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EPI in European Bioenergy Policy – a Multilevel Governance Perspective

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Abstract

Given the planned bioenergy expansion within the EU, this paper explores EPI in EU bioenergy policy with a multi-level governance perspective. The paper explores how EU bioenergy policy is framed; to what extent do environmental considerations underpin policy decisions and to what extent are other factors such as supply security or cost-efficiency emphasised? Secondly, given that implementation of bioenergy policy within the EU depends on a multilevel governance (MLG) system, the paper also explores the implications of EU bioenergy policies for Member State’s ability to promote EPI in bioenergy development. To this aim, the relation between European bioenergy policy and Swedish bioenergy policy is discussed. To what extent is the EU’s framing of bioenergy parallel to the Swedish framing of the issue? And, in what way does this frame compliance/frame clash shape the prospects to promote EPI in Swedish bioenergy policy? Furthermore, the paper analyses to what extent renewable energy goals are integrated into the EU:s common agricultural policy (CAP). In explicit, it explores the question; does CAP contain measures to increase the supply of biomass from agriculture? And, if bioenergy is addressed within CAP, in what way is the issue framed within the agricultural sector? Are there differences between the energy sector and agricultural sector in this sense? The paper draws some tentative conclusions on the development of EPI and policy coordination in EU bioenergy policy and on the implications of EU policy for EPI in Swedish bioenergy policy and provides thought for future research.
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1. **INTRODUCTION**

Renewable energy sources have become increasingly relevant in European energy policy during the last decade. By 2010, renewable energy sources are set to constitute 12% of the total European energy consumption (Commission of the European Communities [EC] 1997). Achieving this goal requires a substantial rise in the use of biomass (EC, 2004), and the Commission have accordingly published both a Biomass Action Plan (EC, 2005b) and a European Union (EU) Strategy for Biofuels (EC, 2006). At the same time, environmental policy integration (EPI; that is, to integrate environmental considerations into sector policy) is a guiding principle for the EU (as stated in article 6 of the Amsterdam Treaty) and EPI achievement is the primary goal of the Cardiff process (EC, 1998). Given the planned bioenergy expansion within the EU, this paper aims to explore EPI in EU bioenergy policy with a multi-level governance perspective. For that reason, the paper discusses descriptive and analytical questions to explore how EU bioenergy policy is framed; to what extent do environmental considerations underpin policy decisions and to what extent are other factors such as supply security or cost-efficiency emphasised? Secondly, given that implementation of bioenergy policy within the EU depends on a multilevel governance (MLG) system, the paper also explores the implications of EU bioenergy policies for Member State’s ability to promote EPI in bioenergy development. To this aim, the relation between European bioenergy policy and Swedish bioenergy policy is discussed. To what extent is the EU’s framing of bioenergy parallel to the Swedish framing of the issue? Has this changed over time, and – if so – how? And, in what way does this frame compliance/frame clash shape the prospects to promote EPI in Swedish bioenergy policy and practice?

1.1. **Bioenergy – a multisectoral matter**

Bioenergy refers to all different types of energy (both electricity and liquid fuels for transport) generated from biofuels, which in turn are derived from biomass (and peat). Biomass is made from "material with biological origin that has not, or only to a modest extent, been chemically transformed" (Svebio, 2008) and includes by-products from forestry and agriculture plus municipal and industrial waste streams as well as dedicated energy crop cultivation (EC, 2005c; EEA, 2006b). Given that biomass thus is produced in different sectors, the potential for bioenergy in the EU "strongly depends on developments in various sectors" (EEA..."
2006b, p.12) including the energy sector, the agricultural sector, the forest sector, and the waste sector. Thus, since any future bioenergy expansion in the EU depends on both how the demand side (energy) and the supply side (agriculture, forestry and waste) of biomass develops, the study of bioenergy policy as a case inherently involves a multi-sector perspective.

