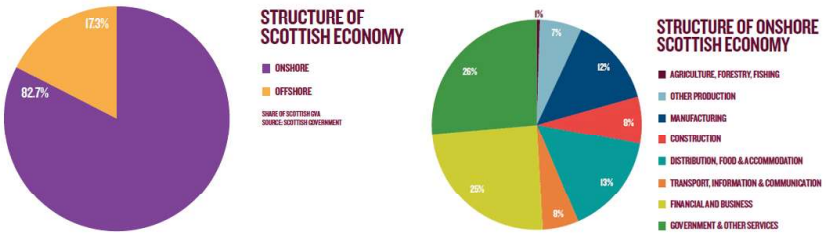
The structure of the Scottish economy is based 17% on off-shore resources and 83% on on–shore activities. Focusing on the latter, government activities and the financial services sector are the principal engines for the national economy, with a considerable contribution also derived from manufacturing as well as food and the accommodation branch (see figure 17). With regards to natural heritage, Scotland has a very rich environment in which are included 239 Special Areas of Conservation (SAC), 153 Special Protection Areas (SPA), 3 Biosphere reserves, 1442 Sites of Special Scientific Interest (SSSI) and 47 National Natural Reserves (NNR) (Scottish Government, 2013: 19).

Since 1999, Scotland has autonomously set a vision for the management and development of the entire Scottish heritage, proposing several procedural innovations for urban and environmental governance. In order to translate the Government Economy Strategy into specific policies, a group of instruments was instituted (figure 18). Among them, the National Planning Framework provided the agenda for the spatial development of Scotland, designating also a series of localised developments of strategic importance. As nationally relevant, the NPF is proposed and adopted directly by the Scottish Minister. As such, it is a political document because it represents a typical expression of government think.

5.4.2 The SEA of the National Planning Framework 3

The NPF is a policy for all of Scotland, which is generally updated every five years. The NPF 2 was published in 2009 and identified a set of key aims for Scottish planning as well as a list of national developments. However, during the monitoring stage between 2009 and 2012, the Scottish Government noted that the economic and policy context had considerably changed since NPF 2 publication, leaving unsolved multiple challenges for Scotland, such as the transition to a low-carbon economy, the need for better infrastructures and the emergence of marine spatial planning.

Figure 17: Scottish economy and its structure



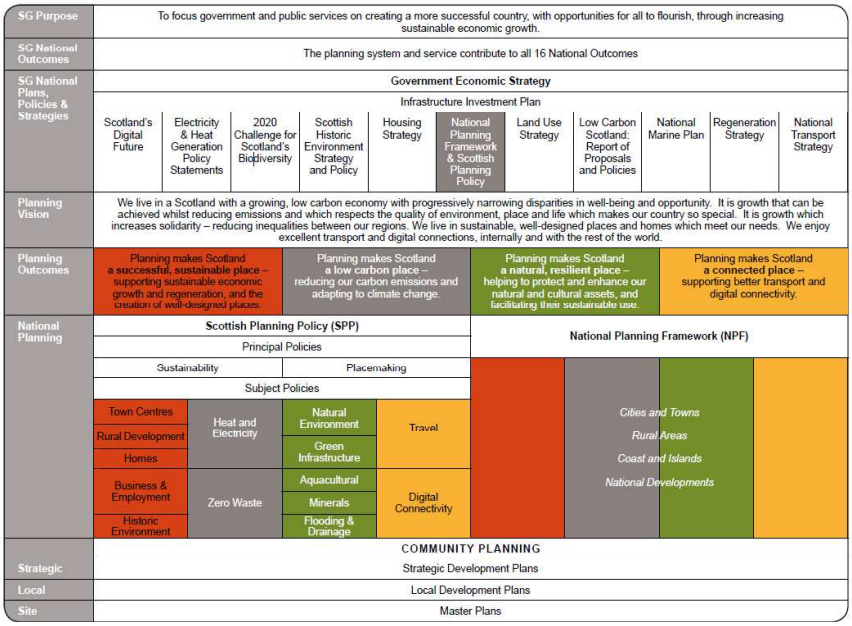
Source: Scottish Government at http://www.gov.scot/Publications/2013/11/9348/7

Based on this premise, in September 2012 the NPF 3 and its SEA officially began with the publication of a preliminary report and SEA scoping report. Given its strategic nature, the topics were broadly considered, transferring the knowledge to subordinate tiers of governance.

The SEA deliberately adopted a linear methodology for the Scoping report. In fact, this document is organised according to a long list of questions in which the assessor created a sort of "imaginary dialogue," explaining the reason for the support of the new NPF and the role of the SEA within this process. Likely, this solution aimed to encourage proper involvement of civil society, enhancing the possibility of being easily understood by local citizens. However, the SEA scoping report was published for the statutory period of five weeks, during which only Consultation Authorities (CAs) proposed comments. Within this stage, a preliminary set of environmental objectives was established and, in general, all methodologies for each level of the assessment were defined.

The NPF performed the strategies based on three main tiers: a) the national spatial strategy; b) the regional perspectives; and c) the national developments. Similarly, the SEA considered different levels of applied distinct lenses or focuses in order to identify the adequate detail of data and information.

Figure 18: The Scottish policy-making framework



Source: Scottish Government (2014: 2)

In 2013, after the preliminary consultations, the NPF commenced its second phase, during which strategies were defined. Equally, the SEA was developed alongside the national planning framework with the aim of enhancing the environmental information of decision making.
Since the Scoping report, reflecting upon the urban governance organisation, the SEA identified three levels of actions. For each level, different types of information and data were gathered (see figure 19).

Based on this framework, the SEA broadly assessed the possible effects on the environment of NPF policies, highlighting possible impacts for subordinate PPPs. Given its strategic nature, the SEA addressed the macro-issues that affect the environment, proposing a sort of environmental agenda for the Scottish planning system as a whole.
Within this framework, the SEA was structured into three main parts:

– In the first, environmental baselines were analysed. Each key aspect of the environmental dynamics (like biodiversity, health and population, soil, climatic factors, marine, etc.) was investigated. In order to set the environmental objectives for the assessment, the environmental baselines were integrated with the contextual analysis of European and National norms (Scottish Government, 2013: 149). This database was further integrated with the contribution of the Consultation Authorities (CAs). Since early consultations, the Scottish Environmental Protection Agency (SEPA) suggested the identification of regional areas in which the NPF produced changes and, thus, possible impacts. On the other hand, Scottish National Heritage (SNH) pointed out the lack of knowledge regarding the farmland and its value, suggesting the taking into account of studies of the European Forum Nature Conservation and Pastoralism, on marine protection and climate adaptation. This phase of analysis was principally developed within the scoping stage and its consultation.

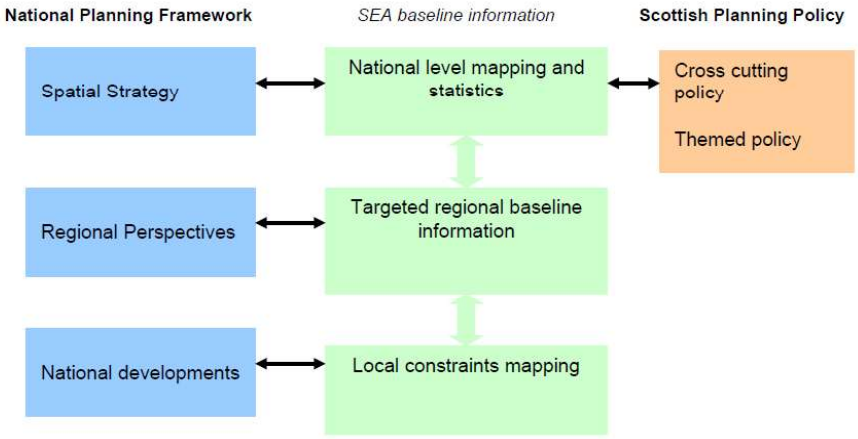
– In a second part, the significant effects of NPF strategies and their respective National Developments were evaluated. In order to assess the NPF policies, the SEA applied a matrix in which every environmental objective defined within the Main Issues Report [1] was evaluated. The scope was understood in terms of how the achievement of the environmental objectives could impact key aspects like biodiversity,

1 According to the Planning etc. Act (Scottish Government, 2006), each Scottish plan (NPF, Strategic Development Plan and Local Development Plan) is constituted by a Main Issues Report that is the main planning document in which are addressed:
- the general proposal of the plan, where it is specified how the development should be carried out;
- the proposal of reasonable alternatives.

climate, air, soil, and so on. The evaluation was completed with a brief description of the possible effects. Appendix B of the SEA environmental report described this stage (see figure 20). Alongside the NPF policies, the 14 National Developments were assessed, emphasising the actions proposed and illustrating the potential effects, positive and negative, that their implementation could produce. In doing this, the analysis was integrated with the responses and suggestions of CAs. This section is widely explained within the Environmental Report (Scottish Government, 2013: 70).

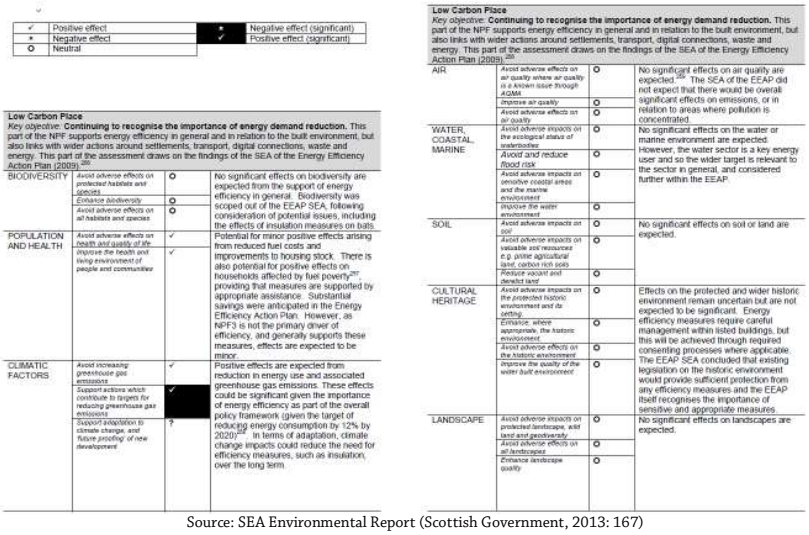
– The last part intertwined the results of NPF's policies assessment and the National Developments evaluation. The result was the regional appraisal of environmental effects. Following the comment of SEPA during the Scoping consultation, six areas were identified and the possible cumulative effects on these regions were assessed. These areas are a) Orkney, Pentland Firth and North Caithness; b) Inverness and the Inner Moray Firth; c) Aberdeen and the North East; d) Firth of Forth; e) Firth of Clyde; and f) the South West Coast. In doing so, the SEA attempted to transfer the environmental consideration from high levels of decision making to local authorities, setting a sort of environmental agenda for subordinate tiers of governance. As such, the SEA encompasses the entire planning system, supporting the lower levels and identifying the major issues to take into account during the subordinate SEAs (see figure 21).

Figure 19: Hierarchy of environmental baseline information and its relevance to key elements of NPF3



Source: SEA Scoping (2012: 11)

Figure 20: Extract of SEA Environmental Report – Appendix B



✓	Positive effect	*	Negative effect (significant)
*	Negative effect	✓	Positive effect (significant)
O	Neutral		

Low Carbon Place
Key objective: **Continuing to recognise the importance of energy demand reduction.** This part of the NPF supports energy efficiency in general and in relation to the built environment, but also links with wider actions around settlements, transport, digital connections, waste and energy. This part of the assessment draws on the findings of the SEA of the Energy Efficiency Action Plan (2009).[285]

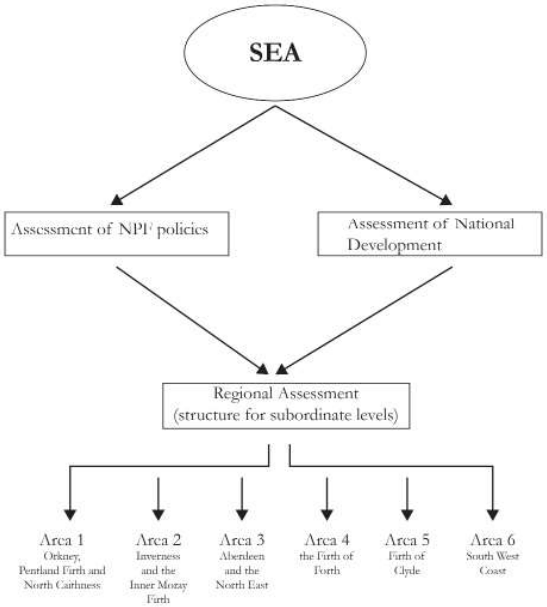
BIODIVERSITY	*Avoid adverse effects on protected habitats and species*	O	No significant effects on biodiversity are expected from the support of energy efficiency in general. Biodiversity was scoped out of the EEAP SEA, following consideration of potential issues, including the effects of insulation measures on bats.
	Enhance biodiversity	O	
	Avoid adverse effects on all habitats and species	O	
POPULATION AND HEALTH	*Avoid adverse effects on health and quality of life*	✓	Potential for minor positive effects arising from reduced fuel costs and improvements to housing stock. There is also potential for positive effects on households affected by fuel poverty[287], providing that measures are supported by appropriate assistance. Substantial savings were anticipated in the Energy Efficiency Action Plan. However, as NPF3 is not the primary driver of efficiency, and generally supports these measures, effects are expected to be minor.
	Improve the health and living environment of people and communities	✓	
CLIMATIC FACTORS	*Avoid increasing greenhouse gas emissions*	✓	Positive effects are expected from reduction in energy use and associated greenhouse gas emissions. These effects could be significant given the importance of energy efficiency as part of the overall policy framework (given the target of reducing energy consumption by 12% by 2020)[288]. In terms of adaptation, climate change impacts could reduce the need for efficiency measures, such as insulation, over the long term.
	Support actions which contribute to targets for reducing greenhouse gas emissions	✓	
	Support adaptation to climate change, and 'future proofing' of new development	?	

Low Carbon Place
Key objective: **Continuing to recognise the importance of energy demand reduction.** This part of the NPF supports energy efficiency in general and in relation to the built environment, but also links with wider actions around settlements, transport, digital connections, waste and energy. This part of the assessment draws on the findings of the SEA of the Energy Efficiency Action Plan (2009).[285]

AIR	*Avoid adverse effects on air quality where air quality is a known issue through AQMA*	O	No significant effects on air quality are expected.[289] The SEA of the EEAP did not expect that there would be overall significant effects on emissions, or in relation to areas where pollution is concentrated.
	Improve air quality	O	
	Avoid adverse effects on air quality	O	
WATER, COASTAL, MARINE	*Avoid adverse impacts on the ecological status of waterbodies*	O	No significant effects on the water or marine environment are expected. However, the water sector is a key energy user and so the wider target is relevant to the sector in general, and considered further within the EEAP.
	Avoid and reduce flood risk	O	
	Avoid adverse impacts on sensitive coastal areas and the marine environment	O	
	Improve the water environment	O	
SOIL	*Avoid adverse impacts on soil*	O	No significant effects on soil or land are expected.
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils	O	
	Reduce vacant and derelict land	O	
CULTURAL HERITAGE	*Avoid adverse impacts on the protected historic environment and its setting*	O	Effects on the protected and wider historic environment remain uncertain but are not expected to be significant. Energy efficiency measures require careful management within listed buildings, but this will be achieved through required consenting processes where applicable. The EEAP SEA concluded that existing legislation on the historic environment would provide sufficient protection from any efficiency measures and the EEAP itself recognises the importance of sensitive and appropriate measures.
	Enhance, where appropriate, the historic environment	O	
	Avoid adverse effects on the historic environment	O	
	Improve the quality of the wider built environment	O	
LANDSCAPE	*Avoid adverse impacts on protected landscape, wild land and geodiversity*	O	No significant effects on landscapes are expected.
	Avoid adverse effects on all landscapes	O	
	Enhance landscape quality	O	

Source: SEA Environmental Report (Scottish Government, 2013: 167)

Figure 21: The structure of the SEA of National Planning Framework 3



Source: Author elaboration based on data of SEA Environmental Report

5.4.3 The institutional hardware and intelligent software

SEA national procedural framework

The Planning etc. Act (Scottish Government, 2006) instituted the National Planning Framework as the instrument through which the Ministers *consider that the development and use of land could and should occur* (art. 3A (2)). Therefore, the NPF is a statutory political document that sets the strategy for the Scottish planning system and identifies the government's priority developments for the entire country. In addition, the EASA act (Scottish Government, 2005) extended the application of the SEA to all PPPs under Scottish jurisdiction, setting the environmental directions for lower levels of planning. In this way, the normative framework established a new approach for the entire system of governance, bringing the environmental concerns into all tiers of decision making.

The authorities involved within the SEA

The role of consultation authorities (CAs) in Scotland is already well-consolidated. As for all Scottish SEA process, the CAs contributed to the shaping of information within all stages of the SEA of NPF3. It is worth noting the suggestion during the Scoping consultation for the establishment of a section for regional assessment. In fact, given its strategic nature, the SEA broadly considered topics and issues without localised impacts. Defining six regions, the SEA tried to transfer knowledge about the possible effects on specific areas, setting the environmental directions for local authorities.

The SEA supporting tool and measures

The importance of the SEA Gateway in managing large processes like National policy was often underlined, even during the questionnaire interviews. In fact, the possibility of collecting the entire SEA documents and its evolution during the three main stages (Scoping, SEA ER and Post-Adoption Statement) allowed for the reduction of timing pressure and workload. In this way, the transparency of the SEA is improved as well. In addition, the SEA of NPF 3 was supported by the SEA Forum. In fact, this process was widely debated during the forum of 2013, collecting the opinions of Scottish consultants usually involved with SEA practices. This annual appointment is a valuable occasion in which practitioners and, in general, qualified experts can discuss everyday practices, making a solid contribution in terms of technical knowledge.

The role of politics

The National Planning Framework 3 is a political document because it explained the vision

of the Minister regarding how Scotland should or could be developed. As such, politics is an inherent factor of this process. The strong political legitimacy that supports the development of the NPF 3 and its SEA remarkably influences the formation of the opportunity.

