



# Strategic environmental assessment of energy planning tools. A study of Italian regions and provinces



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## ABSTRACT

SEA has been applied in different ways in EU energy and environmental planning instruments, because different member states have interpreted European Directive 2001/42/CE in a variety of ways. Italy, for example, has only recently completed the integration of the directive into its legislation, through a number of decrees which were approved between 2006 and 2010. As a result SEA practice in Italy is very fragmented, particularly with respect to energy planning, and needs to be steered towards homogeneous quality objectives. The aim of this paper is to study the quality of the SEA reports on the energy and environmental planning tools used by Italian regions and provinces. We study nine cases and use the methodology suggested by Fisher (2010) in his review of the quality of SEA. To be more precise, we integrate the views of external evaluators with those of a selection of the personnel directly involved in preparing the plans. Our results show that there are some differences in the quality scores given by the outsiders and insiders, although the two groups identified similar strengths and weaknesses in implementing SEA.

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## 1. Introduction

The impact on the landscape and the issue of sustainability are today crucial issues in energy management and planning, and are also of key importance when assessing the environmental impact of plans in these fields. In the last sixty years there have been major changes in the arguments about energy development. These arguments have taken place in several related fields, such as: international politics, energy pricing, EU and national regulations on renewable energy sources and the rational use of energy, the responsibilities of lower tiers of government (i.e. regions and provinces) for energy policies, liberalization of the electricity and gas markets, technological developments and the increasing profits in the energy sector. Rational management of energy sources occurs when local actions form part of the general framework of policies, programmes and interventions, and are integrated into overall landscape planning and management. There is also the question of where energy should best be produced and consumed, and attempts to create institutional agreements and solutions which involve both public and private bodies at local level.

Energy is thus a very multifaceted topic, as it cuts across a number of arguments, including the environment, society, and economics. For this reason one cannot only focus on energy per se. One must also adopt an overall perspective, and one which also takes into consideration the landscape and environment as a whole. Environmental and energy planning is a promising way of doing this, with local public bodies

establishing the means, and deciding on the ways, by which energy will be produced, distributed, and consumed in a particular area.

Strategic environmental assessment (SEA) includes a set of methods and approaches which are designed to verify, in general terms, whether certain plans and programmes comply with the principles of sustainable development and, in particular, to ascertain the intensity of the impact of these plans and programmes on the environment. The ultimate objective of SEA is to incorporate arguments about the environmental context into the very earliest stages of the planning process. Energy plans are among those that will be subject to SEA. In Italy the application of SEA varies greatly, depending on the particular cases, and ranges from complete absence to full implementation. This is because SEA regulations are not applied in a consistent way throughout the country. Its use varies by region, and often depends on whether particular local public authorities have a traditional history of actively applying innovations in urban and environmental planning.

Hence in this paper we aim to study examples of SEA being integrated into the energy and environmental strategic planning tools used by nine Italian regional and provincial administrations, and how effective or ineffective this has been. The methodology used is based on the SEA report quality review package developed by Fischer (2010), modified to include insider information from those involved in managing SEA. The paper is constructed as follows. In the next section the methodology is presented, with an emphasis on the modifications made to, and integration of, the original SEA report quality review package (Fischer, 2010). In Section 3 we describe the use of SEA in Italian strategic energy planning, and its impact on research studies and planning practice. Nine strategic energy plans issued by five regions and four provinces are selected and certain homogeneous features are analysed. In Section 4

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the results of the paper are presented and discussed, and in Section 5 there are some concluding remarks, and future perspectives are developed.

## 2. Measuring the quality of SEA reports: integration of a method

While SEA was formally introduced by the Directive 2001/42/CE (Directive) (European Parliament and Council of the European Union, 2001) in 2001, its principles have not been effectively applied in a homogeneous way in the EU. This is because of a number of factors, including problems in integrating SEA into the national legal systems, the planning contexts, the type of institutions, the environmental awareness of the public, transparency, and public participation in decision-making and planning. As a result, more than a decade after the publication of the Directive, there are still a number of flaws in how SEA is applied in practice, and these are of great interest for researchers. A typical research framework consists of an analytical assessment of the effectiveness of the use of SEA, and is based on measuring the performance of certain SEA procedures according to given criteria, which are often divided into sub-criteria (see De Montis, 2013; Fischer, 2007, 2010; Fischer and Gazzola, 2006; Jiricka and Pröbstl, 2008; Noble, 2009; Retief, 2007; Sadler et al., 2011).

In this paper, we assess the quality of the SEA report on strategic planning tools for energy by adopting and integrating a method introduced by Fischer (2010). His paper develops on SEA reports about the environmental effects of planning instruments published by 117 local authorities in the United Kingdom. The instruments consisted of local development documents, including core strategies and site-specific allocation of land. The tool he used is the SEA quality review package. This method was first introduced by Lee and Colley (1992) and further developed for teaching purposes by Fischer (2007). It incorporates concepts included in the British system for assessing sustainability (ODMP, 2005). The tool uses a 43 item questionnaire to qualitatively grade the performance of the SEA report. The questions reflect the priorities of the Directive, and are grouped into the following six sections: plan and environmental (and sustainability) baseline description, plan and SEA process integration; identification and evaluation of key issues/options; determination of impact significance; consultation process; presentation of information and results; and recommendations on preferred options, monitoring. The replies to each question are graded, from A to G.