The overarching framework for bioenergy policy is outlined in energy sector policies. Therefore, the main object of study in this paper is EPI in EU bioenergy policy as spelt out in energy sector policy documents. However, keeping Rydin (1999) in mind; we cannot simply talk ourselves into sustainability. Environmental discourse in the overarching bioenergy policy is undoubtedly of the utmost importance for EPI, but to generate sustainable results we need to talk the talk and walk the walk (and make sure that our chosen path is in fact leading towards an environmentally sustainable final destination). In other words, since the ultimate goal of EPI is the achievement of environmental sustainability (EEA 2004; Persson 2007), EPI needs to produce concrete results; policy statements must thus be followed by implementation through adequate policy measures. Or, as Persson (2007:44) argues: “the EPI-principle has both a procedural and substantive dimension and should be studied in terms of process, output and impact” (my emphasis). As noted by the author elsewhere, intersectoral policy coordination is crucial to the outcomes from EPI-processes in multi-sectoral issues such as bioenergy (Söderberg, 2008). This interrelationship can also be seen as a measurement of political will. To put it another way, environmental arguments may be underlining policy decisions on renewable energy targets such as the EU’s 12% target – and this would indicate EPI. However, depending on the political will – that is, how eager politicians are to actually implement such a target – policy decisions will to a varying extent be translated into policy measures to achieve this goal (c.f. Lafferty et.al., 2004). In multisectoral issues such as bioenergy, EPI related goals need to be communicated to, and implemented in, other sectors for outcomes to materialise.

**In focus: agrobiomass**

Thus, when studying EPI in bioenergy policy, it is also relevant to analyse the political will to follow-up the EPI process through intersectoral policy coordination aiming to translate renewable energy policy goals into hands-on measures in other policy areas. In order to address this issue, this paper applies a goal-attainment approach (Vedung, 1997) where particular attention is paid to agricultural biomass production. The reason for focusing on agriculturally
produced bioenergy (rather than biomass from the forest sector for example) is that the European agricultural sector is heavily regulated (whereas the forest sector is more market-dependent and to a higher extent controlled by nation-state policies, c.f. Andersson, 2007). Thus, the opportunities in the EU for political steering of production are substantial within the agricultural sector. Furthermore, agricultural biomass production is a multi-sectoral issue (involving both the energy sector and the agricultural sector) which’s realisation requires inter-sectoral policy coordination. Therefore, this paper analyses to what extent renewable energy goals are integrated into the EU:s common agricultural policy (CAP). In explicit, it explores the question; does CAP contain measures to increase the supply of biomass from agriculture? And, if bioenergy is addressed within CAP, in what way is the issue framed within the agricultural sector? Are there differences between the energy sector and agricultural sector in this sense?

In order to attain a broad picture of policy coordinative measures, the analysis also takes into account measures taken to integrate bioenergy policy goals in the Environmental Programmes and in the framework programmes for research.

1.2. Outline of the paper
To summarise, this paper takes on a MLG and multi-sector perspective on EPI in EU bioenergy policy. The paper proceeds as follows. In section 2, key concepts such as EPI and MLG are discussed and defined and the analytical framework of the study is outlined. In section 3, EPI in EU bioenergy policy as spelt out in energy sector documents is explored. To this end, the framing of bioenergy and the applied policy instruments are mapped out. Thereafter, intersectoral coordination of EU bioenergy policy is studied. Here, the integration of renewable energy policy goals in CAP (and the framing of bioenergy in the agricultural sector) is explored to examine whether or not EPI in EU bioenergy policy reaches further than into overarching energy policy documents. Here, measures taken to integrate bioenergy policy goals in the Environmental Programmes and in the framework programmes for research are also studied. The last part of section 3 is dedicated to a multilevel governance perspective on EPI, where EU bioenergy policy is related to EPI in Swedish bioenergy policy. In section 4, the paper discusses how environmental policy integration in EU and Member State bioenergy policy is affected by the multi-sector character of the case in question and by the multilevel governance structure of the European Union.
2. ANALYTICAL FRAMEWORK: MATERIAL, KEY CONCEPTS AND METHOD