The Intelligent Software

The profession expertise

One of the major changes between the NPF 2 and NPF 3 regards the role of professional expertise. When the NPF 2 was made, the SEA was a relatively new tool and was prepared within the government offices. On the other hand, the NPF 3 hired a special consultant who directed the entire SEA process. That was Fiona Simpson, who held the title of Head of Environmental Assessment Team of Scottish Government until 2013. The switch from project team to single assessor probably influenced the way in which the SEA was prepared. In this way, she decided the methodology applied. Likely, the accomplishment of this sort of *cascade effect* for environmental protection issues through the SEA also derived from this approach, adopted to shape the environmental assessment. In addition, the consultation within the SEA Forum improved the technical consideration of the environmental topics. Thus, the involvement of professional expertise, public and private, seems to be the principal source of shaping knowledge within this process.

The contribution from civic engagement

Although participation is described as a pillar of the Scottish SEA, limited involvement was received from the public. The SEA of NPF 3 was widely debated within the SEA Forum, a space in which technical expertise is generally involved. However, the consultations of SEA documents were the principal space for participation. Likely, given its particular contents, the SEA received minor emphasis with respect to the NPF Main Issues Report. Thus, similar to many SEA processes, the citizen contribution in shaping the knowledge for the environmental assessment seems to be not yet adequate. In line with this consideration, the data from questionnaire survey confirm that social involvement is the main weakness. Sometimes, these problems can derive from the lack of resources, above all in terms of timing, for establishing an effective participatory program in which it is clearly explained to citizens how they can effectively contribute. Thus, the involvement is often limited to the statutory consultations.

5.4.4 Conclusion: analysing the opportunity of the SEA

The National Planning Framework sets the framework for the Scottish planning, defining the direction of subordinate levels. In doing so, the SEA represented the key actor in bringing the environment to the core of decision making. As such, it should be considered a way to promote an environmental agenda for all tiers of Scottish governance. Likely, this opportunity began within the Scottish normative framework, which extended the application of the SEA to all PPPs under national jurisdiction, including policy-making.

Thus, introducing the environmental assessment by National strategies, the environment is better integrated within the decision-making process. In addition, the level of transparency is increased. Furthermore, the cumulative effects of planning decisions are fruitfully addressed. Nevertheless, the interest of this study is in highlighting where the SEA manages to provide something more akin to the classical expectations.

Emphasising this view, the interviewees suggested that the major opportunity regards the way in which environmental concerns are taken into account, considering the environment in an innovative way among different authorities. Within this framework, Susan Dean, principal policy officer at SEPA, underlined the opportunity to steer the environmental governance and possible mitigations, coordinating the lower levels of planning. According to Dean, *the environmental report provided an opportunity to set out clearer direction on the need for further assessment and the key issues on which this assessment should focus*. In doing this, the clear normative requirements for documents and consultations facilitated these achievements.

Within this context, it is worth noting the capacity of the SEA to set the environmental agenda for the subordinate level, enhancing the environmental governance of all lower planning tiers.

In doing so, the SEA triggered a sort of *cascade effect* often emphasised by the Scottish Government (Jackson and Illsey, 2006).

Based on this premise, the SEA provided an "**invented opportunity**". In fact, the application of the SEA promoted an innovation for the environmental governance of the entire Scotland, and sets the main directions for the protection as well as for the enhancement of Scottish natural heritage in order to support and guide subordinate levels in coping with their respective environmental challenges.

The political will probably played a key role in supporting this opportunity. In fact, the establishment of a clear normative framework, as well as the extension of the SEA application to policy making, have facilitated the setting of the environmental agenda, covering all

hierarchies of PPPs. Similarly, the institution of proper authorities that support assessors during the SEA-making improved the quality of information used for developing the environmental assessment.

Within this framework, it is worth noting the role of the SEA Gateway that supported the management of the SEA process, reducing workload pressures. However, public participation is the principal weakness of this process. Although it is not certain what kind of impact citizen involvement could provide, it is worth reflecting on whether the environmental agenda proposed through the SEA could provide new value within the society through more civic engagement.

Table n. 31: The opportunity of the SEA of the National Planning Framework 3

Type of opportunity	Favourable conditions	Hindering conditions
SEA's invented opportunity	**Institutional hardware**: SEA national procedural framework The authorities involved within the SEA SEA's supporting tools and measures Political legitimacy **Intelligent Software:** Professional expertise	**Intelligent software** Civic Engagement

6. DISCUSSION OF CASE STUDIES FINDINGS: A COMPARATIVE PERSPECTIVE

This chapter describes the key findings of the interviews, questionnaire surveys and case studies analysis. These results have been investigated and intertwined with the contemporary understanding of the concept of opportunity within the SEA literature and the theoretical contributions from the other disciplines analysed.

In order to present findings, the framework developed for studying the opportunities has been adopted. In each category, the Italian and Scottish contexts were compared, emphasising the conditions that influence, positively and negatively, the formation of these opportunities.

6.1 The SEA's desired expectations

The case studies analysis highlighted that the most common achievement of these SEAs was the improvement of the integration of environmental concerns within the planning and policy decision making. In doing this, the main aim of the SEA Directive was accomplished. However, a cross-cases analysis highlighted that similar achievement derived from different conditions. In the SEA of Chianciano Terme Strategic Plan, the planners/assessors expertise remarkably contribute to this goal. Intertwining European and National normative and studies on the sustainability as well as environmental protections, a system of targets for the plan evaluation were set out. Notwithstanding, the quality of plan design, based on a linear framework in which strategies, objectives and actions were clearly identified, ensuring

a fruitful application of the SEA.

On the contrary, the adoption of the SEA for structuring the participatory activities of both plan and assessment support the integration of the environment within the Operation Plan of Scansano. Differently, the normative framework and the vertical organisation of the SEA governance strongly contributes in increasing the environmental integration within the Local Development Plan (LDP) of Dundee City. In fact, the SEA of the TayPlan, the Dundee City LDP superior level, sets the direction for the protection of the environment, helping local authorities in identifying the main issues to take into account and develop through the SEA. In similar way, the task of the SEA of National Planning Framework 3 was facilitated by the Scottish normative framework, which extends the application of this tool to all PPPs under its jurisdiction, overcoming the boundaries of the Directive 2001/42/EC. In doing so, the SEA was conducted from the highest decision-making tier, bringing the environmental concerns on the core of government action.

Given that, according to the commemorandum n. 4 of the SEA Directive, *Environmental assessment is an important tool for integrating environmental considerations into the preparation and adoption of certain plans and programmes* (Council of European Communities, 2001). This goal attained to all four case studies analysed cannot be considered as opportunity. In line with this consideration, Russouw et al. (2000), recognising the integration as SEA's aim, argue that compliance with this requirement is a normal expectation of this instrument.

In addition, all disciplines that studied this concept defined the innovation as common requisite of the opportunity(ies). As such, complying only with the Directive framework, this fundamental condition is lacking.

The analysis and comparison of the conditions that allowed the formation of the opportunity(ies), as intended within this research, is deeply explored in the next paragraph. Nevertheless, a first reflection on the Case of Chianciano Terme, the only one in which the SEA result remains within the Directive's frame, can help to identify which kinds of conditions limited this instrument in promoting something more. Likely, the political uncertainty derived from the two different local governments succeeded, and the change in itinerary of planners' team may have negatively influenced the possibility for the SEA to move beyond the "**desired expectation**". According to De Figueiredo Jr (2002), the political uncertainty could treat the public organisation, producing insulation of its structures that, in this way, makes their actions ineffective. Under this lens, the case of Chianciano identifies a similar situation described in the opportunity cost, in which the cost represents the variation of profit occurred between the policy/strategy chosen and the best policy/strategy selectable (Leninger, 1977).

Thus, the SEA of Chianciano Terme can be probably assumed as a case of **SEA's opportunity cost**, in which, the opportunity (as intended in this thesis) could be accomplished in a context without political uncertainty and the cost is represented by the potential innovation missed with respects to the Directive's expectation.

Although this point describes the cases in which the opportunity is missed, a first series of comparative consideration can be delineated between Italy and Scotland. The most relevant difference regards the conditions that allowed the integration of environmental concerns within plan-making in both contexts. In Italy, the SEA was strongly connected to the intelligent software conditions. In fact, the ability of planners/assessors in Chianciano Terme ensured a core role for the SEA within the planning process. Similarly, the approach adopted by the planners/assessors in Scansano encouraged participation and through the social involvement supports the integration of the environment during the plan-making. On the contrary, the Scottish cases are characterised by a strong influence of the framework normatively established which facilitated the tasks of the SEA. This overview somehow confirms the different sensitivity that these two countries developed on the topic of environmental assessment, underlining the importance of political legitimacy, which should encompass the entire system of governance, following through the highest level to local authorities' actions.

Table n. 32: The conditions that allowed and/or hindered the formation of the SEA's desired expectations

Case Study	Type of Opportunity	Conditions that allowed...	Conditions that hindered...
SEA of the Chianciano Terme Strategic Plan	Desired expectation-Better integration of environmental concerns within decision making	Professional Expertise (role of planners/assessors)	Role of Politics (political uncertainty)
SEA of the Scansano Operative Plan	Desired expectation-Better integration of environmental concerns within decision making	- Professional Expertise (role of planners/assessors) - Civic Engagement	- SEA supporting tools - The contributions of the authorities of the SEA
SEA of the Dundee City Local Development Plan	Desired expectation-Better integration of environmental concerns within decision making	- SEA supporting tools - Professional Expertise (Role of planners/assessors)	- The contribution of the authorities of the SEA - Civic engagement (Public education)
SEA of the Scottish National Planning Framework 3	Desired expectation-Better integration of environmental concerns within decision making	- SEA supporting tools - Professional Expertise	- SEA procedural framework - Civic engagement (Public education)

6.2 The SEA's discovered opportunity(ies)

Before to present the findings of this point, it is worth introducing that only in the Scottish case of the Dundee City Local Development Plan, the SEA achieved the "**discovered opportunity**". As such, this point cannot structure a real comparison between Italy and Scotland.

The Local Development Plan represents the last stage of the Scottish urban governance system. Generally, the National Planning Framework (national level) sets the main directions for the entire Scottish planning and the Strategic Development Plan the strategies for a wide area in which multiple local authorities are included. Thus, the SEA is applied since the national tier, setting the environmental directions for the entire Scotland. In doing so, the tasks of lower levels, strategic and local authorities, are facilitated in identifying the major issues to take into account in each tier through a proper level of detail.
Within this context, the SEA of Local Development Plan was conducted. The inheritance of TayPlan, and its SEA, allowed the assessment works to be started from a first basic indication about which questions could affect Dundee's environment, facilitating the planners/assessors in defining the framework for the SEA. In fact, a list of environmental concerns was already delineated when the SEA of LDP begun. The environmental assessment was conducted in an "explorative way". The attention of Dundee's officers was principally oriented in establishing a clear design of the assessment in order to facilitate the interaction with the Consultation Authorities (CAs). The SEA emphasised the gathering of data and information about the local environment. The large volume of normative and studies examined, both European and National, was integrated with the huge databases held by CAs. It is worth highlighting that the consultation authorities played a double loop role, checking environmental data and proposing possible enhancements in terms of knowledge. In doing so, they actively participated in shaping the SEA contents. The entire process of assessment is well documented in the Post-Adoption statement, which attempts to describe how the SEA influences planning decisions.

Overcoming the SEA expectations like the environmental integration within planning decision making and the alternative scenario which seem to be completely achieved, the SEA of Dundee City Local Development Plan was able to provide something more for the urban and environmental governance. Reading between the lines of Post-Adoption Statement (Dundee City Council, 2014), is described that the comments and recommendations collected during the consultations were preserved and systematised, transferring this knowledge to

the Development Manager. This profile is the subject in charge for the management of the implementation stage, which evaluates all operations that should transform the decisions approved into localised and constructed developments (that can be buildings, settlements, parks, infrastructure, and so on...).
Thus, acknowledging the value of CAs expertise, Dundee's planners constructed through the SEA a wide and well-detailed database on the possible environmental effects derived from the new LDP implementation. Saving and transferring this knowledge to the next step of the urban governance, the SEA produced a sort of environmental guide that can ensure more effective implementation and avoid possible conflicts between developers and environmental authorities. In doing so, the effects of the SEA continues even after its conclusion.
The role of the SEA was a kind of knowledge catalyst, a tool that was applied in order to exploit its normative consistency as fundamental content for the planning process. Different types of expertise were invited to contribute through their specialised perspective, providing an articulated environmental database that has been applied for another type of utilisation as well.
So, the opportunity here identifies an innovation in term of applicability, exploiting the potential of the SEA in coping with challenges that overcome the boundaries of the European legislation. In fact, the environmental assessment attempts to extend its efficacy outside the process in which/for it was originated.

Based on this premise, the opportunity triggered by SEA of Dundee City Local Development Plan can be classified within the section named "**discovered opportunity**" because, as explained before, it has innovated the implementation procedure, applying the SEA for promoting new environmental awareness in a level of urban governance generally excluded from a clear understanding about the risks for the environment.

The classification as discovered opportunity derives from the entrepreneurship theory in which two different paradigms for the generation of the entrepreneurial opportunity(ies) were identified: the discovery and creation perspectives. The discovery of the opportunity describes a situation in which the space for new profitable investment already exists but it is hidden. Within this context, the entrepreneur must be able to understand possible segments left free within the market by unpredictable events (market shock, normative shock, ...). In doing so, the role of entrepreneur is a fundamental condition in achieving this opportunity that represents an innovation regarding where new possible business is applied, rather than how to construct something new in terms of possible investments proposal.

Of course, the SEA is less interested in external shock but it can generally explore the spaces outside the frame of the Directive, which affect the environmental dynamics and their protection.
In line with the latter consideration, the academic literature already analysed possible cases in which the SEA was applied outside the European normative boundaries. According to Kornov (2009), the multiple factors of planning decisions could affect human health and, as such, the SEA should also involve the health sector, extending the action of the Directive 2001/42/EC. This necessity to overcome European legislation boundaries was disciplined within the Danish framework that recognised the relevance of the SEA in coping with health challenges, innovating the application field of this tool. Similarly, Fischer et al. (2010) argues that the SEA should extend to health matters because it represents as an SEA's substantive objective. In fact, biodiversity, water, soil, energy, climatic factors, flora and fauna are all elements that can affect and influence the quality of human health. Stressing the opportunity for decision makers derived from an extension of the application cases, Partidario and Coutinho (2011) described the possible enhancements in conducting the SEA for the new airport of Lisbon, emphasising the government's choice to adopt this tool to compare and select the site for this project. However, in a few cases comparable opportunities to the case of Dundee City were explored. According to Jackson and Illsey (2007) within the Scottish framework, the SEA could represent an instrument for embracing knowledge from technical and public arena, offering possibility to mapping the large-scale distribution of the environmental impacts that PPPs can delivered.

After this brief synopsis about the current theoretical reflection, in the following part the conditions that allowed the opportunity formation for the Dundee case are analysed.
Before examining these elements point-by-point, it is worth underlining that the institutional hardware carries out a core role in shaping this opportunity.

6.2.1 The conditions for the opportunity of the SEA

Institutional Hardware

The SEA procedural framework

The rigorous application of the SEA to all tiers of government allowed the creation of valuable interconnection among different levels of public administration. In fact, within the Scottish framework the SEA tasks are organised in three main tiers, that from national policies exerts its action up to the local PPPs. Based on this vertical application, the SEA can

address environmental concerns through the proper level of details, facilitating the operation of planners/assessors in identifying possible core issues. The SEA of Dundee City Local Development Plan was grounded on the environmental directions defined within the SEA of the TayPlan, that is the Strategic Development Plan which has set the main strategies for the area of east side, central region of Scotland. In doing so, Dundee's officers began the environmental assessment process supported by overarching indications about the potential effects that could affect the environment. The clear understanding of the procedural framework in which the SEA works was often highlighted during the interviews as a fundamental condition for achieving SEA's goals and opportunities.

This attention on the consolidation of the SEA within the operations of public governance represents a key element for all Scottish experience, and the case of Dundee City seems to confirm the governmental will to become a "reference" for the SEA application in Europe (Jackson and Illsey, 2006). Thus, the government's efforts to institutionalise the application of the SEA conferred legitimacy to this tool.

According to Steinhauer and Nooteboom (2012), the institutionalisation of the SEA occurred when three main characteristics are satisfied, both singularly and in integrated manner:

- there is good expertise that operates within the SEA context;
- there are adequate financial and normative bases which legitimise the SEA;
- and, finally, there is a clear institutional structure in which roles and responsibilities are addressed.

Within this context, the analysis of Scottish experience seems to confirm the validity of these three requirements described in the literature. In fact, it is worth remembering the role and task that the Scottish legislation assigns to the Consultations Authorities and the SEA Gateway, that are analysed in the following points, which complete the framework in which the environmental assessment is conducted.

The authorities involved within the SEA process

The Consultation Authorities (CAs) probably played a key role during this process. The analysis of the SEA highlighted that the consultation represents a fundamental moment for this process. According to the Scottish normative, the SEA process is based on the collaboration between the planning and three public authorities that must be consulted. They are the SEPA (Scottish Environmental Protection Agency), the SNH (Scottish National Heritage) and the HS (Historic Scotland). The Scottish government included these authorities within

the SEA process because they hold a specific perspective in three main spheres that affect the environmental protection. According to the Scottish Government (2006: 6), *CAs play a central role in SEA by providing expert advice to Responsible Authorities*.

The large environmental database of the SEA of Dundee City Local Development Plan was the result of an intense collaboration occurred between Dundee's planning officers and experts from CAs. The appendix 7 of the SEA's supporting documents described all this process. The negotiations and interactions that happened during the plan-making have allowed to the SEA to develop a detailed awareness on Dundee's environment as well as have encouraged the formation of a clear system of indicators that facilitated the comprehension of the possible negative effects derived from plan implementation. As highlighted within the questionnaire survey, the openness of Dundee's planners have permitted the establish of adequate context in which understand what kinds of data could be more appropriate for the case of Dundee. In general, the normative identification of these authorities facilitated the task of planners and assessors for the determination of which subject could improve the quality of the information for the SEA.

The SEA's supporting tool and measures

In implementing the SEA within the mechanism of public administration, the Scottish government has set out a special service for the management of the increasing of administrative burden. This new service of Scottish government is commonly named a SEA Gateway (http://www.gov.scot/Topics/Environment/environmental-assessment/sea) and it represents a sort of connection between the responsible and consultation authorities. In doing so, each SEA document is sent to the Gateway that published the file and invites CAs to analyse and comment on this SEA content. Particularly relevant, the database holds the Gateway, which is probably the most important memory of the SEA of all Scotland and one of the easiest and consultable archives on the SEA process in all of Europe.

