



## Research article

# The development of environmental visions and strategies at the municipal level: Case studies from the county of Östergötland in Sweden

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## ABSTRACT

Sweden faces a number of environmental challenges. Municipalities can play an important role in managing these challenges. Using interviews with 13 municipalities in the county of Östergötland, the manner via which environmental visions and strategies were developed and implemented, and the challenges were explored.

Differences were found in the effective development and implementation of both environmental visions and strategies due to a range of factors including the range and level of involvement of different stakeholders, variation in what constituted an environmental strategy, and the time horizons employed for the visions. Suggestions for how best to overcome the barriers are outlined.

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## 1. Introduction

The environmental challenges facing Sweden are many and of varying character, including environmental toxins in the lakes and watercourses and poor air quality in cities (Naturvårdsverket, 2015a, 2015b). Thus for some years there has been a realisation of the need for more effort to be invested in enhancing environmental activity in Sweden (SKL, 2012). In addition, there is acknowledgement that measures need to be conducted on multiple levels: European, national as well as local (Miljöövervakning, 2014; Naturvårdsverket, 2015c).

Swedish municipalities can play an important role in addressing these environmental problems (RUS, 2012; 2014). They can determine environmental goals and measures based on different grounds, for instance the national or regional objectives, their own political agenda (RUS, 2012) or their own environmental aspects (RUS, 2014). However, it is common for the municipalities to have both short-term and long-term plans, however, it is rare that they stretch for more than 10–20 years (Milestad et al., 2014).

Using municipalities in the case study county of Östergötland, this study aimed to examine to what extent the municipalities had

a vision of a desired future environmental state, and to identify the challenges faced in developing and effectively implementing this vision and the related environmental strategy.

## 2. Future planning

Cities and regions are crucial to shifts towards a more circular, sustainable and low carbon approach, as these are where the populations tend to live and consumption and production activities are concentrated (EC, 2010). For example, in Europe more than 2/3 of the population lives in cities (Salvia et al., 2015). The development of environmental visions and strategies are important steps in achieving these shifts as a means of setting out guiding principles and processes (Komeily and Srinivasan, 2015; Wangel et al., 2013).

A vision is an aspirational description of what an organisation would like to achieve in the mid or long-term (Merriam-Webster, 2014). An environmental strategy is the “conscious planning and implementation of measures to develop human society in a way that is from an ecological and climatological perspective viable in the long-term” (Pearson and Gorman, 2010:10). Future scenarios can be divided into three groups: what will happen (trend extrapolation), what could happen (forecasting), and what should happen (normative scenarios such as backcasting) (Vergragt and Quist, 2011; Tuominen et al., 2014). These can also be termed as: probable, possible, and preferable futures (Carlsson-Kanyama et al., 2008).

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### 2.1. Developing and effectively implementing visions and strategies

Potschin et al. (2010) suggest that successful planning for the environment should employ holistic and multi-disciplinary visions and also outline the consequences of actions. Thus it should be a paradigmatic approach that combines both a vision and operational components. Various writers (e.g. Sinclair et al., 2009; Petts, 1999), argue for the use of strategic environmental assessment (SEA). SEA is a formalised, systematic and comprehensive process of evaluating the environmental impacts of a policy, plan or program and its alternatives. It is based on the notion that the benefits of a more sustainable approach are implemented via a 'trickle down' from policy to plans, programs, and eventually to individual projects (Partidário, 2009). Its effective implementation requires a participative and deliberative approach (Connelly and Richardson, 2005), as well as political will and coordination at the municipal level (Noble, 2006). Effective environmental strategies also require declared and measurable goals, and systems to enable monitoring, auditing and reporting (Berry and Rondinelli, 1998). Van de Kerkhof and Wieczorek (2005) add that the management of the transitional phases towards the visions should involve not only new insights to addressing problems, but also into the problem itself, as well as into the context in which decision-making occurs.

#### 2.1.1. Stakeholder participation

A participatory approach builds capacity and awareness, promotes dialogue and enhances collaboration (Robinson et al., 2011; Höjer et al., 2011; Fenton et al., 2015). Participation strengthens democratic endeavours and can also sow seeds for long-term innovations (Quist et al., 2011). However, the approach is not without challenges, for example, the dominance of influencing persons with strong opinions (Zimmermann et al., 2012), participants feeling overwhelmed by the complexity of choices to be made (Robinson et al., 2011), and difficulty in recruiting individuals and groups from a wide range of backgrounds (Carlsson-Kanyama et al., 2008; Larsen et al., 2011).