Before moving on, let us briefly address the scope and the main objective of this study. This paper aims to map out the general trends regarding environmental policy integration and policy coordination in European bioenergy policy through textual analysis of relevant policy documents. Given that the policymaking procedure is more complex than what can be found in the final documents, however (see section 2.3), the endeavour is to draw tentative conclusions on EPI and policy coordination from the textual analysis and to be able to provide some initial thoughts on institutional interplay within the EU multi-level governance structure from the comparison with Swedish bioenergy policy. This initial study constitutes the first part of a study on EPI in EU bioenergy policy with a multi-level governance perspective, which later on will be complemented by a set of interviews with central actors in European and Swedish bioenergy policy creation to map out the institutional framework and corroborate the results from textual analysis (see Note I and section 2.3). Therefore, this paper aspires to draw some tentative conclusions, as stated above, but also to provide a road-map for future research in this area. The material studied here is thus mainly major European policy documents (White/Green papers, directives, communications, action plans and strategies) of relevance for bioenergy, but also secondary sources, such as reports, journal articles and books are employed when appropriate. In this section, the concepts of EPI and multi-level governance are discussed and defined, and the analytical framework for the study is outlined in more detail.

2.1. Environmental Policy Integration

Environmental policy integration (EPI) is essentially “about reconceiving the key policy objectives of sectors in a way that makes the environment an intrinsic rationale of sector policy” (Nilsson & Eckerberg, 2007, p.45). Such a process can also be distinguished by the reframing of perspectives² in sectoral policies and strategies towards sustainable development (c.f. Nilsson & Eckerberg, 2007; Nilsson, 2005; Nilsson and Persson, 2003; Lundqvist, 2004; Rein & Schön, 1993 & 1994). In terms of EPI, we look for a reframing not merely in policy rhetoric, but one where policy goals are redefined and problem definitions and strategies are adjusted as the frames of sustainability are integrated into the deeper core of sector frames. Put somewhat differently, EPI is achieved when policy actors have reframed their objectives towards sustainable development and implemented
strategies in pursuit of these environmental objectives (Nilsson, 2005; Glasbergen, 1996; Nilsson & Eckerberg, 2007; see also Lafferty, 2004; May, 1992; and Rydin, 1999). Consequently, in this study, presence of environmental rhetoric in combination with presence of environmental considerations underpinning policy practice (i.e., policy strategies are adopted on environmental grounds) indicate EPI. Concretely, this is analysed through exploring what policy frames are expressed in EU policy documents on bioenergy. Below, the paper therefore elaborates on the concept of policy frames, and how to trace them.

2.2. Tracing EPI in policy frames

In order to trace environmental policy integration as sustainability reframing, it is necessary to identify the existing different policy frames. Following Rein and Schön (1993), a frame can be defined as “a perspective from which an amorphous, ill-defined, problematic situation can be made sense of and acted on” (p.146, my emphasis). In other words, in order to be able to understand a complex reality, actors develop frames, which constitute their perception of certain issues. When actors are reflecting on their own frames and change the implicit suppositions that underpin policy discourse due to new knowledge, frame reflection takes place; this is a learning process that, in the end, can lead to reframing (Rein and Schön 1994; Nilsson 2005). In order to trace how the framing of bioenergy has developed over time, thematic idea analysis is applied here. Idea analysis can be, and has been, applied for the study of development of ideas in general, in a specific policy area or in public debates, to mention only a few examples (c.f. Bergström and Boreus 2000; Manning & Cullum-Swan, 1998). There are different methods of performing an idea analysis and, since there is no standard technique, the researcher has great liberty to develop an analytical framework that suits the overarching aim of the study. One way is to construct ideal types of the studied object. Another method is the application of dimensions, often dichotomies, which can be used to compare the studied texts (Ibid). A third method, and the one which is applied here, is to study the text on the basis of themes, which provide a picture of how bioenergy is framed over time (is it for example a matter of sustainable development or a question of security?). The themes applied here are derived from a previous study on EPI in Swedish bioenergy policy (Söderberg, 2008; Nilsson, Eckerberg, Hagberg, Gerger-Swartling and Söderberg, 2007), and are further elaborated on below.
Bioenergy policy frames
In a previous study on EPI in Swedish bioenergy policy (Söderberg, 2008), four bioenergy policy frames (bioenergy-for-security, bioenergy-as-entrepreneurial-practice, bioenergy-for-agricultural-adaptation, and bioenergy-for-sustainability) have been distinguished. Each policy frame is based upon opinion of underlying problems (which bioenergy are to address), policy instrumental preferences, promoted values and policy goals. The features of the frames are presented in Table 1 below³.