According to Jackson and Illsey (2007: 617), *the SEA Gateway supervises all stages of SEA undertaken within Scotland, permitting monitoring of the way in which legal obligations to consult with and inform statutory consultees and members of the public at appropriate points are being fulfilled by responsible authorities*.

Thus, it seems to be clear the relevance of this service for a process like the SEA of Dundee City LDP that was completely grounded on the interaction between local authorities and the three agencies like SEPA, SNH and HS. The easy connection among all authorities involved in the SEA process allowed the creation of an added value within the institutional structures because it can be a way to avoid unfruitful overlapping of competences, offices and tasks.

The SEA Gateway can introduce a new perspective on the debate about the supporting tools for the SEA management and design. In fact, academics and scholars already analysed possible benefits derived from the application of tools like the Geographic Information System (GIS), emphasising its contribution in improving the quality of control of impacts distribution (Martinez-Grana et al, 2014; Liu et al., 2007). According to Gonzalez et al. (2011), the GIS can provide a strong opportunity for better understanding the spatiality of the environmental effects of PPPs. Under this lens, the contribution of GIS application can represent a valuable support for the design of the SEA, increasing the comprehension of planners regarding how their decisions can produce impacts and how these impacts are spread out over the entire territory.

However, the SEA Gateway seems to focus on the procedural face of the SEA. In fact, this "service" aims to enhance the management of the environmental assessment, underlying the importance of institutional connections and stressing the traceability of the decision-making process. As such, these two types of supporting tools are not perceived as competitors but they can be fruitfully applied, covering different facets of the SEA process.

Intelligent Software

The professional expertise

This wide category aims to involve the contribution from the *institutional* or *technical* knowledge like City Council planners, CAs officers, and consultants involve within the SEA-making. Thus, the professional expertise described the contribution in terms of knowledge derived from the public administration. In the case of Dundee City, Dundee's planners have an indirect role in achieving the opportunity. In fact, according to the questionnaire interview, the openness of planners was highlighted as a fundamental requirement that allowed the establishment of proper spaces in which knowledge was exchanged between CAs and local authority. Partially renouncing its decisional power, the planners recognised the value of institutional expertise, emphasising the inputs coming from different perspectives. In line with these concerns, Stoeglehner et al. (2009) analysed how planners can influence the SEA achievements, because they can exert their role in SEA- and plan- making with different levels of discretion. However, in cases when planners recognised the values of the interaction with other subjects with high quality expertise, it is possible to accomplish innovation in the way in which the SEA could be made (p. 114).

Civic Engagement

However, the case study analysis investigated what could be done better, underlying the conditions that hindered the formation of the opportunity as well.

Within this context, it is worth reflecting on the lack of public participation, which affects the SEA of Dundee City Local Development Plan. Although the civic engagement is widely recognised as pillar for the SEA, the citizen involvement was the major weakness of this process.

In the SEA literature, this is sometimes attributed to the general perception of the population that might considered its role as marginal for influencing decision-makers (Gauthier et al., 2011). However, the questionnaire survey as well as the interview with Dundee's planners suggest that the problem could be related to a lack of public understanding about the environmental assessment process. The SEA is still perceived as too much of a technical tool and this common understanding can limit the comprehension about how to participate and which kind of contribution they can bring in.

In line with the latter consideration, Sinclair and Diduk (1995) contended that *it is often argued that to be effective, efficient, and fair, public involvement processes should lean toward a greater degree of citizen power in decision-making- rungs 6 to 8 of Arnstein's ladder. What has been largely ignored, however, is that to achieve higher degrees of citizen power, citizens must have a firm understanding of the decision-making process of which they are a part*.

The problem of knowledge affects both institutions and civil society.

Table n. 33: The conditions that allowed and/or hindered the formation of the SEA's discovered opportunities

Type of Opportunity	Case Study	Conditions that allowed...	Conditions that hindered...
SEA's discovered opportunities	SEA of Dundee City Local Development Plan	Institutional hardware: SEA procedural framework The contribution of the authorities of the SEA SEA supporting tools and measures Intelligent software:	Intelligent software: Civic engagement (Public education)

The institutional weaknesses concern the lack of adequate creativeness regarding how spaces could be enhance for the involvement of people and stakeholders, which generally perceive this tool as non-influential or useless for their situations. On the contrary, knowledge on civil society should be constructed step-by-step during the performing of the SEA, encouraging citizens to acquire awareness on the environment in which they live. Likely, achieving a new level of knowledge could be a first step in promoting the establishment of new, more environmental-based societal values. According to Fitzpatrick and Sinclair (2003: 162), *education creates 'an awareness of the process and facilitates an understanding of substantive environmental, economic and social issues*'.

6.3 The SEA's invented opportunity(ies)

The final section explored the cases where the SEA directly innovates the urban and environmental governance, providing a real opportunity for decision makers. Acknowledging the different conditions that allowed the creation of this type of opportunity, the research identifies similar experiences, even with diversity of scale, in two cases, one in Italy and another in Scotland. The Italian case was the SEA of Scansano Operational Plan while the Scottish one was the SEA of the National Planning Framework (NPF) 3.

The SEA of the Scansano Operative Plan has represented a real challenge for the Italian context. In fact, it can be considered as a pilot case because the SEA was conducted within a new normative framework, exploiting the potential of a special fund established for supporting civic engagement. In 2013, in accordance with the Tuscany region legislation, an authority for the enhancement and promotion of public participation for policy-making processes was instituted. The proposal of planners/assessors team of Scansano was the first project that received financing for the conduction of a participative-based SEA. The City Council of Scansano covers an area particularly relevant with regards the landscape and natural heritage of Tuscany. Even the local economy is widely based on the environmental heritage in which the high quality agricultural productions are the principal source of employees of the local community. Particularly relevant for this city is wine production with the famous Morellino, which is a world-wide exported brand. Emphasising the local identity as an agricultural community, the citizens' participation was the principal characteristic of this process. Since the conclusion of the Strategic Plan, a set of initiatives for promoting the civic engagement was set out.
As probably the most relevant solution proposed, the problems mapping based on the "Google maps" application triggers a new way of participation, encouraging citizens to localise

issues on the territory in a web page totally free and transparent. Through the map of the problems, planners/assessors were facilitated in structuring the early works for the new plan and SEA. Continuing in this direction, the project *Valut-Azioni in Comune*, which was financed by the Regional Authority for the Public Participation, emphasised the contribution of local community in shaping planning decisions. In doing so, the adoption of incremental approach for plan- and SEA-making probably facilitated the public involvement. Based on a mix of meetings, questionnaire surveys and specialised workshops, the citizens and local stakeholders contributed to conferring the centrality to the environmental issues, consolidating these aspects as fundamental values for local society. It is worth remembering that the population of Scansano accepted a reduction of the 20% of possible new planning permissions in favour of an enhancement and better protection of agricultural and natural heritage, pressuring decision makers to set a development vision based on the environmental resources. Within this context, the SEA, applied as a design tool, triggers innovation in performing the local agenda, emphasising the citizens' issues on the environment and spreading the enhancement of natural heritage as a fundamental value for local governance.

Even though it seems to be a gigantic achievement, it is worth remembering that the SEA operates in a positive context in which the natural heritage was already considered to be a very important value for the local society. Notwithstanding, the approach adopted for the SEA-making probably helps the involvement, facilitating the establishment of an environmental-based political strategy.

Reflecting the latter consideration, the SEA of the Scottish National Planning Framework 3 seems to share several fundamental elements with the case of Scansano. The application of the SEA from the national decision level stimulated a cascade effect for the environmental protection measures, addressing the sustainability with the proper level of detail for each government tier.

The National Planning Framework is the spatial policy for all of Scotland, which is generally prepared and updated each five years. This instrument sets the directions for all planning levels, selecting a list of development projects that should contribute to the implementation of the national strategy. The NPF is a political tool because it is a direct expression of the Minister's vision. Although it could be excluded by the Directive 2001/42/EC application, the Environmental Assessment Scottish Act (Scottish Government, 2005) has extended the application of the SEA to all public PPPs under Scottish jurisdiction. In doing so, the SEA covers the entire planning system, following the decision making from the higher to the lower levels.

The SEA of the NPF 3 is structured in three sections that attempt to evaluate the possible effects on the environment derived by policies implementation, addressing impacts initially in a broad way and finally focusing on the possible consequences on the regional scale. A matrix was prepared, identifying the main impacts that these decisions can produce on the key environmental elements like biodiversity, water, climate change, air, soil, and so on. In addition, the strategic developments were carefully assessed during this phase as well. Thus, in the second stage the SEA investigates the possible effects that NPF can cause on the Scottish environment, setting the principal orientation for the environmental protection and the guidelines for pursuing sustainability for the subordinate planning levels. Completing the evaluation of the probable effects derived from NPF implementation, the last stage of the SEA focused on the regional assessment. In this section, the SEA intertwined the results of NPF evaluation with the assessment of the environmental impacts of National Developments, organising these data in a framework of six regions. In fact, during the Scoping phase and with the support of CAs, the SEA identified six main regions that understand and evaluate the impacts derived from policies implementation. In doing so, the possible risks for the environment were originally identified in broad terms and subsequently they were transformed in a first set of general indications for avoiding potential impacts on large-scale area.

Through this approach, the SEA of NPF 3 played a core role for Scottish environmental governance. Thanks to the EASA act (Scottish Government, 2005), the SEA was conducted with the aim to set the environmental directions for the entire planning systems, emphasising a multi-scale vision for the protection of the environment.

The NPF as a political tool was strongly supported by a government legitimacy. The application of the SEA has provided a sort of environmental agenda for the entire Scotland. For this reason, the operationalisation of an environmental agenda, through the SEA, since the highest level of decision-making can represent a consistent procedural innovation for the environmental governance, identifying the major risks for the sustainability and the potential occasion for improving the conditions of Scottish natural heritage. Thus, the NPF 3 facilitated the tasks of subordinate instruments in taking into account the proper contents during their programming and planning actions.

Based on this synthetic recapitulation, the SEA of Scansano and the SEA of NPF 3 generate consistent opportunities that overcome the classical Directive's expectations, triggering potential innovation for the environmental governance. In fact, in both cases, the SEA performs a sort of environmental agenda, bringing the environment to the core of policy- and plan-making.

These two case studies show that SEA systematises different types of knowledge, institutional and tacit, mixing the competences held within public administration with the information brought in by civil society. In these terms, they were both considered as invented opportunity, the last category developed within this thesis that tries to describe real cases of innovation. The combination of knowledge is an essential condition for creating the innovation and so for providing opportunity. In line with the literature, the creation perspective is well developed within the entrepreneurship theory. Analysing the impacts that possible new ventures produced on the community and involving the opinions of citizens regarding possible new products, the entrepreneur develops the strategy in order to exploit potential opportunity. Thus, the entrepreneurship theory describes a system in which two spheres, technical and non, should be intertwined for accomplishing innovative solutions within the market. However, the role of entrepreneur, its approach and methodology, are probably the core elements in providing opportunity. As such, the decision-maker should be able to identify possible new methods of using resources already present within and outside the market in order to achieve the business opportunity.

Thus, similarly for the SEA, the opportunity is always connected with the environment in which the decision is taken, encompassing the ability of decision-makers and the resources, in terms of knowledge, that could be involved within the process. Within this context, it is worth analysing the comments from the SEA expert survey. Prof. Runhaar suggests that the SEA can be an opportunity as a design tool. In doing so, the SEA overcomes the classical application as impacts-checking towards a more pro-active approach, setting the space for proposing enhancements and for promoting possible environmentally-based development. In line with this perspective, Joao (2011) and McCluskey and Joao (2011) argue that the SEA should be applied in order to stimulate possible environmental enhancements measures where environmental enhancements can be considered as *deliberate attempts to taken in the design and subsequent phases of projects, policies, plans and programmes to ensure the success of wider range of direct and indirect benefits that could be possibly flow from project or policies* (Joao, 2011: 171). Within this context, other experts point out the conditions that could support the formation of the SEA's opportunity(ies).

In particular, the SEA can be an opportunity also as a political risk management because it *…ensures due diligence by addressing potentially politically contested PPPs early, thus ensuring compliance with what might be considered existing political agendas* (Professor Noble).

Therefore, the opportunity of the SEA is connected with issues regarding political accountability and legitimacy. Also, the need to popularise the SEA seems to be a common understanding (Professor Jackson), involving civil society in shaping the SEA decision, promoting the switch of value within local community that can represent a fundamental aspect for con-

solidating the SEA as a positive tool, providing opportunity for decision makers (Bonifazi).

Based on this premise, the next section reflects on the conditions that allowed the formation of the opportunity in the case of the Scansano Operational Plan and the Scottish NPF 3. In doing this, a comparative lens was adopted.

6.3.1 The conditions for the opportunity of the SEA

The SEA procedural framework

The relevance of normative and the way in which the SEA was affected by the national legislation setting represent common elements in both cases. However, the Operational Plan of Scansano is only basically influenced by the SEA national framework. In fact, the recent law of the Tuscany region encourages local authorities to set the public participation of both PPPs and SEA in the same moment, avoiding possible waste of resources. In doing so, PPPs and SEA can be fruitfully integrated, resolving a classical problem of the Italian SEA. Thus, the contribution of the Italian SEA procedural framework in increasing the capacity of this tool in providing opportunity is limited. On the contrary, the Scottish Government, promoting the application of the SEA to all PPPs under national jurisdiction, sets a clear and linear procedural framework. In fact, the Environmental Assessment Scottish Act (Scottish Government, 2005) defined the entire system of competences and contents that should be addressed through the SEA within all levels of territorial governance. This solution facilitates the tasks of authorities and officers of all tiers of public administration. Likely, the attention on the institutionalisation of the SEA allowed the consolidation of this tool as positive instrument for the environmental governance. In fact, according to Steinhauer and Nooteboom (2012), *Institutionalising of SEAs is the structural embedding of SEAs into a country's planning practice. In the NCEA's view, SEA is institutionalised when:*

> *– sufficient expertise in SEA application is available;*
> *– a sound legal and financial basis for SEA is in place;*
> *– there is a clear institutional structure with agreed allocation of roles and responsibilities in the SEA system.*

When this is happened, the SEA represents an added value for the actions of the government, triggering possible procedural innovations. Following this perspective, Williamson (2000) contended that the opportunity is connected with the level of institutionalising of something, emphasising the incorporation of the conditions that influence governance through a stair based on four steps, in which the first investigated the embeddedness of informal elements like traditions and customs. The second focused on the rule that affects the

institutional environment. The third focused on the governance structures and finally, the fourth contemplated the organisation of the marginal conditions like allocation price and employment. Transferring this knowledge to the SEA context, the third rung of institutionalisation can describe the Scottish situation, suggesting that these strengths can represent the necessary condition for providing the opportunity.

The authorities involved within the SEA process

The role of the statutory authorities during the SEA-making is probably one of the most disagreeing conditions between the Italian and Scottish context. The way in which the two national legislations have introduced the roles and tasks of these authorities probably influenced their effective contributions within the SEA process.

In Italy, both national and regional norms have identified three main authorities: the competent authority, the responsible authority and the proceeding subject. Moreover, although few institutions like the environmental protection agencies, the authority that manages the water consumption, the Basin Authorities, could be involved within the SEA process, they often take part in the SEA only when the contents of this tool are already shaped, highlighting possible lacks or negligent areas. In addition, it is worth remembering that the Italian authorities are generally specialised departments and/or offices that exert this duty. According to the Italian law, they should check the SEA documents without actively contributing in shaping knowledge and SEA's contents. Due to this particular normative framework, the role of statutory authorities within the SEA of the Scansano Operational Plan was probably the main weakness of this process. In fact, based on the interviews, their contribution was relatively weak, given that they do not participate to the SEA-making but they only analysed and made comments on the SEA's reports. In doing so, these authorities exert only a prescriptive role, controlling the environmental assessment contents only for complying with normative requirements.

The SEA's supporting tool and measures

In order to enhance the effectiveness of the SEA and for facilitating assessors in conducting the environmental assessment, several supporting tools and/or measures were implemented. The research investigates which roles these types of tools and measures have played in providing the SEA's opportunity(ies). The technologies applied in land use planning are currently consolidated support for practitioners. Similarly, the SEA literature already emphasised the GIS application for instance (Liu et al., 2007).
According to Martinez-Grana et al. (2014), *GIS techniques were used to define territorial mo-*

dels, including environmental information criteria in thematic layers to facilitate environmental diagnosis in the early planning stages in the areas of concern or of higher quality for conservation at different working levels. Similarly, Gonzalez et al. (2011) argue that the GIS can support the SEA conduction, improving the analysis of the spatiality of environmental impacts. However, limited contribution seem to explore the extent of the Scottish SEA Gateway, which instead represent a very important element for the Scottish SEA framework. The contribution of this tool principally regards the organisation of the SEA process and the coordination between responsible and the other authorities involved within this process. Within this context, the SEA of National Planning Framework represents a huge process in which a large amount of subjects and agencies are interested. Given the highly institutionalised process of the Scottish SEA, the Gateway helps planners and assessors to connect and manage the whole interaction with CAs, improving the traceability of the entire process. On the contrary, the SEA of Scansano was supported by two set of instruments: the first seems to reflect the literature findings. In fact, the entire participative process was integrated with the problems mapping, a "Google map" application that, similarly to GIS, invited citizens to suggest and localise possible critical issues on a map-base system.
This solution, even though it represents only a part of the activities established for the social involvement, allowed the creation of a first analysis on the problems that constituted the basic knowledge used also for the SEA. The second measure, instead, is a normative support. Recognising the relevance of tacit knowledge for urban and environmental governance as well as acknowledging the critical economic conditions in which the local authorities often are, the Tuscany region established a special institution that can fund specific projects for public participation. The SEA of Scansano Operational Plan received this financing and thanks to this, was able to structure this participative-based SEA, which plays a fundamental role in providing the opportunity.

Thus, though with differences regarding the types of tools, both cases were facilitated by applying supporting measures. In a context highly institutionalised like the Scottish, the SEA Gateway allowed the management of the entire SEA process, connecting the responsible with the consultation authorities that are key actors in achieving high quality level for the Scottish SEA. On the contrary, the regional authority for the promotion of public participation in policy making and their funding have encouraged planners and assessors to open the process, involving knowledges that often are marginalised within the SEA.