The SEA report quality review package has been applied to a variety of contexts and sectors. Fischer et al. (2011) adapted the review package to assess 25 British Municipal Waste Management Strategies (MWMSSs) with SEA (completed in February 2010), while Fischer (2012) tailored the same tool to scrutinise the SEAs for 7 British Local Transport Plans (LTPs) (completed by mid-2011). In 2012 Fischer presented a comparative analysis of the use of the SEA report quality review package for landscape planning (see Fischer, 2010), MWMSSs, and LTPs. Fischer (2012) questioned the fact that satisfactory scores for all sectors are generally found in Sections 1 (plan and environmental/sustainability baseline description, plan and SEA process integration) and 2 (identification and evaluation of key issues/options). He noted that the following issues have been rarely, or poorly, addressed: definition of alternatives, impact of public participation and SEA on the plan, significance identification and impact evaluation, elaboration of relationships with other policies, plans, programmes and assessments, tiering, and uncertainties.

Following the adaptations introduced by Fischer et al. (2011) and Fischer (2012), a modified SEA report quality review package (briefly referred to as QRP<sub>1</sub> hereafter) has been used in this study (see Table 1). As Annex 2 details, the number of questions has been reduced to forty-one, some questions have been discarded, and some others split into two separate questions. These changes were the result of a preliminary discussion with the interviewees, and are meant to facilitate the

completion of the package. QRP<sub>1</sub> was completed by five academic experts on SEA, i.e. graduate students on Ph.D. and Master's programmes.

Because QRP<sub>1</sub> clearly reflects the perspective of the evaluators, who are external observers, it is important to complete this representation with the assessments of SEA process management made by internal experts. Hence in the second step a reduced SEA report quality review package (briefly referred to as QRP<sub>2</sub> hereafter) was proposed for use with experts in SEA implementation.

This simplification was introduced to create a user friendly questionnaire for the internal experts. It consists of: i) reducing the information required by QRP<sub>1</sub>, through distilling it into ten issues (see Table 2); ii) giving each issue a quantitative score based on the interviewee's judgement (see Table 3).

Using these two packages enabled to construct a single measurement which was able to merge, and represent together, two crucially important points of view.

In the next section we describe SEA implementation in the context of Italian energy planning.

## 3. SEA use for strategic energy and environmental planning tools

The use of SEA procedures on energy and environmental planning tools dates back to the 1990s, when SEA methods and research were still in their infancy. Sheate (1996) suggested that specific SEA procedures could be developed which would evaluate the effects of energy plans, with particular emphasis on the use of renewable energy sources. Byron and Sheate (1997) considered the potential environmental impact of using clean coal technologies in the United States. The reader may refer to Jay and Marshall (2005) for a review of other cases. During the first decade of the new millennium SEA was institutionalised, and has since guided practice, through the establishment of a legislative corpus on the meaning and procedures of SEA. The incorporation of the Directive into the laws of EU member states has occurred at various times and has affected a variety of institutions. In Italy this process took many years, until finally Legislative Decree (LD) no. 152 was published in 2006 (Repubblica Italiana, 2006) and amended by LDs no. 8 and no. 128 (Repubblica Italiana, 2008 and 2010) in 2008 and 2010. Energy planning in Italy involves the creation of different instruments at different administrative and functional levels of government. Energy planning tools are complementary to the corresponding landscape planning tools, as they integrate landscape planning with elements and concepts which are designed to harmoniously couple the needs of human settlements with those of the production, distribution, and consumption of energy in a sustainable and long-term way.

As Table 4 reports, at coordination level the Regional Energy Plan (REP) complements the Regional Landscape Plan (RLP), as the same thing is true for provincial plans. One must bear in mind that while there is no landscape planning tool for the whole of Italy, in 1988 the National Energy Plan (NEP) was approved and updated. This plan promotes: i) the rational use and conservation of energy; ii) the regulation of the self-production of energy; iii) encouraging the introduction and expansion of renewable energy sources. At the municipal level, the Municipal Energy Plan (MEP) integrates the concepts in the Municipal Master Plan (MMP), while the Local Development Plan (LDP) is complemented with guidelines which regulate changes. Each tool has a particular function within the general framework of landscape planning in Italy. Only strategic tools are investigated in this paper. They are part of coordination planning, address the general guidelines for human settlements over wide areas, indicate what type of planning tools can be used to implement landscape planning and the content of such plans, and establish the limits and possibilities of development within the context of environmental and landscape conservation and enhancement. Master planning tools are part of another cluster of instruments. Their focus is the regulation of land use, defining infrastructure development in a municipality, and providing a framework for the implementation of planning tools. These tools complete the

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