#### 2.1.2. Organisational factors

Various factors about the organisation developing and implementing the environmental visions and strategies are important. For example, studies suggest that the size of the organisation can have an impact, with differing views as to whether smaller organisations are at a disadvantage (Russo and Fouts, 1997; Schaper, 2002) or advantage (Aragón-Correa et al., 2008). The resource-based view posits that it is those organisations that are best able to create and exploit their resources that are best able to gain advantage (Wernerfelt, 1984; Amit and Schoemaker, 1993; Chandler, 1962). Exploitation of these resources requires strategic planning, a vision, continual learning and innovation, as well as close and dynamic integration with key stakeholders (Hart, 1995; Sharma and Vredenburg, 1998). Organisations need to be dynamic, and innovative in their strategic processes and behaviours, as well as being led by senior managers who are prepared to take risks (Bhupendra and Sangle, 2015).

#### 2.1.3. Using backcasting

Backcasting is about defining a desirable future and then strategising and planning how to get there (Robinson et al., 2011; Phdungsilp, 2011). It is traditionally based on one normative vision, but multiple visions can also be used to explore different future alternatives (Tuominen et al., 2014).

In order to conduct backcasting, scenarios need to be developed of what a desired future might include, challenges and opportunities, and how best to mitigate against uncertainties (Peter and Jarratt, 2015; Wangel, 2011a). While scenarios do not remove the

uncertainties, they can increase awareness of unforeseeable events (Svenfelt et al., 2010). They are typically situated a couple of decades into the future so that there is room for major changes, but still short enough to be imaginable (e.g. 50 years) (Höjer et al., 2011). The scenarios can also include target actors and contextual conditions that cannot be directly influenced (Milestad et al., 2014). Indeed, working with scenarios enables the identification and involvement of key stakeholders (Wangel et al., 2013). However, developing scenarios can be challenging, as it can be very difficult to disengage from the present (Vergragt and Quist, 2011; Carlsson-Kanyama et al., 2008), and it is common that planning is based on previous experience and recognised limits (Phdungsilp, 2011).

## 3. Methods

### 3.1. The case study region

The research was undertaken in Östergötland, which is one of 21 counties in Sweden. At the time of the study, it consisted of 13 municipalities, each with varying numbers of citizens, ranging from around 150,000 in Linköping, to around 3660 in Ydre (SCB, 2015). Of the 13, there were two large, three medium and eight small counties.

### 3.2. Interview procedure

A total of 13 interviews with environmental strategists (or persons with equivalent responsibilities for coordinating the development and implementation of environmental strategies in the municipalities), were conducted. The interviews were undertaken in three main phases: In Phase one, an interview with a best practice case study city was initially conducted. This was done by choosing a European Green Capital City, at random. On this basis, the Slovenian city Ljubljana (awarded European Green Capital, 2016) (European Green Capital, 2015) was chosen and draft questions sent by email to the Department of Environmental Protection. Using the feedback from the initial pilot, Phase two consisted of pilot interviews with three Swedish municipalities in other counties, using the revised questions. Two of these municipalities (Umeå and Örebro) were selected from municipalities with high scores in the ranking of Swedish municipality environmental work (European Green Capital, 2014; MiljöAktuellt, 2014). Huddinge municipality was also selected due to its top ranking in 2014 of municipality nature conservation work (Naturskyddsforeningen, 2014). Again the interviews were concluded with questions on how the interview was perceived, and how the questions could be improved. Finally, in Phase three, interviews were conducted with the 13 municipalities in Östergötland county (Länsstyrelsen Östergötland, 2015). These were conducted in person when possible, or via telephone or email. All the interviewees were given an information letter in advance and encouraged to sign a consent form prior to being interviewed. Questions included: is the municipality a member of any environmental organisation? How does the municipality prioritise between various challenges? Is there an environmental management system in place? If so, which standard does it follow? Does the municipality employ environmental strategies and visions? How are the visions and strategies developed and who is involved? What are the key factors considered in developing the strategy? Where in the organisation is the role located? How often are strategies updated? The interview questions on strategies were intentionally posed before those on visions in order not to lead the interviewees into a backcasting reasoning, in case such reasoning was not already in place.

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