The role of politics

Concerning this point, the different administrative levels cannot allow an adequate comparison between the two cases. However, the SEA of NPF 3 was supported by a strong political legitimacy and accountability. It is worth remembering that the NPF 3 is a political tool because it contains the Minister's vision for the next five years. As such, the decision to extend the SEA application also to national policy level, which is generally avoided from the Directive settings, suggests that the political will really represents the electricity that runs both hardware and software (Jordan, 2002).

Intelligent software

The professional expertise

The knowledge of the planners/assessors represent a key condition in both cases, even though the relevance that this element achieves in the SEA of Scansano is probably superior to the NPF 3 context.

In fact, the SEA contributed to shape an environmentally-based development vision, in which the natural heritage was consolidated as a fundamental value for Scansano society. This opportunity took place because the approach adopted for the SEA allowed the involvement of local community that, through an incremental process, participated in gradually completing and influencing the planners and decision-makers vision. As such, the SEA- (and plan-) making incrementally developed probably facilitated the creation of the adequate environment in which citizens perceived their contributions as valuable, overcoming the classical limitation that often affects the SEA process where the public is invited to participate when the decision is already taken (Gazzola et al., 2004). In fact, the incremental approach suggests that the process should be take place from the problem analysis, engaging all types of knowledge that are presented within society. Thus, the decision is the result of continuous interaction between planners, stakeholders (public and private) and decision makers, that share their information about problems and invite experts and non to shape possible strategies. In this sense, the role of planners and assessors in selecting and adopting the best approach can be considered a determinant condition for the SEA in triggering opportunity. According to Kornov et al. (2015), planners *…turn the discretion which they exert into an advantage in terms of being innovative. They are not afraid of breaking the routines to be problem solvers. They engage in the planning process to understand their situation. They are self-reflective towards their own system and possible influence* (p. 614).

Similarly to the case of Scansano, the professional expertise in the SEA of NPF 3 regards principally the knowledge of the assessor(s) and the approach adopted for the environmen-

tal assessment. In fact, the attention to the environment and the development of a sort of environmental agenda for guiding the subordinate tiers of urban governance was probably allowed to the methodology used for the SEA-making. The huge amount of information and, above all, the large scale covered by National Planning Framework, involve a considerable volume of stakeholders, agencies, institutions and citizens, where every one of them could bring something to this process.

The analysis of the Scottish environment and the investigation of the possible negative effects produced through NPF strategies implementation as well as the evaluation of the impacts of national developments allowed the consolidation of a common comprehension about the possible risk for the Scottish environment. These two former stages, involving the CAs' and agencies' (public and private) knowledge, create the baseline for the setting of the environmental agenda. However, the attempt to transfer this data on lower tiers through the regional assessment facilitated tasks for subordinate authorities that can test the general considerations on localised areas. In doing so, the role of planner/assessors was a sort of mediator between the large-scale reflection, usually too generalist, and the need of local authorities, conducting the PPPs-making with different level of awareness on the possible effects on the environment. In line with these findings, Fischer (2003) contended that *in policy situations, planners will most likely find themselves as policy mediators who should support a wide debate on overall objectives and values* (p. 166).

The civic engagement

As probably one of the most debated point in SEA literature, the civic engagement represents another divergent condition between the two cases analysed. The normative framework of the SEA sets a proper space for the social involvement: the consultation. However, in cases where this moment is applied only to comply with Directive requirements, the public is limited in contributing to shaping the SEA contents.

Based on this premise, the SEA of Scansano was conducted in overcoming these boundaries through a strong connection with local community, which has represented a key condition in providing enhancements in way which promotes the governance of environmental heritage. It is worth remembering that the Scansano population renounced 20% of new planning permissions already endorsed in the old town plan, emphasising an environmentally-based development for Scansano. Likely, the agricultural vocation of this land facilitated the consolidation of the perception of the environment as a value rather than a constraint for the economic development.

On the contrary, principally based on the interviews and questionnaire survey findings,

the SEA of NPF 3 lacks proper public participation, limiting its involvement activities to the statutory consultation and few meetings with economic stakeholders and NGOs. There are probably multiple reasons why. The first regards the strong institutionalisation of the Scottish SEA. In fact, the great emphasis of the Scottish government in developing proper framework for an effective SEA sometimes could limit the innovation of the practitioners involved, reducing the application of the environmental evaluation in a sequence of tasks and routines. In fact, Scott (2011) argues that in Scotland there is not a statutory requirement for social involvement during the Scoping stage, partially justifying this lack and confirming the angles suggested previously. In doing this, the SEA fails to promote a real public participation. Even during the interview, public planners/assessors underlined that if SEA guidelines recommend to involve public during the SEA making this does not means that participation really happened. In addition, a limitation about the civic engagement is also derived from a lack of public education.

Table n. 34: The conditions that allowed and/or hindered the formation of the SEA's invented opportunities

Type of opportunity	Case Study	Condition that allowed the opportunities	Condition that hindered the opportunities
SEA's Invented Opportunity(ies)	The SEA of Scansano Operational Plan	**Institutional hardware** Supporting tool and measures **Intelligent Software** The role of planner Civic engagement	**Institutional hardware** SEA statutory authority Political legitimacy **Intelligent Software**
	The SEA of NPF 3	**Institutional Hardware** Clear Framework normative CAs Authorities Political Accountability and Legitimacy **Intelligent Software** Professional expertise	**Institutional Hardware** **Intelligent Software** Civic engagement

The institutionalisation of this instrument often influences the nature of the SEA, transforming its contents into something much too technical for community understanding. This factor likely hindered a valuable contribution from civil society. Public participation required awareness about the process, what it really is and how people can effectively contribute (Fitzpatrick and Sinclair, 2003).
Without efforts in this direction, the public participation, above all within the framework of a technical and complex tool like the SEA, risks to be excluded, avoiding to consider a wide basin of resources in terms of knowledge and information.
In this light, it is worth reflecting whether in a case like the NPF 3 where the SEA was applied for providing an environmental agenda for the entire Scottish planning system, what impacts a better civic engagement could have further promoted.

6.4 A comparative conclusive consideration

This chapter describes the findings of this research, integrating the literature review with the results from the case studies analysis. In order to compare the Italian with the Scottish context, this section was structured based on the three categories developed for the investigation of the opportunity(ies) provided by the SEA. Also, each category describes the findings using the operational framework established for the analysis of the condition which allowed, or hindered, the formation of these opportunities. In doing so, the institutional hardware and the intelligent software were the space in which the comparison was developed.

In the four case studies, the SEA achieves different results. Although all cases analysed accomplished the requirement included within the category "**SEA desired expectation**", only the SEA of the Chianciano Terme Strategic Plan was unable to provide real opportunity for decision makers and local governance. However, it is worth remembering that the contribution of the planners/assessors of Chianciano Terme's case was valuable.
Probably, the changes occurred within the normative framework of Tuscany region as well as the political uncertainties verified during the SEA-making hindered the triggering of something more.

On the contrary, the SEA of Dundee City Local Development Plan manages to overcome the Directive's setting. Thanks to the strong collaboration between Dundee's officers and consultation authorities, the SEA was became a sort of knowledge catalyst, embracing multiple information and data from diverse institutional source. Thus, the database constructed

through the environmental assessment was systematised and transferred to the Development Manager, extending the action of the SEA even after its conclusion and innovating the possible use and value of this tool. In fact, the environmental assessment might cover the entire process of governance, from the ideas to the development implementations.

However, the institutional hardware was the key set of conditions that allowed this achievement of the SEA, and the main weakness was the intelligent software, principally the public participation. Following the latter consideration, issues regarding the public education are arisen as possible direction for pursuing an enhancement for the SEA in providing further opportunity.

Finally, the category invented opportunity compared the SEA of Scansano Operational Plan and the SEA of Scottish National Planning 3. Although the different scales do not allow a detailed comparison, the emphasis on the opportunity(ies) and the conditions that allowed the formation of those support several useful considerations for both contexts. In fact, in each case the SEA provides similar opportunities. The environmental assessment was conducted as a design tool, triggering a new environmentally-based vision and stimulating the creation of an environmental agenda for the planning system. In doing this, the SEA strengths of institutional hardware and intelligent software were fruitfully combined.
However, it is worth reflecting on the deep differences on the type of this contribution.

In the case of Scansano, the SEA benefits of the support from a regional authority for public participation financing as well as the technology instrument performed in order to encourage local community involvement. These conditions of institutional hardware were integrated with the knowledge developed through public participation, which was facilitated by the approach adopted by planners/assessors.

On the contrary, the SEA of NPF was largely based on the strong political legitimacy that encourage a good application of the SEA since policy level, overcoming the Directive's settings. Within this context, the support of CAs and the clear and linear methodology adopted by the assessor facilitated the application of the SEA and the development of the environmental directions, covering the general strategies and localising inputs for lower levels.

Thus, the analysis of these findings highlight several comparison considerations:

– The efforts in implementing and developing the SEA have produced different results, even with good quality achievement in both cases. The Scottish framework deve-

loped a high quality institutional hardware. Since the government election of 2003, the SEA acquires centrality in all public PPPs process. Probably due to this strong political legitimacy, a series of structures in supporting the SEA implementations were established, limiting problems derived from the extension of the SEA application to all PPPs under Scottish Jurisdiction. Notwithstanding, the contribution of these measures is fundamental for the Scottish SEA. The role of Consultation Authorities (CAs) was particularly relevant. The Scottish legislation underlined the importance of knowledge support for local authorities rather than emphasised issues about the competence, like in Italy for instance. These authorities are the Scottish Environmental Protection Agency (SEPA, Scottish National Heritage (SNH) and Historic Scotland (HS). Each one of them hold a specialised expertise on this sector, helping public officers and practitioners in gathering the necessary data on the environmental dynamics. The strong connection between local authorities and CAs is disciplined within the Environmental Assessment Scottish Act (Scottish Government, 2005). In order to manage the entire process of consultation, the Scottish government institutes the SEA Gateway, a service in which a specialised unit collects, connects and archives all SEA contents of all SEA Scottish processes. Its role is a sort of connection bridge between the CAs and the local authority, which starts the SEA. In doing so, the whole process is traceable, increasing transparency and above all stimulating the spreading of good practices because the Gateway is entirely public and transparent. However, the intelligent software is probably the principal weaknesses of the Scottish SEA framework, above all concerning public participation, which is often limited to the statutory consultation. In fact, almost all interviewees highlight the lack of adequate involvement of the population, suggesting that in many cases the technicality of the SEA could hindered the civic engagement. In this light, the Prof. Jackson argues that there *is need to popularise the SEA*.

– On the contrary, the Italian cases show the relevance of intelligent software in achieving opportunities for local decision makers. In fact, in both SEAs the approach adopted by planners/assessors plays a very important role. Reflecting on the latter consideration, it might be hypothesized that the assessors and planners have had to innovate their skills and expertise in order to counterbalance the lacks in the institutional hardware. According to Smith and Wandel (2006), *Adaptation in the context of human dimensions of global change usually refers to a process, action or outcome in a system (household, community, group, sector, region, country) in order for the system to better cope with, manage or adjust to some changing condition, stress, hazard, risk or*

> *opportunity* (p. 282). However, when these planners and assessors hold the adequate skills and operate within an environment without pressures and constraints, the environmental assessment can be conducted in an innovative way, promoting consistent enhancement for decision-making. Nevertheless, case studies analysis demonstrate that political uncertainty considerably limits the possibility for the SEA in providing opportunity. Within this context, Besio (2013) argued that, within the political dimension, the most critical aspects of the SEA concern the coherence and the consequentiality between objectives promoted and the actions really implemented. Behind the aim of sustainability, opposite objectives are often hidden.

Notwithstanding, the case of Scansano suggests that consistent improvements should be made for the institutional hardware, above all with regards to the authorities involved within the SEA process.
The existence of specialised authorities and/or agencies that support officers and practitioners can allow the creation of new databases, solving problems regarding the lack of adequate knowledge, which often affects, above all, the small size Municipality. Emphasising the knowledge within the process, a solution like the Scottish SEA Gateway can probably be doubly useful. In fact, on one hand, a systematization at least of the entire regional SEAs processes can encourage public officers and private consultants to develop an autonomous learning through the method of sharing good practices.
In this sense, Kelchtermans (2015) contended that *the message of 'examples of good practice' is rather simple indeed: 'look – this is what works, therefore this is what you should do to be effective* (p. 364). On the other hand, a web archive that takes a connection among municipalities and the authorities involved within the SEA process could considerably reduced the administrative burden that currently weight on the Italian administrative machine. In this way, the institutions can integrate their competence and expertise, avoiding unfruitful overlapping and conflicts.

Nevertheless, it is worth highlighting solutions like the Regional Authority for the promotion of the public participation for policy making, established by the Tuscany Region. For a context like the SEA in which literature has often emphasised the paradoxical situation where on one side the social involvement is described as a fundamental pillar and on the other it represents one of the principal critical elements of this tool, a special authority with autonomous financing capacity can be a solution that is worth evaluating. In the light of the Scottish cases where the civic engagement was a lack in both SEAs, the experience of

the Tuscany region and its possible application to other international contexts can be an interesting lesson.

Summarising, the SEA still presents challenges in both contexts. Notwithstanding, the Scottish framework has developed a well-consolidated institutional hardware, carefully defining tasks, competences, organisations and supporting structures for the SEA-making. In doing so, Scotland's experience should be considered as a guide for each country that must improve the permeation of the SEA within public administration and its operational procedures. On the contrary, the Italian SEA framework is a situation in progress where many areas of negligence interfere with the implementation of the environmental assessment. Moreover, the regional normative with regards the SEA management have autonomously generated a highly fragmented situation that does not allow generalization. However, taking into account the virtuous regions, it is worth reflecting upon the impacts that can achieve the adoption of the incremental approach for the SEA-making and the establishment of a special authority for encouraging and supporting civic engagement based on the Tuscany experience.

Thus, findings show that there is usually a considerable difference between the Italian and Scottish SEA framework. The situation of the first context invites to consider directions for enhancing the institutional hardware, its components and mechanisms. Instead, the latter is probably "too much" institutionalised, requiring a deep reflection on how the intelligent software could be improved. Likely, it might be suggested that strengths from both cases should be analysed in order to understand the extent in which they can represent inputs for meliorating the Italian and/or Scottish SEA's weaknesses.

7. CONCLUSIONS

This chapter presents the conclusions of the research. Reproducing the research question and objectives, it reflects on how each single task was fulfilled. In doing so, the findings of literature review, interviews and surveys as well as from the case studies were systematised within the structure of the three research objectives.

In the next section, it is described how the three main objectives were attained. Subsequently, the overarching conclusions are presented. In section 8.3, the contribution of the research on the theoretical debate on the SEA, in Italy and Scotland, is explained. Finally, the last section sets the possible directions from further research.

7.1 Research aim and objectives

The basic assumption of this thesis was that the SEA is able to provide opportunity(ies) for decision makers and decision-making, overcoming the boundaries of the Directive 2001/42/EC. Based on this premise, the research aim was **to propose and test a framework in order to understand what opportunity could be for the SEA and how the SEA could provide opportunity(ies) for the public decision making process, emphasising the conditions that allowed or hindered the capacity of the SEA in triggering these opportunities**. In fact, the SEA literature, though already using the term opportunity, lacks a proper definition of this concept. Through this lens, the research explored the extent that to which this concept can be assumed within the SEA, literature and practices.

This work as a whole was developed following the three research objectives and their relative tasks (Chapter 1).

Table n. 35: Research objectives and tasks (Chapter 1)

Research Objective 1	**Understanding the opportunities in and through the SEA**
	a) Defining the meaning of the term/concept "opportunity" b) Exploring how this definition could be operationalised in SEA c) Analysing whether different types of SEA opportunities can be identified
Research Objective 2	**Analysing the conditions which influence the capacity of the SEA in providing opportunities for the decision making process**
	a) Investigating the elements/conditions/factors which contribute in triggering opportunities b) Proposing an analytical framework to evaluate how the SEA provided opportunities c) Testing the framework in two countries, i.e. Italy and Scotland d) Understanding whether or not opportunities were generated in Italy and Scotland e) Investigating what types of opportunities were produced f) Exploring which conditions have allowed or hindered those
Research Objective 3	**Moving forward the current understanding of the SEA's opportunities: a lesson for Italy and Scotland**
	a) Identifying which elements can be transferred from Italian to Scottish SEA and vice versa b) Attempting to suggest a proper definition for the concept of opportunities within the SEA context

7.1.1 The research objective 1: Understanding the opportunities in and through the SEA

Chapter 2 (Understanding the concept of the opportunity) analysed the theoretical contributions on the topic of opportunity. In general speaking, the Cambridge Dictionary defined opportunity as *an occasion or situation that makes it possible to do something that you want to do or have to do, or the possibility of doing something*. Although this definition seems to be the principal understanding of this concept, above all within the SEA literature, few strands of economic and philosophical disciplines have developed a proper explanation about what opportunity could really mean within their context.

All declinations of the concept of opportunity always identify an innovation in the way in which something can be done. The political opportunity describes this innovation regarding the form of the government, and so its governance. Similarly, the egalitarian perspective explains that the opportunity can be an innovative situation for the State in which everyone

has the equal possibility to access and participate in public life, decisions and employment.

However, the strands from economic and financial discipline are probably the most relevant contribution for this debate, stressing the connection between the concept of opportunity and innovation. The entrepreneurship theory understands the opportunity as an occasion for new venture and business that can be achieved through two different perspectives. The first, the entrepreneur analysed markets and social dynamics in order to identify possible space left free from unexpected events (like market shock, deep changes in legislation,...), proposing innovative business within these spaces. In this situation, named discovery perspective, the entrepreneur (decision maker) should be able to discover possible profitable business based on the resources that he/she already manages.
On the contrary, in the creation perspective, the entrepreneur operates as a researcher, testing possible ideas on the society though an interactive process, somehow inventing the possible business. Following this angle, the entrepreneur (decision maker) and the public innovate the market, introducing something new. The innovation is underlined also in the study on the firms network where, according to Andersonn (2005), opportunity means new ways of using resources, both internally and externally. New ways which are more efficient, profitable or produce more value for the actors involved than the existing ways of using resources (p. 29). So, opportunity is derived from an approach that allows elements, inputs and knowledge to be combined innovatively.

Focusing on the way in which these opportunities can be created, all disciplines reflect on the combination of two sets of conditions. As such, this can be considered as another common point. Although philosophy and economy generally investigate different topics, the analysis of these conditions underlined a lot of similarities. Political theory reflects on the government structure and the role of public, intended as the society as a whole. Similarly, the study on equal opportunity considers the action of the government and the behaviour of the public as fundamental requisites for achieving egalitarian status. Both perspectives of entrepreneurship theory analysed the role of the entrepreneur within its system (decision maker) and the society in which the creation angle plays an important role, interacting with the entrepreneur for inventing a new business. The investment theory as well as the strand that analysed the firms network investigated the market, examining the role of internal and external conditions in which the former analysed the preferences of users, customers ... and the latter takes into account the structures that can influence the market dynamics like legislations, relationship between States,....(**Task 1a**)

Analysing the debate developed within these disciplines, several inputs have been highlighted that provide a first set of indications for understanding the extent of the concept of opportunity within the SEA context.

First of all, the opportunity is a construct that imply innovation. Stressing above all the perspective of political theory, the SEA can influence the governance of the environment, so, the SEA opportunity should encompass the cases where the environmental assessment triggers something new with respects to the Directive's aims, which should represent the normal expectation of this tool.

Secondly, different types of opportunities can be generated through the application of the SEA. In fact, confronting the reasoning of entrepreneurship theory with the framework of the SEA, the opportunity of the environmental assessment can identify two different cases where the environmental assessment pursues the extension of its classical aims outside the Directive' boundaries and other situations in which it is conducted overcoming the classical "impacts-checking" approach. Thus, the opportunity of the SEA can innovate maintaining the Directive's approach, extending its action on new typologies of applications. However, the opportunity can regards the capacity of the SEA in coping with innovative challenges, moving forward the classical ends of environmental protection and becoming a positive tool for performing solutions for the governance in general.

Finally, the attention on the double system of conditions that is a common element for all theories that have analysed the opportunity was suitable even for the SEA context. In fact, as a tool introduced by law that must be applied for a set of specific plans and programmes before their approval, the SEA is a fundamental element of public administration in exerting its duties of governance. As such, the system of government, the structure and competences of public administration play an important role in the SEA-making and for all kind of issues related to the SEA application, like the capacity of this tool in providing opportunities. However, similarly to the theories analysed within economic and philosophical disciplines, the SEA is also affected by knowledge from outside the government machine, which influences its process and development as well. Thus, the lesson from the theories, which already treated the topic of opportunity, its definition and its formation, suggests that understanding the extent of the SEA's opportunities started from the analysis of the possible innovations that the SEA could provide. Thus, it has been investigated whether different types of application of the SEA promoted diverse opportunities and finally the stock of conditions that allowed the formation of the opportunity in and/or through the SEA (**Task 1b**).

As a first understanding of this concept suggested that opportunity is something innovative for its context, which can somehow be discovered or created, that is the result of a combination of two main sets of variables, which generally are endogenous and exogenous to the

context in which the opportunity is analysed.

Based on these sets of indications developed during the exploration of the theories, the SEA literature was widely investigated. In order to facilitate the literature review and for supporting the comprehension of the SEA's authors understanding about the concept of opportunity, three categories were developed. Acknowledging that opportunity is a construct that entails innovation, the achievement of the Directive's aims should considered as normal expectations of the SEA. For this reason, all cases in which the SEA was described as opportunity for the accomplishment of a) a better environmental integration within decision-making; b) an improvement of the quality of public participation to PPPs-making; c) an increasing of the level of transparency of decision-making; d) the address of cumulative impacts; e) a better monitoring of the effects derived from PPPs implementation, were collected within the category named "**SEA's desired expectations**". Using the inputs from the analysis of economic discipline, above all the entrepreneurship theory, two other categories were set out. The first was named "**SEA's discovered opportunities**" and it aims to describe the cases in which the SEA was innovatively applied, in cases generally excluded from the Directive's setting.
Thus, the extension of the capacity of the SEA in preventing negative impacts can represent a discovery for the challenge of environmental protection. For this reason, the category was defined as discovered opportunities. Finally, the last type was established for collecting the cases in which the SEA provides innovations in terms of achievements, stimulating the overcoming of the classical application of this tool that emphasised principally the protection of the environment. The aim was to gather studies that describe virtuous solutions for the decisions and, in general, for the environmental-based urban and territorial governance shaped through the SEA conduction. Thus, this category attempts to collect cases in which the SEA is conducted as design tool, performing innovative solutions for the environmental protection as well as for the enhancement of the environment. In doing so, it moves the Directive's expectations forward, creating opportunity for decision-makers. Based on this premise, the last group was named "**SEA's invented opportunities**". The term "invented" is used to emphasise the capacity of the SEA to create innovative approaches and solutions that imply changes for the governance of the environment and its connection for the actions of government in general.

Grounded on this framework, the literature review reveals that a considerable volume of publications tend to use the term opportunity as a synonym of expectations, describing cases where the SEA achieved the Directive's aims. Focusing on the contribution in terms

of knowledge, the SEA usually improves the quality of the environmental information for decision makers and, thus, it supports the integration of environmental concerns within decision making. However, this large volume of studies minimally contributes to enhance the understanding of what opportunity could mean for the SEA. Extending the application of the SEA in sectors and cases that are generally excluded, the environment can be treated in innovative way, suggesting that opportunity as a concept could imply a change of perspective.

The discovered opportunities underline that the SEA can innovate the protection of the environment, exploring new scenarios that can present important challenges for the environmental governance. Notwithstanding, the "**invented opportunities**" suggest the major input for improving the understanding of the opportunity through the SEA. The contribution of this category supports the consolidation of the SEA as positive tool for promoting the fighting of the negative effects on the environment as well as for the triggering of possible enhancements measures. In doing so, the opportunity regards innovation in terms of findings that means innovate the way in which the environmental policy is taken in all levels of the governance. Thus, both discovered and invented opportunities are related to the institutional context in which the SEA is applied as well as with the techniques and methods that the SEA uses for achieving these opportunities (**Task 1c**).

An email survey was conducted to integrate these considerations, involving a group of SEA's eminent experts selected by the number and rating of their publications. Some of the findings were in line with the SEA literature review, confirming that the opportunity of the SEA is commonly understand as the achievement of the expectations of this tool. However, in limited cases the concept of opportunity describes situations that were included within the category "**SEA's invented opportunitie**s". The result of this survey validates the structure applied for the analysis of literature.

7.1.2 The Research Objective 2: Analysing the conditions which influence the capacity of the SEA in providing opportunities for the decision making process

After a first understanding of the concept of opportunity and its extents within the SEA context, the second challenge was performing an analytical framework for determining what types of conditions play a role in providing opportunity through the environmental assessment. The investigation of literature and the organisation of the findings in three categories suggest that the conditions must include the institutional side of the SEA as well as the subjects and knowledge from external environment, which can be involved within the

SEA-making (**Task 2a**). Based on the study of Jordan (2002) on the integration of European environmental policy in UK, in early 2000, a set of conditions were defined to study and compare the theoretical framework on real practices. These were structured in two groups where the first, named the institutional hardware, analysed the organisation and roles of institutions and administrative elements of the SEA. Instead, the second one, defined as intelligent software, studied which type of knowledge contributed in shaping the opportunities of the SEA. In detail, the condition were:

Institutional hardware

– *The SEA national procedural framework* that analysed how the implementation of the Directive 2001/42/EC supported or limited the capacity of the SEA in providing opportunities.

– *The authorities involved within the SEA* that investigated whether statutory authorities have contributed in the formation of these opportunities.

– *The SEA supporting tools and measures* that explored the role of institutional instruments prepared by public administrations and/or government to facilitate the task of public officers and practitioners.

– *The role of politics* that studied how different levels of legitimacy can influence the SEA results.

Intelligent software

– *The professional expertise* that analysed the role of planners/assessors within the SEA-making.

– *The civic engagement*, which investigated the contribution in terms of knowledge from public participation, emphasising the role of value-leaden instrument of the SEA in providing opportunities (**Task 2b**).

Chapter 4 introduced the contexts in which this framework is applied. Italy and Scotland were selected for their tier-based structure of the SEA management, which follows the organisation of planning duties. Based on this brief recapitulation, two Italian and two Scottish cases were selected and deconstructed, emphasising the process of the SEA-making, the methodology adopted and finally the description of the role of conditions previously explained (**Task 2c**). The result of the case studies analysis revealed that in two cases, one from Italy and one from Scotland, the SEA produced the "**invented opportunities**". Within this context, the SEA of the Scansano Operational Plan set an environmentally-based development vision, consolidating the environment as a fundamental value for local community. Similarly, in the case of Scottish National Planning Framework 3, the SEA established a sort of environmental agenda, setting the direction for the environmental management for all

levels of Scottish territorial governance. In one case, the SEA of the Dundee City Local Development Plan, the environmental assessment produced an opportunity grouped within the category "**SEA discovered opportunities**". In fact, the database produced through the SEA was extended to the implementation stage, facilitating the task of the Development Manager and avoiding possible risks for Dundee environment derived from potential negligence during implementation of plan's indications. Only in the case of Chianciano Terme did the SEA fail in overcoming the Directive's expectation (**Task 2d** and **Task 2e**).

In the cases where the SEA generated an "**invented opportunity**", the combination of institutional hardware and intelligent software occurred. In fact, in the SEA of Scansano Operational Plan the support of the Regional Authority for the Public Participation and the funding support for the development of an environmental assessment participative-based have provided the necessary resources for exploiting the strengths of this tool. Notwithstanding, the incremental approach adopted by planners'/assessors' teams and the contribution from civic engagement have represented fundamental elements for the achievement of this type of opportunity. On the contrary, the clear and linear methodology prepared by the planners/assessors for the SEA of the National Planning Framework 3 was supported from the strengths of Scottish institutional hardware. In fact, the political legitimacy that seems to be a fundamental characteristic of the Scottish SEA was translated in ambitious legislation in which task and competence are plainly addressed to each levels of government. In addition, the SEA Gateway and the emphasis on the role of Consultation Authorities (CAs) facilitated the actions of planners/assessors engaged in the SEA-making. The knowledge developed within the CAs allowed the creation a valuable database that encompassed the entire perspective of environmental management. However, the contribution of citizens and, more generally, of the public was still inadequate and probably represents an open challenge for the SEA of NPF3.

With regards to the "**SEA's discovered opportunity**", in the case of Dundee City Local Development Plan, the achievement of this type of opportunity was principally allowed by the institutional hardware. In fact, exploiting the potential of the Scottish framework, the SEA was characterised by a strong contribution by Consultation Authorities (CAs). Their support in terms of information and database allowed to the Dundee officers the application of the SEA as knowledge catalyst, developing a new strong environmental database that influenced planners during plan-making. In addition, the value of the knowledge produced through the SEA was systematised and preserved in order to be applied even to the implementation stage, determining an extension of the environmental protection to the last stage of the territorial governance. The clear procedural framework established through the Environ-

mental Assessment Scottish Act (Scottish Government, 2005) and the support of the SEA Gateway in managing the entire consultation process with the CAs were two very important conditions as well. Notwithstanding, it might be assumed that with an improvement of the public participation, the next rung of SEA's opportunity could be achieved. In fact, the contribution from civic engagement was the principal weakness of this process. Data shows that likely the strong institutionalisation of the Scottish SEA and the technicality of this process limited the understanding of citizens, hindering their effective participation (**Task 2f**).

7.1.3 The Research Objective 3: Moving forward the current understanding of the SEA's opportunities: a lesson for Italy and Scotland

The challenge of a comparative research between Italy and Scotland was principally prepared with the aim to identify possible solutions that can improve the implementation of the SEA in both national contexts. Focusing on the opportunity and the process of the formation of those, both Italian and Scottish SEA presented several challenges that often regard different sides of the implementation of the environmental assessment. The application of the analytical framework for the case studies analysis, based on the institutional hardware and the intelligent software, facilitated the identification of possible solutions that might be transferred within the other national context analysed.

The first finding from case studies is the different face of the SEA framework in both countries. This diversity is reflected on the level of development and role that conditions of institutional hardware and intelligent software played in the accomplishment of these opportunities. In fact, the Scottish SEA framework is highly institutionalised. The extension of the application of the SEA to all PPPs under Scottish jurisdiction has de facto stimulated the development of an efficient set of solutions in order to avoid possible problems for the public administration and its functioning. Notwithstanding, it is worth underlining that the strong political legitimacy was a fundamental requisite in supporting this implementation.

Within this context, the possible lessons for Italy could concern:

1) the SEA Gateway and the system of Consultation Authorities (CAs). In a fragmented context like Italy in which the duties for the SEA is exerted by regions, a specialised unit that can make an operative relation between the authorities can facilitate the tasks of practitioners and public officers. In line with the results of the questionnaire survey submitted to the head of the SEA of 15 Italian regions in which the Emilia-Romagna suggests similar solution (Chapter 4), each region could set out an autonomous gateway which can be useful for:

- Simplifying consultations and communication between responsible and competent authorities and other agencies that usually take part in this process.

– Secondly, it can archive and organise the entire volume of SEAs under regional jurisdiction. In doing so, a well-documented memory can be established, facilitating the evaluation of the state of art of the SEA and supporting possible government actions in order to solve weaknesses and valuing the strengths.
– In addition, an articulated SEA store like the Scottish SEA Gateway can stimulate a learning by good practice, inviting practitioners and officers to improve their skills by studying the cases that achieved major success.
– Finally, it can increase the transparency of the entire system, promoting a clear archive in which the entire development of all regional SEA is traceable.

The SEA Gateway represented a valuable ally for achieving a good level of permeation of the SEA within the public administrative machine in Scotland. According to Jackson and Illsey (2007: 607) *setting up a central Gateway to administer and co-ordinate arrangements, and funding research on good SEA practice, promises to realise the principle of greater equity of procedure, supporting this aspect of environmental justice*. Similarly, the Italian SEA framework could take benefits of a possible implementation of a regional scale gateway, starting a process a deep reform of the role of this tool within the urban and territorial governance procedures, innovating the institutional hardware of the SEA in Italy.

2) The second lesson can imply a modification of the system of statutory authorities involved within the SEA-making. The Scottish Government established a framework in which the responsible authorities can conduct and approve the SEA. In order to support the SEA permeation as a positive tool for the environmental planning and management, the Consultation Authorities (CAs) were instituted. According to the Scottish Government website, *the role of the statutory Consultation Authorities within SEA is to bring their individual environmental expertise to the assessment process. This can help to ensure that the future consultation process undertaken by a Responsible Authority is more robust. This in turn means that the public can gain a better understanding of the likely effect of a plan on the environment and meaningfully contribute to the plan's preparation process by offering an informed view* (http://www.gov.scot/Publications/2013/08/3355/2). These three authorities are the Scottish Environmental Protection Agency (SEPA), the Scottish National Heritage (SNH) and Historic Scotland (HS). The high specialisation of these authorities allow the involving of the entire range of perspective that can affect the SEA process, offering a valuable understanding of possible effects that PPPs implementation can caused on the environmental and cultural heritages.

Based on this premise, the lack of adequate knowledge was often underlined as one of the most relevant limitations of the SEA implementation within the Italian framework. This problem can be fought through a modification within the system of the statutory authorities. In fact, the Italian government established a set of three authorities in which the responsible should only make the SEA while the competent should merely evaluate the documents and approve the environmental assessment before the PPs adoption.

Within this context, the Italian government decided a prescriptive role for the competent authority. The prescriptive approach generally identifies a way of conduct something that is based on the paradigm ought and non ought, so, stressing the legal requirements rather than supporting the emphasis on the knowledge and how it could be enhanced (Tebaldeschi, 1975). In addition, the SEA statutory framework are excluding the entire set of agencies, which hold something knowledgeable relative to the environmental dynamics, which are mentioned only within the general sentence "subjects with environmental competence" (Italian Government, 2006). Based on the lesson from the Scottish context, it might be hypothesized that a necessary improvement can be done without deep twisting of the Italian SEA procedural framework. In fact, in Italy a network of regional agencies for the environmental protection is already consolidated. Although recognising that the lack of resources of Italian public administration limited its action, it is worth reflecting on the possible benefits derived from a new normative legitimacy for these agencies. In fact, without changing the structure based on the competent and the responsible authorities, the legal acknowledgement of the regional environmental protection agencies as statutory authority can supply an important resource in terms of specialised knowledge. In addition, it could be possible to empower the entire institutional hardware, establishing a well-articulated network in which the duties for the approval, for the conduction as well as for the evaluation and improvement of environmental data are organised, avoiding unfruitful overlapping of tasks and commitments.

However, the case studies analysis highlighted that the Italian framework developed a particular solution that is worth considering for the improvement of Scottish SEA major weakness.
The case of Scansano Operational Plan holds an important lesson, which can increase the capacity of the Scottish SEA in providing opportunity for the decision-making process. Contrarily to Scotland, the Italian SEA developed the intelligent software. Probably derived from the lacks of its institutional hardware, the case where the SEA provides opportunity that move beyond the Directive's setting are generally characterised by a strong quality of

planners/assessors expertise and the approach that he/she/they adopted.
Within this context, the lesson regards the public participation. The Tuscany region is one of the best experienced in Italy for the involvement of citizens within the process of public governance. The civic engagement is a pillar of planning process since the law on Urban Governance introduced in 1995. However, the institution of a specialised regional authority for the promotion of public participation that holds financing capacity in order to support participative actions for policy- and plan-making probably represents an added value for the entire territorial governance system. The SEA of Scansano was the first environmental assessment that took benefits of this fund and probably, the formation of the "invented opportunities" is also derived from this normative and financed legitimacy, which supports the conduction of a participative-based SEA. Likely, the incremental approach adopted by the planners/assessors helps the local community to effectively contribute in shaping knowledge. Thus, the case of Scansano highlighted a real case of combination between institutional hardware and intelligent software in creating this opportunity for decision makers. In fact, through the institutional support developed through the regional authority for the public participation, the civic engagement and the professional expertise collaborated in shaping the SEA context provide a consistent innovation for the local governance.

Given that the public participation has many times underlined the interview and questionnaire survey as the key weakness of Scottish SEA and recognising the high institutionalisation of the Scottish procedural framework, the establishment of a specialised authority in order to consolidate social involvement for the SEA-making can be a valuable solution. Similarly to Italy, without twisting the consolidate SEA framework, it might be assumed that another Consultation Authority could be instituted. This new authority, similar to the classical three, should operate only for improving the engagement of local community, offering support and resources in order to increase understanding of what the SEA really is and how people could effectively contribute in shaping its contents and information (**Task 3a**).

Table n. 36: Lesson for the Italian and Scottish SEA framework

Transferable solutions from Italy to Scotland	Transferable solutions from Scotland to Italy
The authority for public participation of Tuscany Region	SEA Gateway Consultation Authorities

After the conclusion of analysis of which types of conditions can be transferred in both contexts to improve the capacity of the SEA in providing opportunity(ies) for decision making, this research aimed to perform a proper definition for this concept within the environmental assessment context. The theoretical contribution is probably the hardest challenge that this research tried to attain.

Acknowledging that opportunity as a term is widely used within contemporary academic publication, a strong theoretical gap was analysed with regards to what this concept could really mean for environmental assessment. In fact, no one study tries to define the concept of opportunity within the SEA debate.

In order to set this definition, the theoretical inputs developed within economic and philosophical disciplines were intertwined with the findings of case studies analysis. In doing so, this research has tried to establish a definition, supporting its reasoning with the results and considerations developed through the exploration of SEA's cases.

Thus, concluding the works of this research, the opportunity of the SEA can be defined as **an innovation, substantive and/or procedural, which implies new ways to cope with the environmental management challenges, that is the result of a more efficient combination of institutional resources with the awareness of the society, producing new knowledge for environmental action** (**Task 3b**).

Similarly for the legislative definitions, it is worth underlying that:

– For substantial innovation is intended the cases where the consideration of the environment, the responsibility and accountability regarding the environmental concerns, are innovated as a result of SEA application/conduction.

– For procedural innovation in regards to the situations in which the SEA innovates the procedures of governance, extending its approach for cases and issues that usually pursue environmental protection without or through different instruments.

– Within institutional resources, this research includes the stock of all skills, expertise and procedures of public administration that are involved in the SEA process.

– Within the awareness of the society, this research consists of the level of consideration of the environmental concerns that are consolidated in a determinate community in which the SEA is applied.

7.2 The overarching conclusion: a ladder for the SEA's opportunities

The study of the SEA emphasising the opportunities that this tool can provide for decision makers was a highly difficult challenge because the research has addressed a topic that has not yet been defined. In these terms, the analysis of theories that already defined the concept of opportunity (Chapter 2) provided a first understanding of the key points of this theoretical construct. Applying this lens, the SEA literature was reviewed and the findings of this step were systematised through three different categories, which described a sort of ladder for the SEA opportunities. Based on the theoretical analysis, an analytical framework was developed to investigate the case studies. The Italian and Scottish contexts were selected based on their similarities regarding the structure and tier organisation of both planning and SEA framework (Chapter 4). The case studies analysis described that only in two situations, one Italian and one Scottish, has the SEA produced a consistent innovation for environmental governance that was classified in the category "**SEA invented opportunity**" (Chapter 5). The formation of this type of opportunity was allowed by the combination of the elements described within the institutional hardware and intelligent software, even though with remarkable differences. In fact, in the Italian case, the principal strengths were identified within the intelligent software while in the Scottish one, the institutional hardware seems to be the real engine that drives the achievement of the opportunity through the SEA (Chapter 6). Based on the entire data of the research, a set of conclusive consideration has been developed, emphasising which measures of the Italian and Scottish frameworks could be transferred in the both contexts for enhancing the capacity of the SEA in providing opportunity for public decision-making. In addition, this research proposed a definition for the concept of opportunity within the SEA context, introducing a contribution for the theoretical debate on this type of environmental assessment.

This research has highlighted the potential innovation for governance that this tool can trigger. Italy and Scotland present important differences regarding the political legitimacy about the SEA application. In Italy, probably due to a lack of environmental awareness and sensitivity, the SEA is often perceived as merely another administrative burden that hindered the functioning of public machine that is already overload. It is worth remembering that the principal limitations of the Italian SEA framework affects the institutional hardware while the entire sphere named intelligent software seems to be well developed and more efficient. This might be the result of a sort of adaptation and reaction in which private planners

and assessors, above all the youngest, acknowledging the institutional weakness, accept the responsibilities to enhance the practice of the SEA, developing and proposing innovative approaches.
Although it might be slightly inappropriate, Darwin contended that the species that survives is generally the most adaptable. Following this perspective, the approach developed by the Arch. Sonia Occhi for Chianciano Terme, even though it did not produce a real opportunity, as well as the SEA methodology established for Scansano suggest that, in virtuous cases, Italian planners and assessors try to react to institutional deficiencies, exploiting the full potential of knowledge and expertise. When this happens in context where even the institutional hardware presents strengths, the SEA produces opportunities in terms of innovation.

On the contrary, the well-developed SEA framework established in Scotland has probably generated an opposite situation. The strong institutionalisation of the SEA has allowed the achievement of very important solutions for connecting the expertise within the public administration, avoiding overlapping among competences and tasks. However, the attention on the technicality has likely limited the consolidation within the society of the SEA as a positive tool, hindering the public participation that represents the main weakness of the Scottish framework. In fact, both case studies and interviews highlighted that people perceive the SEA as too much a of technical tool, underlining difficulty for understanding what the contributions could really be. Although good hardware might be considered a very important strength for the SEA's opportunity, innovation as a challenge requires the involvement of the community to consolidate the switch in the way in which the environment is managed, lived and transformed.
Based on this premise, this research suggests that the opportunities of/in/through the SEA identified a sort of stair in which this instrument can climb the three rungs as a result of empowerment process.

Table n. 37: The ladder of the SEA's opportunities

The SEA's invented opportunity	**Opportunity derived from the combination of institutional hardware and intelligent software**
The SEA's discovered opportunity	**Opportunity derived principally from the strengths of institutional hardware or intelligent software**
The SEA's desired expectation	**No opportunity**

However, conclusive considerations can be presented for the understanding of how the SEA can be empowered, enhancing its capacity to provide opportunities for decision makers.

At first, the creation of the opportunity is connected with the environment in which the decision is taken. In contexts where the SEA operates under strong conditions of political uncertainties, the action of the environmental assessment is limited and probably it fails to promote innovation. The case of Chianciano Terme shows that, even with a remarkable contribution from planners/assessors expertise, the changes that occurred in local government hindered the potential of the SEA. On the contrary, a well-established political and societal legitimacy can facilitate the empowerment of the SEA.

Secondly, the political legitimacy is a fundamental condition for increasing the capacity of the SEA in providing opportunity. The Scottish SEA framework and, above all, the case of National Planning Framework underlined the importance of the government consideration that, through the extension of the SEA to all PPPs under Scottish jurisdiction, conferred centrality to this tool within the Scottish policy-making organisation.

Thirdly, the planners/assessors have strong responsibility for the empowerment of the SEA. In fact, case studies analysis and findings from interviews show that a good plan means good SEA. Practically, the construction of PPs through a clear and linear approach helps the SEA in identifying the key elements for the assessment. Stressing the structure, a well-prepared plan is required to clearly defined the general objectives, the related strategies and the actions that implement the main vision. In doing so, the SEA can address proper contents for each level, emphasising the use of adequate data and information for every task that must be evaluated.

Fourthly, public education is an issue that should be taken seriously into account for SEA-making. The importance of tacit knowledge, as shown for instance in the case of Scansano, is often threatened by a lack of adequate engagement due to the difficulty in understanding the technicality of the SEA. Efforts in this sense should be made, stressing the communicability and the popularisation of the environmental assessment as a tool for defend and enhance the natural heritage.

To sum up, the SEA's opportunities ladder is a theoretical construct that makes a synthesis of the reflection developed within this research. However, starting from the definition performed in the previous paragraph and emphasising the conditions that could empower

this capacity of the SEA in providing opportunity, a strong reflection on the SEA's practices could be attained. In fact, this research, investigating the SEA through the perspective of the opportunity, attempted to restore the consideration of this tool. As often underrated, the SEA could be a valuable ally to improve the government action and in general the task of the public administration machine, that, with determinate supporting measures, can take benefits rather than only new administrative burden from the application of this instrument.

7.3 Areas for further research

This research has treated the topic of opportunity within the SEA theoretical debate, probably for first time. In doing this, it proposed an analytical framework for studying how opportunity can be triggered and which conditions allowed and/or hindered the formation of those opportunities. Within this context, several viable directions for future research can be identified. It is worth remembering that the institutional hardware and the intelligent framework were based on the analysis of:

- The SEA national procedural framework;
- The authorities involved within the SEA;
- The SEA's supporting tools and measures;
- The role of politics;
- The professional expertise;
- The contribution from civic engagement.
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Giving that this research represents the first step for this strand of study within the SEA theory, the study of the analytical framework, the possible limits of the approach constructs on the hardware and software can represent a first future direction.
Theoretically, it could be suggested to reflect on the concept of SEA's opportunity cost, developed within chapter 7, as a way to investigate possible limitations of the capacity of this tool in providing innovation.

However, a more consistent "avenue" could be derived by the analysis of the single conditions. Acknowledging that a wide debate has been developed for topic like the civic engagement within the SEA, the role of planners involved in the SEA-making and on the national framework, the exploration of the SEA's supporting tools and measures still represent a challenge.
In fact, the rapid development of the web technologies in planning practice invites to investigate the extent that these applications can achieve for the SEA and how they can contribute in enhancing the SEA capacity for providing opportunities for decision makers.

The impacts of big data for a first understanding about dynamics and perceptions of local community can allow the shaping of an environmental scenario through which the SEA can support an adequate involvement of the public, saving resources for both public administration and practitioners involved within these types of processes.

Also, the rapid development of technologies applied to planning suggests that a new world should be explored. The open-source software and web application partially applied to community and city planning can innovate the practice of the assessment. In these terms, efforts from the youngest researchers might be new source for procedural innovations in the way in which the SEA can permeated the current planning practice.

8. REFERENCES

– Acharibasam, J. B., and Noble, B. F. (2014). Assessing the impact of strategic environmental assessment. Impact Assessment and Project Appraisal, 32(3), 177-187

– Alberti, M., and Susskind, L. (1996). Managing urban sustainability: an introduction to the special issue. Environmental Impact Assessment Review, 16(4), 213-221

– Albrecht, E. (2008), Transboundary consultations in strategic environmental assessment. Impact Assessment and Project Appraisal, 26(4), 289-298

– Alexander E. R. (2006), Evaluation in planning: evolution and prospects, Ashgate Publishing, Aldershot

– Alshuwaikhat, H. M. (2005), Strategic environmental assessment can help solve environmental impact assessment failures in developing countries. Environmental Impact Assessment Review, 25(4), 307-317

– Alvarez, S. A., and Barney, J. B. (2013). Epistemology, opportunities, and entrepreneurship: Comments on Venkataraman et al.(2012) and Shane (2012). Academy of Management Review, 38(1), 154-157.

– Andersson, U., Blankenburg Holm D., Johanson M. (2005), opportunities and network structure, in Pervez, I., Ghauri, A. Hadjikhoni and J. Johanson, Managing opportunities development in business network, Basinjstoke: Palgrove McMillian

– Andreoli, F., Havnes, T., and Lefranc, A. (2014). Equalization of opportunity: Definitions, implementable conditions and application to early-childhood policy evaluation. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2505365

– Barich, H., and Kotler, P. (1991). A framework for marketing image management. Sloan management review, 32(2), 94-104.
– Barry, B. (1990). How not to defend liberal institutions. British Journal of Political Science, 20(01), 1-14.
– Beierle, T.C. (1999) Using social goals to evaluate public participation in environmental decisions, Review of Policy Research, 16(3-4): 75-103
– Besio, M., Brunetta, G. and Magoni, M. (Ed.) (2013) Valutare i piani. Efficacia e metodi della valutazione ambientale strategica, Milano , Bruno Mondadori
– Bina, O. (2007), A critical review of the dominant lines of argumentation on the need for strategic environmental assessment, Environmental Impact Assessment Review, 27, pp. 585-606
– Blumer, H. (1969). Fashion: From class differentiation to collective selection.The Sociological Quarterly, 10(3), 275-291.
– Bonifazi, A., Rega, C. and Gazzola, P. (2011) Strategic environmental assessment and the democratisation of spatial planning, Environmental Assessment Policy and Management, 13(01): 9–37.
– Bragagnolo, C., Geneletti, D., and Fischer, T. B. (2012). Cumulative effects in SEA of spatial plans–evidence from Italy and England. Impact assessment and project appraisal, 30(2), 100-110.
– Brown RB, 2006, Doing Your Dissertation in Business and Management: The Reality of Research and Writing, Sage Publications
– Brown, A. L., and Thérivel, R. (2000). Principles to guide the development of strategic environmental assessment methodology. Impact Assessment and project appraisal, 18(3), 183-189
– Brundtland, G., Khalid, M., Agnelli, S., Al-Athel, S., Chidzero, B., Fadika, L., and Singh, M. (1987). Our Common Future, http://www.bne-portal.de/fileadmin/unesco/de/Downloads/Hintergrundmaterial_international/Brundtlandbericht.File.pdf?linklisted=2812
– Calabria Region (2002), Regional Law n. 19 “Norme per la Tutela, Governo ed Uso del Territorio – legge Urbanistica della Calabria” (Norms for the Protection, Government and Use of the Territory – Urban Planning Law of Calabria)
– Cambrige Onlyne Dictionary, retrieved from http://dictionary.cambridge.org/dictionary/english/process
– Carter, J., and Howe, J. (2006). The water framework directive and the strategic environmental assessment directive: exploring the linkages. Environmental Impact Assessment Review, 26(3), 287-300

– Casson, M., and Wadeson, N. (2007). The discovery of opportunities: Extending the economic theory of the entrepreneur. Small Business Economics, 28(4), 285-300
– Cavalieri A., Baldi P. and M. Montomoli (2005), La valutazione integrata nel processo di formazione dei piani e programmi regionali: il modello della Regione Toscana (The Integrated Assessment within the formation of regional plans and programms: the model of Toscan region), Consiglio della Regione Toscana: http://www.consiglio.regione.toscana.it:8085/commissioni-VIII/Commissioni-consiliari/Commissione-di-controllo/file%20pdf/seminari%20e%20convegni/20051213114955%20volumevalutazione.pdf
– Chaker, A., El-Fadl, K., Chamas, L., Daou, M. A. Z., and Hatjian, B. (2006). Towards a national strategic environmental assessment system in Lebanon. Impact Assessment and Project Appraisal, 24(2), 103-114
– Cimellaro A. and A. Scialò (2010), La Valutazione Ambientale Strategica, Roma, DEI Tipografia del Genio Civile
– City Council of Chianciano Terme (2013), SEA Environmental Report, adopted with the City Council Deliberation n. 43 of 18th of July 2013
– Comitato Interministeriale per la Programmazione Economica CIPE (2002), National Strategy for the Sustainable Development, endorsed on the 2nd of August 2002
– Council of European Union (2006), Review of the EU Sustainable Development Strategy (EU SDS) – Renewed Strategies, Prot. 10117/06, adopted in Brussels, 9th of June 2006
– Council of the European Communities, Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment
– Dalal-Clayton D. B., Sadler B. (2005), Strategic environmental assessment: a sourcebook and reference guide to international experience. Earthscan, London
– d'Auria, L., and Cinnéide, M. Ó. (2009). Integrating strategic environmental assessment into the review process of a development plan in Ireland. Impact Assessment and Project Appraisal, 27(4), 309-319
– Davidsson, P. (2004). Scott Shane, A General Theory of Entrepreneurship: The Individual-Opportunity Nexus. International Small Business Journal, 22(2), 206-210.
– De Figueiredo Jr, R. J. (2002). Electoral competition, political uncertainty, and policy insulation. American Political Science Review, 321-333.
– De Montis, A. (2013). Implementing Strategic Environmental Assessment of spatial planning tools: A study on the Italian provinces. Environmental Impact Assessment Review, 41, 53-63.

– De Mulder, J. (2011). The protocol on strategic environmental assessment: a matter of good governance. Review of European Community & International Environmental Law, 20(3), 232-247
– Department for the Environment, Transport and the Regions (DETR) (2000) Good Practice Guide on Sustainability Appraisal of Regional Planning Guidance (London: DETR)
– Department of the Environment (DoE) (1989) Environmental Appraisal: A Guide to Procedures (London: DoE).
– Department of the Environment (DoE) (1991) Policy Appraisal and the Environment (London: DoE).
– Department of the Environment (DoE) (1993) Environmental Appraisal of Development Plans: A Good Practice Guide (London: DoE).
– Desmond, M. (2009). Identification and development of waste management alternatives for Strategic Environmental Assessment (SEA). Environmental impact assessment review, 29(1), 51-59
– Doelle, M., and A. J. Sinclair (2006). Time for a new approach to public participation in EA: Promoting cooperation and consensus for sustainability. Environmental Impact Assessment Review, 26(2), 185-205.
– Drury, C. (2008), Management and accounting, London, Cengage Learning EMEA (7th edition)
– Dundee City Council (2009), Flood Prevention Report- 7th Biennial Report, https://www.dundeecity.gov.uk/dundeecity/uploaded_publications/publication_1486.pdf
– Dundee City Council (2010), Strategic Environmental Assessment. Scoping Report for Proposed Dundee Local Development Plan
– Dundee City Council (2013), Strategic Environmental Assessment. Environmental Report for Proposed Dundee Local Development Plan, http://www.dundeecity.gov.uk/sites/default/files/publications/Revised%20ER%20V4%20Reporters%20Alterations%20with%20Cover.pdf
– Dundee City Council (2014), Strategic Environmental Assessment. Post Adoption Statement for the Dundee Local Development Plan
– Dundee City Council (2015), About Dundee. Statistics, Demographics and General reference materials, http://www.dundeecity.gov.uk/sites/default/files/publications/aboutdundee2015.pdf
– Eckhardt, J. T., and Shane, S. A. (2003). Opportunities and entrepreneurship. Journal of management, 29(3), 333-349
– Eggenberger, M. and Partidario, M.R. (2000) Development of a framework to as-

sist the integration of environmental, social and economic issues in spatial planning, Impact Assessment and Project Appraisal, 18(3): 201-207
– Emilia Romagna (2000), Regional Law n. 20 "Disciplina generale sulla tutela e l'uso del territorio" (General rules for the territorial protection and management)
– European Commission (2001), Proposal for a Decision of the European Parliament and of the Council Laying down the Community Environment Action Programme 2001-2010, COM(2001) 31 Final – 2001/0029(COD), published on the official journal of the European Communities n. C154 E/218 of 29th of May 2001
– European Community (2001), Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment
– Faludi A. (1987), A decision-centred view of environmental planning, Pergamon Press, Oxford
– Fidler, C., and Noble, B. (2012). Advancing strategic environmental assessment in the offshore oil and gas sector: Lessons from Norway, Canada, and the United Kingdom. Environmental Impact Assessment Review, 34, 12-21
– Fischer, T. B. (2002). Strategic environmental assessment performance criteria—the same requirements for every assessment?. Journal of Environmental Assessment Policy and Management, 4(01), 83-99.
– Fischer, T. B. (2003). Strategic environmental assessment in post-modern times. Environmental impact assessment review, 23(2), 155-170.
– Fischer, T. B., and Gazzola, P. (2006). SEA effectiveness criteria—equally valid in all countries? The case of Italy. Environmental Impact Assessment Review, 26(4), 396-409.
– Fischer, T. B., Matuzzi, M., and Nowacki, J. (2010). The consideration of health in strategic environmental assessment (SEA). Environmental Impact Assessment Review, 30(3), 200-210
– Fischer, T.B. and Onyango, V. (2012), Strategic environmental assessment-related research projects and journal articles: an overview of the past 20 years, Impact Assessment and Project Appraisal, 30(4): 253–263
– Fleurbaey, M. (1995). Equality and responsibility. European Economic Review, 39(3), 683-689.
– Flick, U. (2014)5th ed., An introduction to qualitative research, London, Sage.
– Flyvbjerg, B., and Richardson, T. (2002). Planning and Foucault: in search of the dark side of planning theory. Planning Futures: New Directions for Planning Theory, London and New York: Routledge, 44-62.

– Forester, J. (1988). Planning in the Face of Power. Univ of California Press.
– Frankel, C. (1971). Equality of opportunity. Ethics, 81(3), 191-211.
– Fundingsland Tetlow, M. and Hanusch, M. (2012) Strategic environmental assessment: the state of the art, Impact Assessment and Project Appraisal, 30(1): 15–24
– Gauthier, M., Simard, L. and Waaub, J.P. (2011) Public participation in strategic environmental assessment (SEA): Critical review and the Quebec (Canada) approach, Environmental Impact Assessment Review, 31(1): 48-60;
– Gauthier, M., Simard, L. and Waaub, J.-P., 2011. Public participation in strategic environmental assessment (SEA): Critical review and the Quebec (Canada) approach. Environmental impact Assessment Review 31, 48–60
– Gazzola, P. (2011). Can environmental appraisal be truly interdisciplinary?.Journal of Environmental Planning and Management, 54(9), 1189-1208.
– Gazzola, P., and A. Rinaldi (2015), Reflecting on the SEA's Usefulness in Italy, unpublished presentation for the conference of the International Association for Impacts Assessment held in Florence in April 2015
– Gazzola, P., Caramaschi, M. and Fischer, T.B. (2004) Implementing the SEA Directive in Italy: opportunities and barriers, European Environment, 14: 188-199
– Geert Kelchtermans (2015) Learning from 'good examples of practice', Teachers and Teaching, 21:4, 361-365, DOI: 10.1080/13540602.2014.969103
– Geneletti, D. (2011). Reasons and options for integrating ecosystem services in strategic environmental assessment of spatial planning. International Journal of Biodiversity Science, Ecosystem Services & Management, 7(3), 143-149
– Gobbi, L., and Amodeo, U. (2004), Alcuni aspetti della gestione ambientale, Roma, Aracne.
– Guba E. G. and Lincoln Y. S. (1994), Fourth generation evaluation, Sage Publications, California. Hacking T., Guthrie P. (2008), A framework for clarifying the meaning of Triple Bottom-Line, Integrated, and Sustainability Assessment, in "Environmental Impact Assessment Review", 28, pp. 73-89.
– Gunn, J. H., and Noble, B. F. (2009). A conceptual basis and methodological framework for regional strategic environmental assessment (R-SEA). Impact assessment and project appraisal, 27(4), 258-270.
– Hansen, A. M. (2011). Strategic environmental assessment (SEA) as a means to include environmental knowledge in decision making in the case of an aluminium reduction plant in Greenland. Journal of Environmental Planning and Management, 54(9), 1261-1278.
– Hansen, A.M., Kørnøv, L., Cashmore, M. and Richardson, T. (2013) The signifi-

cance of structural power in Strategic Environmental Assessment, Environmental Impact Assessment Review, 39: 37–45
– Hansen, D. J., and Lumpkin, G. T. (2009). Testing and refining a creativity-based model of opportunity recognition. Frontiers of Entrepreneurship Research, 29(17),2.
– Hayes, S., Barker, A., and Jones, C. (2014). Flood management consideration in sustainability appraisal and strategic environmental assessment in England and Scotland. Journal of Environmental Assessment Policy and Management, 16(03), 1450025.
– Hermanns, H. (1995) Narrative Interview in U. Flick, Kardorff, E.V., Keupp, H., Rosenstiel, L.V. and S. Wolff (eds), Handbuch Qualitative Sozialforschung, Munich: Psychologie Verlags Union, pp. 182-185
– Historic Scotland (2010),Review of the SEA Scoping Report of Dundee City Council Local Development Plan submitted to the SEA Gateway on 25th of October 2010.
– Hughes, O. E. (2012). Public management and administration. Palgrave Macmillan.
– Hughers, O. E. (1970), Evaluation methodology of urban and regional plans: a review, Regional Studies, 4, pp. 151-165
– Illsley, B., Jackson, T., and Deasley, N. (2014). Spheres of public conversation: Experiences in strategic environmental assessment.Environmental Impact Assessment Review, 44, 1-10.
– Italian Government (1942), Legge Urbanistica n. 1150 of 17th of August 2014 (Urban Planning Law)
– Italian Government (2006) Legislative Decree n. 152 “Testo Unico: Norme in Materia Ambientale”
– Italian Government (2008), Decreto Legislativo n. 4 “Ulteriori disposizioni correttive ed integrative del decreto legislativo 3 aprile 2006, n. 152, recante norme in materia ambientale” (Legislative Decree n. 4 on “Corrections and integration of the Legislative Decree 3rd of April 2006, n. 152, on norms for the environment”)
– Italian Government (2010), Decreto Legislativo n. 128 “Modifiche ed integrazioni al decreto legislativo 3 aprile 2006, n. 152, recante norme in materia ambientale, a norma dell’articolo 12 della legge 18 giugno 2009, n. 69”, (Legislative Decree on “Modifications and Integrations of the legislative decree 3rd of April 2006, n. 152, on the norms for the environment, according with the art. 12 of the law 18th of June 2009”)
– Italian Government (2015), Disegno di Legge “Disposizioni per il superamento del

bicameralismo paritario, la riduzione del numero dei parlamentari, il contenimento dei costi di funzionamento delle istituzioni, la soppressione del CNEL e la revisione del Titolo V della parte II della Costituzione del 13 Ottobre 2015 (Draft Law "Indications for overcoming the perfect bicameralism, the reduction of the number of the Members of parliament, the control of the costs of institutions' functioning, the elimination of the CNEL and the change of the Titolo V of the second part of the Italian Constitution")

– Ives, C. D., Biggs, D., Hardy, M. J., Lechner, A. M., Wolnicki, M., and Raymond, C. M. (2015). Using social data in strategic environmental assessment to conserve biodiversity. Land Use Policy, 47, 332-341

– Jackson T and Illsley B. (2007), An analysis of the theoretical rationale for using strategic environmental assessment to deliver environmental justice in the light of the Scottish Environmental Assessment Act, Environmental Impact Assessment Review 27(7):607–623.

– Jackson, T., and Dixon, J. (2006). Applying strategic environmental assessment to land-use and resource-management plans in Scotland and New Zealand: a comparison. Impact Assessment and Project Appraisal,24(2), 89-101.

– Jackson, T., and Illsley, B. (2006). Strategic environmental assessment as a tool of environmental governance: Scotland's extension of the European Union SEA Directive. Journal of Environmental Planning and Management,49(3), 361-383.

– Jay, S. (2007). Customers as decision-makers: strategic environmental assessment in the private sector. Impact assessment and project appraisal, 25(2), 75-84

– Jay, S. (2010). Strategic environmental assessment for energy production. Energy Policy, 38(7), 3489-3497.

– Jay, S., and Marshall, R. (2005). The place of strategic environmental assessment in the privatised electricity industry. Impact assessment and project appraisal, 23(4), 315-324

– Jenkins, J. C. (1983). Resource mobilization theory and the study of social movements. Annual review of sociology, 527-553.

– Jha-Thakur, U., Gazzola, P., Peel, D., Fischer, T. B., and Kidd, S. (2009). Effectiveness of strategic environmental assessment-the significance of learning. Impact Assessment and Project Appraisal, 27(2), 133-144.

– João, E., Vanclay, F., and den Broeder, L. (2011). Emphasising enhancement in all forms of impact assessment: introduction to a special issue. Impact Assessment and Project Appraisal, 29(3), 170-180.

– Jordan, A. (2002), Efficient Hardware and Light Green Software: Environmental

Policy Integration, pp. 35-56, in UK, in Lenschow, A. (ed), Environmental Policy Integration. Greening Sectoral Policies in Europe, London, Earthscan Publication Ltd
– Kettl, D. F. (2015). The transformation of governance: Public administration for the twenty-first century. JHU Press.
– Klein, P. G. (2008). Opportunity discovery, entrepreneurial action, and economic organization. Strategic Entrepreneurship Journal, 2(3), 175-190.
– Koornneef, J., Faaij, A., and Turkenburg, W. (2008). The screening and scoping of environmental impact assessment and strategic environmental assessment of carbon capture and storage in the Netherlands. Environmental Impact Assessment Review, 28(6), 392-414
– Kørnøv, L. (2009). Strategic Environmental Assessment as catalyst of healthier spatial planning: The Danish guidance and practice. Environmental Impact Assessment Review, 29(1), 60-65
– Kørnøv, L., Zhang, J., and Christensen, P. (2015). The influence of street level bureaucracy on the implementation of Strategic Environmental Assessment.Journal of Environmental Planning and Management, 58(4), 598-615.
– Kumar, P., Esen, S. E., and Yashiro, M. (2013). Linking ecosystem services to strategic environmental assessment in development policies. Environmental Impact Assessment Review, 40, 75-81
– Kurzman, C. (1996). Structural opportunity and perceived opportunity in social-movement theory: the Iranian revolution of 1979. American Sociological Review, 153-170
– Lefranc, A., Pistolesi, N., and Trannoy, A. (2009). Equality of opportunity and luck: Definitions and testable conditions, with an application to income in France. Journal of Public Economics, 93(11), 1189-1207.
– Leininger, W. E. (1977). Opportunity Costs: Some Definitions and Examples.Accounting Review, 248-251.
– Lele, S. M. (1991). Sustainable development: a critical review. World development, 19(6), 607-621
– Lenschow, A. (2002). Environmental policy integration: Greening sectoral policies in Europe. London, Routledge.
– Lewansky, R. (2002), Environmental Policy Integration in Italy: Is a Green Government Enough? Some evidence from Italian Case, pp. 78-102, in Lenschow, A,. Environmental policy integration: Greening sectoral policies in Europe. London, Routledge.
– Lichfield N. (1960), Cost-benefit analysis in city planning, Journal of the American

Institute of Planners,26, pp. 273-279.
– Lyhne, I. (2011) Between policy-making and planning: SEA and strategic decision-making in the Danish energy sector, Environmental Assessment Policy and Management, 13(3): 319-31;
– M.R. Vittadini, Dalla VIA alla VAS, in Rivistambiente 3/2003, p. 346
– Mascarenhas, A., Ramos, T. B., Haase, D., and Santos, R. (2015). Ecosystem services in spatial planning and strategic environmental assessment—A European and Portuguese profile. Land Use Policy, 48, 158-169.
– Mastop H. (1997), Performance in Dutch spatial planning: an introduction, Environment and Planning B, 24, pp. 807-814
– McCluskey, D., and João, E. (2011). The promotion of environmental enhancement in Strategic Environmental Assessment. Environmental Impact Assessment Review, 31(3), 344-351.
– McMullen, J. S., and Shepherd, D. A. (2006). Entrepreneurial action and the role of uncertainty in the theory of the entrepreneur. Academy of Management review, 31(1), 132-152.
– Merton, R. K., and Kendall, P. L. (1946). The focused interview. American journal of Sociology, 541-557.
– Meyer, D. S., and Minkoff, D. C. (2004). Conceptualizing political opportunity.Social forces, 82(4), 1457-1492
– Ministry of the Environment, Land and Sea protection, Directorate on Environmental Assessment – II Div. (2012), SEA implementation in Italy, http://www.va.minambiente.it/it-IT/DatiEStrumenti/MetadatoRisorsaCondivisione/4ea5e00c-ae24-4a12-9813-f094acd79336 (Ministero dell'Ambiente e della tutela del Territorio e del Mare, Direzione Generale per le Valutazioni Ambientali – II Div. (2012), Monitoraggio sull'applicazione della VAS in Italia, http://www.va.minambiente.it/it-IT/DatiEStrumenti/MetadatoRisorsaCondivisione/4ea5e00c-ae24-4a12-9813-f094acd79336)
– Morgan R. K. (2012), Environmental impact assessment: the state of the art, in "Impact Assessment and Project Appraisal", 30, pp. 5-14.
– National Council of Architects, Planners, Landscape planners and Conservationists (2013), Legal Opinion "Redazione della VAS da parte di altre figure professionali oltre l'architetto ed il Pianificatore", prot. 1639, https://architettitrieste.files.wordpress.com/2014/02/1639-competenze-parere-legale-su-redazione-v-a-s-da-parte-di-altre-figure-professionali-oltre-larchitetto-ed-il-pianificatore.pdf
– Nilsson M. and H. Dalkmann (2001), Decision making and strategic environ-

mental assessment, Journal of Environmental Assessment Policy and Management, 3, pp. 305-327.
– Nitz, T. and Brown, A.L. (2001) SEA must learn how policy making works, Environmental Assessment Policy and Management, 3(3): 329-342;
– Noble, B. F. (2009). Promise and dismay: the state of strategic environmental assessment systems and practices in Canada. Environmental Impact Assessment Review, 29(1), 66-75.
– Noble, B., Ketilson, S., Aitken, A., and Poelzer, G. (2013). Strategic environmental assessment opportunities and risks for Arctic offshore energy planning and development. Marine Policy, 39, 296-302
– Osservatorio Turistico di Destinazione (2012), https://issu.com/03471/docs/odtchiancianoter
– Partidario, M. R. (1996). Strategic environmental assessment: key issues emerging from recent practice. Environmental Impact Assessment Review,16(1), 31-55.
– Partidario, M. R. (2000). Elements of an SEA framework—improving the added-value of SEA. Environmental impact assessment review, 20(6), 647-663.
– Partidario, M. R. (2015). A strategic advocacy role in SEA for sustainability.Journal of Environmental Assessment Policy and Management, 17(01), 1550015.
– Partidário, M. R., and Coutinho, M. (2011). The Lisbon new international airport: The story of a decision-making process and the role of Strategic Environmental Assessment. Environmental Impact Assessment Review,31(3), 360-367.
– Partidario, M. R., and R. C. Gomes (2013). Ecosystem services inclusive strategic environmental assessment. Environmental Impact Assessment Review, 40, 36-46.
– Partidário, M. R., Paddon, M., Eggenberger, M., Chau, D. M., and Van Duyen, N. (2008). Linking strategic environmental assessment (SEA) and city development strategy in Vietnam. Impact Assessment and Project Appraisal, 26(3), 219-227
– Patton, M. Q. (1990), Qualitative evaluation and research methods, SAGE Publications, inc.
– Peragine, V. (2002). Opportunity egalitarianism and income inequality.Mathematical Social Sciences, 44(1), 45-64.
– Piemonte Region (1998), Regional Law n. 40 "Disposizioni concernenti la compatibilità ambientale e le procedure di valutazione" (Regulation regarding the environmental compatibility and assessment procedures)
– Polido, A., João, E., and Ramos, T. B. (2016). Strategic Environmental Assessment practices in European small islands: Insights from Azores and Orkney islands. Environmental Impact Assessment Review, 57, 18-30.

– Posas, P. J. (2011). Exploring climate change criteria for strategic environmental assessments. Progress in Planning, 75(3), 109-154
– Rachid, G., and El Fadel, M. (2013). Comparative SWOT analysis of strategic environmental assessment systems in the Middle East and North Africa region. Journal of environmental management, 125, 85-93.
– Ragin, C. C. (1994), Constructing Social Research, Thousand Oaks, CA:Pine Forge Press
– Reed, M. S. (2008). Stakeholder participation for environmental management: a literature review. Biological conservation, 141(10), 2417-2431.
– Rega, C. and Baldizzone, G. (2015) Public participation in Strategic Environmental Assessment: A practitioners' perspective, Environmental Impact Assessment Review, 50: 105-115
– Rega, C. and Bonifazi, A. (2014) Strategic Environmental Assessment and spatial planning in Italy: sustainability, integration and democracy, Environmental Planning and Management, 57(9): 1333–1358
– Repubblica Italiana, sentence n. 151/1986 della Corte Costituzionale del 24 Giugno 1986, Giudizio di legittimità costituzionale in via principale, published in Gazzetta Ufficiale n. 31 del 02/07/1986
– Repubblica Italiana, sentence n. 641/1987 della Corte Costituzionale del 30 Dicembre 1987, Giudizio di legittimità costituzionale in via principale, published in Gazzetta Ufficiale n. 2 del 13/01/1988
– Rinaldi (2014), Verso un approccio integrato per la Valutazione Ambientale Strategica, Quaderni PDTA, Vol. 3, RDesignPress, pp. 181-182, ISSN 2282-7773
– Rinaldi, A., (2014), Is there a need for the Strategic Environmental Assessment to improve the quality of planning decisions? A study on the early stages of the SEA for the regions of Lazio and Veneto, Italian Journal of Planning Practice (IJPP), ,(1), 78-101, ISSN: 2239-267X
– Rinaldi, A., (2014), La VAS nei processi di democratizzazione ambientale: opportunità di relazione tra pianificazione e progetto, in Atti della Conferenza Nazionale SIU "l'urbanistica italiana nel mondo", Milano 15-16 Maggio 2014, Planum Pubblisher, pp. 1841-1846, ISBN 9788899237004
– Rinaldi, A., (2015), Evaluation in planning and environmental issue: the case of Strategic Environmental Assessment (SEA), CRIOS - Critica degli ordinamenti spaziali, (10), pp. 58-68, ISBN 9788843075881
– Rinaldi, A., (2016), From the Environmental Issue to an integrated approach for the Strategic Environmental Assessment, Journal of the Constructed Environment,

Vol. 7 (2), pp. 1-12
– Ronzani G. (eds) (1998), La dimensione ambientale nella pianificazione urbanistica, Bologna, CLUEB
– Rossouw, N., Audouin, M., Lochner, P., Heather-Clark, S., and Wiseman, K. (2000). Development of strategic environmental assessment in South Africa. Impact Assessment and Project Appraisal, 18(3), 217-223
– Sadler, B. (2001). A framework approach to strategic environmental assessment: aims, principles and elements of good practice. In Proceedings of International Workshop on Public Participation and Health Aspects in Strategic Environmental Assessment (Vol. 11). Szentendre: Regional Environmental Centre for Central and Eastern Europe.
– Salhofer, S., Wassermann, G., and Binner, E. (2007). Strategic environmental assessment as an approach to assess waste management systems. Experiences from an Austrian case study. Environmental Modelling & Software, 22(5), 610-618
– Samuelson, P. A. (1967). Pitfalls in the analysis of public goods. The Journal of Law & Economics, 10, 199-204.
– Sánchez-Triana, E., and Enriquez, S. (2007). Using policy-based strategic environmental assessments in water supply and sanitation sector reforms: the cases of Argentina and Colombia. Impact Assessment and Project Appraisal, 25(3), 175-187
– Sarasvathy, S. D. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. Academy of management Review, 26(2), 243-263.
– Say, N. P. and Yücel, M. (2006). Strategic environmental assessment and national development plans in Turkey: Towards legal framework and operational procedure. Environmental Impact Assessment Review, 26(3), 301-316
– Scansano City Council (2015a), General Report of the Scansano City Council Operational Plan http://maps1.ldpgis.it/sites/scansano/files/ru/Scansano_PO_relazione_rid.pdf
– Scansano City Council (2015b), SEA Environmental Report of the Operational Plan, http://maps1.ldpgis.it/sites/scansano/files/ru/Scansano_PO_Var_PS_VAS_Rapporto_Ambientale.pdf
– Scansano City Council (2015c), Report of the Communication Guarantor for the Operative Plan and its Strategic Environmental Assessment, http://maps1.ldpgis.it/sites/scansano/files/ru/Scansano_PO_Var_PS_Rapporto_Garante.pdf
– Scansano City Council (2015d), Official Report on the findings of the questionnaire survey about the perception of the citizens of Scansano, http://maps1.ldpgis.it/

scansano/sites/maps1.ldpgis.it.scansano/files/ru/Report_Risultati_Questionario.pdf
– Scansano City Council (2015e), Deliberation of the City Council Committee n. 60 on "Adozione del Piano Operativo e della Variante Parziale al Piano Strutturale ai sensi dell'Art. 19 LR 65/2014 e Presa d'atto del Rapporto Ambientale ai sensi dell'art. 24 LR 10/2010" (Adoption of the Operational Plan and of the Variation at the Strategic Plan according with the art. 19 of the regional law n. 65/2014 and adoption of Environmental Report according with the art. 24 regional law 10/2010), http://maps1.ldpgis.it/sites/scansano/files/ru/cc_60_2015_rid.pdf
– Scattoni, P. and Falco, E. (2012) The hidden factor in planning and local politics in Italy: the case of Tuscany, Town Planning Review, 83(1): 47-67
– Schmidt, M., Joao, E., and Albrecht, E. (Eds.). (2006). Implementing strategic environmental assessment (Vol. 2). Springer Science & Business Media.
– Schramm, W. (1971), Notes on case studies of instructional media projects, in Yin, K. R. (1994)2nd ed., Case Study Research. Design and Methods, Thousand Oaks, Sage Publication
– Schreie. M, (2014), Qualitative content analysis, in U. Flick (ed) The SAGE handbook of Qualitative Data Analysis, London: Sage, pp. 170-183
– Scott, C. (2011). Governmentality and strategic environmental assessment: challenging the SEA/good governance nexus. Journal of Environmental Assessment Policy and Management, 13(01), 67-100.
– Scottish Environmental Protection Agency (2010), Review of the SEA Scoping Report of Dundee City Council Local Development Plan submitted to the SEA Gateway on 25th of October 2010.
– Scottish Environmental Protection Agency (2010), Review of the SEA Environmental Report of Dundee City Council Local Development Plan submitted to the SEA Gateway on 18th of December 2012
– Scottish Executive Environment Group (SEEG) (2003) Strategic Environmental Assessment: A Consultation on Proposed Legislative Measures to Introduce Strategic Environmental Assessment in Scotland (Edinburgh: SEEG).
– Scottish Executive Environment Group (SEEG) (2004) Strategic Environmental Assessment: A Consultation on the Proposed Environmental Assessment (Scotland) Bill (Edinburgh: SEEG).
– Scottish Government (2005), "Environmental Assessment Scottish Act"
– Scottish Government (2006), Planning etc. (Scottish) act, asp. 17
– Scottish Government (2012), SEA Scoping Environmental Report of the Scottish

National Planning Framework 3
– Scottish Government (2013), SEA Environmental Report of the Scottish National Planning Framework 3, endorsed in April 2013
– Scottish Government (2014), Ambitions, Opportunity, Place. Scotland's Third National Planning Framework, at http://www.gov.scot/Resource/0045/00453683.pdf
– Scottish Government (2014), SEA Post Adoption Statement of the Scottish National Planning Framework 3 at http://www.gov.scot/Resource/0045/00455247.pdf
– Scottish National Heritage (2010), Review of the SEA Scoping Report of Dundee City Council Local Development Plan submitted to the SEA Gateway on 25th of October 2010
– Senate and House of Representatives of the United States of America in Congress. 1970.National Environmental Policy Act, Pub. L. 91-190, 42 U.S.C. 4321-4347
– Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. Academy of management review, 25(1), 217-226.
– Sheate, W. R., and Partidário, M. R. (2010). Strategic approaches and assessment techniques—Potential for knowledge brokerage towards sustainability. Environmental Impact Assessment Review, 30(4), 278-288.
– Shepherd, A., and Ortolano, L. (1996). Strategic environmental assessment for sustainable urban development. Environmental Impact Assessment Review,16(4), 321-335
– Sims, L. (2012). Taking a learning approach to community-based strategic environmental assessment: results from a Costa Rican case study. Impact Assessment and Project Appraisal, 30(4), 242-252.
– Sinclair, A. J., Sims, L., and Spaling, H. (2009). Community-based approaches to strategic environmental assessment: Lessons from Costa Rica. Environmental Impact Assessment Review, 29(3), 147-156.
– Singh, K. (2007). Quantitative social research methods, New Delhi, Sage.
– Singh, R. P., Hills, G. E., Lumpkin, G. T., and Hybels, R. C. (1999, August). The entrepreneurial opportunity recognition process: Examining the role of self-perceived alertness and social networks. In Academy of Management Proceedings (Vol. 1999, No. 1, pp. G1-G6). Academy of Management.
– Slunge, D., and Loayza, F. (2012). Greening growth through strategic environmental assessment of sector reforms. Public Administration and Development, 32(3), 245-261
– Smit, B., and Wandel, J. (2006). Adaptation, adaptive capacity and vulnerability. Global environmental change, 16(3), 282-292

– Smith, C. W., and Watts, R. L. (1992). The investment opportunity set and corporate financing, dividend, and compensation policies. Journal of financial Economics, 32(3), 263-292.
– Smith, S. P. and Sheate, W. R. (2001) Sustainability appraisals of regional planning guidance and regional economic strategies in England: an assessment, Journal of Environmental Planning and Management, 44(5), pp. 735 – 755
– Söderman, T., and Saarela, S. R. (2010). Biodiversity in strategic environmental assessment (SEA) of municipal spatial plans in Finland. Impact Assessment and Project Appraisal, 28(2), 117-133
– Statera, G. (1994). Logica dell'indagine scientifico-sociale, Milano, FrancoAngeli.
– Stinchcombe, K., and Gibson, R. B. (2001). Strategic environmental assessment as a means of pursuing sustainability: ten advantages and ten challenges. Journal of environmental assessment policy and management,3(03), 343-372.
– Stoeglehner G., and Neugebauer G. (2013), Integrating sustainability assessment into planning: benefits and challenges, in Bond, A. J., Morrison-Saunders and A., Howitt, R., (Ed), Sustainability assessment: Pluralism, practice and progress, Routledge, Abingdon
– Stoeglehner, G., Brown, A.L. and Kørnøv, L. (2009) SEA and planning: "ownership" of strategic environmental assessment by the planners is the key to effectiveness, Impact Assessment and Project Appraisal, 27(2): 111-120
– TayPlan Authority for Dundee, Angus, Perth and North Fife (2010), SEA Environmental Report of the Strategic Development Plan 2012-2032
– Tebaldeschi, I. (1975). Meaning and Role of Prescriptive and Descriptive Statements: Particularly in the Legal Universe of Discourse, The. Syracuse J. Int'l L. & Com., 3, 129.
– Therivel, R. (2004), Strategic Environmental Assessment in Action, London, Sage Publication
– Thérivel, R. and Minas, P. (2002) Ensuring effective sustainability appraisal, Impact Assessment and Project Appraisal, 20(2): 81-91;
– Tocher, N., Oswald, S. L., and Hall, D. J. (2015). Proposing Social Resources as the Fundamental Catalyst Toward Opportunity Creation. Strategic Entrepreneurship Journal, 9(2), 119-135.
– Toscan region (2013), Dibattito pubblico regionale e promozione della partecipazione alla elaborazione delle politiche regionali e locali (Regional public debate and promotion of the participation for regional and local policy making)
– Toscana Region (1998), Delibera di Giunta Regionale n. 001541 del 14/12/1998

on the "Istruzioni tecniche per la valutazione degli atti di programmazione e di pianificazione territoriale di competenza degli Enti Locali ai sensi della LR 16 gennaio 1995 n. 5" (Technical instructions for the evaluation of the territorial planning acts of local Institutions in accordance with the regional law 16th of January 1995, n. 5)
– Toscana Region (1999), Norme in Materia di Programmazione Regionale (Norms on the subject of regional organisation)
– Toscana Region (2010), Norme in materia di valutazione ambientale strategica (VAS) e di valutazione di impatto ambientale (VIA) (Norms on the subject of strategic environmental assessment (SEA) and environmental impacts assessment (EIA))
– Toscana Region (2012), Disposizioni in materia di valutazioni ambientali. Modifiche alla l.r. 10/2010 , alla l.r. 49/1999 , alla l.r. 56/2000 , alla l.r. 61/2003 e alla l.r. 1/2005 (Dispositions on the subject of environmental assessment. Modifies to the regional law 10/2010, regional law 49/1999,regional law 56/2000, regional law 61/2003 and regional law 1/2005)
– Tuscany Region (1995), Regional Law n. 5 "Norme per il Governo del Territorio" (Norms for the Territorial Governance)
– Tuscany Region (1998), Delibera della Giunta Regionale n. 1541 concernente le "Istruzioni Tecniche per la predisposizione della Valutazione degli Effetti Ambientali dei Piani" (Deliberation of Regional Committee n. 1541 for the Technical Indications for the Assessment of the Environmental Effects of Plans)
– Tuscany Region (2005), Legge Regionale n. 1 "Norme per il Governo del Territorio" (regional law n. 1 "norms for the territorial governance"), published on the Regional Bulletin n. 2, first part, of 12th of January 2005
– Tuscany Region (2010), Legge Regionale n. 10 "Norme in Materia di Valutazione Ambientale Strategica (VAS), Valutazione di Impatto Ambientale (VIA), valutazione di Incidenza" del 12 Febbraio 2010 (Regional Law n. 10 "Norms for the Strategic Environmental Assessment (SEA), Environmental Impact Assessment (EIA), Habitat Appraisal" of 12th of February 2010)
– Tuscany Region (2013), Regional Law n. 46 on the "Dibattito pubblico regionale e promozione della partecipazione alla elaborazione delle politiche regionali e locali" (Public Debate and the promotion of the public participation for the regional policy-making), published on the Official Bulletin of the Tuscany Region N. 39, First part, 7th August of 2013
– Tuscany Region (2014), Regional Law n. 65 on "Norme per il Governo del Territorio" (Norms for the Territorial Governance), published on the Official Bulletin of the Tuscany Region n. 53, first part, of 12th of November 2014

– United Nations Economic Commission for Europe UNECE (1998) Convention on Access to Information, Public Participation in Decision-Making And Access to Justice in Environmental Matters, 25 June 1998 (Aarhus Convention), UNECE, Geneva
– United Nations Economic Commission for Europe UNECE, (1992) Application of Environmental Impact Assessment Principles to Policies, Plans and Programmes, http://www.unece.org/fileadmin/DAM/env/documents/1992/ece.envwa.27.e.pdf
– Van Buuren, A. and Nooteboom, S. (2010) The success of SEA in the Dutch planning practice: How formal assessments can contribute to collaborative governance, Environmental Impact Assessment Review, 30: 127-135
– Veneto Region (2004), Regional law n. 11 "Norme per il Governo del Territorio e in materia di Paesaggio" (Norms for the Territorial Governance and Landscape)
– Vicente, G., and Partidário, M. R. (2006). SEA–Enhancing communication for better environmental decisions. Environmental Impact Assessment Review, 26(8), 696-706.
– Wallington, T., Bina, O., and Thissen, W. (2007). Theorising strategic environmental assessment: Fresh perspectives and future challenges. Environmental impact assessment review, 27(7), 569-584
– WCED (1987), Our Common Future, the Brundtland Report, Oxford University Press
– Weale, A. (1993). Ecological modernisation and the integration of European environmental policy. European integration and environmental policy, 196-216.
– Webb, J. W., and Sigal, L. L. (1992). Strategic environmental assessment in the United States. Project Appraisal, 7(3), 137-142
– Williamson, O. E. (2000). The new institutional economics: taking stock, looking ahead, Journal of economic literature, 38(3), 595-613.
– Wirutskulshai, U., Sajor, E., and Coowanitwong, N. (2011). Importance of context in adoption and progress in application of strategic environmental assessment: Experience of Thailand. Environmental Impact Assessment Review, 31(3), 352-359
– Wood, C., and Dejeddour, M. (1992). Strategic environmental assessment: EA of policies, plans and programmes. Impact Assessment, 10(1), 3-22
– Wood, M. S., and McKinley, W. (2010). The production of entrepreneurial opportunity: a constructivist perspective. Strategic Entrepreneurship Journal,4(1), 66-84.
– Yin, K. R. (1994)2nd ed., Case Study Research. Design and Methods, Thousand Oaks, Sage Publication
– Zoppi, C. (2012). Governance, pianificazione e valutazione strategica: sviluppo sostenibile e governance nella pianificazione urbanistica. Roma, Gangemi Editore

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Alessandro Rinaldi is a planner who held the Master Degree in City and Environmental Planning at the University Sapienza of Rome in January 2012. In September of the same year, he won the PhD Scholarship for the doctorate course in Territorial and Urban Planning at the department of Planning, Design and Technology of architecture, University Sapienza of Rome.

During his PhD career, he analysed the Strategic Environmental Assessment and its relationship with the planning process. Particularly, he has focused on the relevance of this tool within the public administration's decision-making, emphasising strengths and problems of the SEA implementation. In the last part of his PhD, he commenced the study of the Italian doctoral education for the discipline generally classified as Urban Studies, considering what kinds of modifications in the formation process could enhance the PhDs skills and increasing their professional opportunities.

For his PhD research, he has been twice at Newcastle University, in the School of Architecture, Planning and Landscape, through the Erasmus III Level Grant in 2014 and through the Erasmus Plus III Level Grant. Within this context, he has collaborated with Professor Simin Davoudi (first period) and with Professor Paola Gazzola (second period).

Publications

– Gazzola, P. and A. Rinaldi (forthcoming), Reflecting on the SEA's usefulness in Italy, *Journal of Environmental Assessment Policy and Management*, *Manuscript submitted for publication*

– Rinaldi, A. (2016), From the Environmental Issue to an integrated approach for the Strategic Environmental Assessment, *Journal of the Constructed Environment, Vol. 7 (2)*, pp. 1-12
– Falco, E., and A. Rinaldi, (2015) Doctoral Education in Planning and Urban Studies in Italy: what is it really for? Introduction and Editorial note, I*talian Journal of Planning Practice (IJPP), (1)*, pp. 1-17, ISSN: 2239-267X
– Rinaldi, A. (2015), Evaluation in planning and environmental issue: the case of Strategic Environmental Assessment (SEA), *CRIOS - Critica degli ordinamenti spaziali, (10)*, pp. 58-68, ISBN 9788843075881
– Rinaldi, A. (2014), Is there a need for the Strategic Environmental Assessment to improve the quality of planning decisions? A study on the early stages of the SEA for the regions of Lazio and Veneto, *Italian Journal of Planning Practice (IJPP),(1),* 78-101, ISSN: 2239-267X
– Rinaldi, A. (2014) La VAS nei processi di democratizzazione ambientale: opportunità di relazione tra pianificazione e progetto, in *Atti della Conferenza Nazionale SIU "l'urbanistica italiana nel mondo", Milano 15-16 Maggio 2014, Planum Pubblisher,* pp. 1841-1846, ISBN 9788899237004
– Rinaldi, A. (2014), Verso un approccio integrato per la Valutazione Ambientale Strategica, *Quaderni PDTA, Vol. 3*, RDesignPress, pp. 181-182, ISSN 2282-7773

Conference presentations

2015

– **Association of European School of Planning (AESOP) Young Academics**, Palermo, *A border between environment and the planning theory: the dividing discourses in the strategic environmental assessment (SEA) debate*

– **International Association for Impacts Assessment**, Firenze – *Reflecting on the SEA's usefulness in Italy* (with Paola Gazzola, Newcastle University)

2014

– **Association of European School of Planning (AESOP)**, Utrecht – Netherlands, *Strategic Environmental Assessment (SEA) problems and Strategic Choice Approach (SCA) opportunity. A brief analysis of the possible application of SCA methodology to SEA*

– **Società Italiana degli Urbanisti**, Milano – Italy, *La VAS nei processi di democratizzazione ambientale: opportunità di relazione tra pianificazione e progetto*

– **The Constructed Environment**, Philadelphia – United States of America, *From the Environmental Issue to an integrated approach for the Strategic Environmental Assessment*