<table>
<thead>
<tr>
<th>Frame</th>
<th>Bioenergy-for-security</th>
<th>Bioenergy-as-entrepreneurial-practice</th>
<th>Bioenergy-for-agricultural-adaptation</th>
<th>Bioenergy-for-sustainability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Underlying problems</strong></td>
<td>Oil-dependency (energy) international competition (agriculture)</td>
<td>Balancing security of energy and food supply with reasonable consumer prices</td>
<td>Costly surplus agricultural production</td>
<td>Balancing nuclear phase-out with climate policy</td>
</tr>
<tr>
<td><strong>Policy preferences</strong></td>
<td>Public investment in domestic energy production and agricultural marginal protection</td>
<td>Market instruments and competition, minimal public interventions</td>
<td>Public investment in agricultural conversion to alternative production</td>
<td>Public investment in research, production and use of renewable energy</td>
</tr>
<tr>
<td><strong>Values promoted</strong></td>
<td>Conservation, Welfare state-building, Employment, welfare creation, national efforts</td>
<td>Market-economy, Rural employment, Consumer focus, International efforts</td>
<td>Rural landscape conservation, National efforts</td>
<td>Ecologism, resource efficiency, international efforts</td>
</tr>
<tr>
<td><strong>Policy goals</strong></td>
<td>Secure energy/food supply</td>
<td>Cheap energy and food</td>
<td>Agricultural adaptation to market conditions</td>
<td>Sustainable energy supply and agriculture</td>
</tr>
</tbody>
</table>

(Source: adapted from Nilsson, Eckerberg, Hagberg, Gerger-Swartling and Söderberg, 2007; Söderberg 2008)

In section 3, the paper uses thematic content analysis based upon how these features (underlying problems, policy instrumental preferences, promoted values and policy goals) are articulated in European bioenergy documents in order to explore if (and, if so, which of) these frames are present on the European level between 1995 and 2008, and if the framing has changed over time. Depending on the presence of an environmental framing, and what emphasis it is given (is environmental policy rhetoric followed by environmentally motivated concrete policy measures?) environmental policy integration can be detected. After the analysis of EPI development in bioenergy related energy policy documents, the paper analyses policy coordination through examining whether bioenergy policy goals are followed by measures in the Common Agricultural Policy, and, if so, how bioenergy is framed in those policy documents.
It is of relevance to point out here that there also are other policy areas (waste, forest) which may affect bioenergy development, even though the scope of this study do not allow for more extensive analysis of these areas. In this paper, the integration of bioenergy policy goals in the Environmental Programmes and in the framework programmes for research is also taken into consideration when analysing policy coordination. However, other types of factors which may influence bioenergy policy; external events such as accidents or international agreements, are only considered here if they are explicitly mentioned in policy documents (e.g. commitments under the Kyoto protocol). It is of course possible that there are other factors which impinge on EPI in EU bioenergy policy, but these factors are difficult to discern through document studies. Such factors may rather be detected in interviews with stakeholders, and will thus be further explored in a later study.

2.3. Multi-level Governance

How multi-level governance (MLG) should be defined is a contested issue. However, a fruitful input is provided by Bache and Flinders (2004, p. 197), who combines different contributions on a common theme to derive four common understandings of MLG. They conclude that MLG refers to: increased participation in policy making by non-state actors; that distinct decision making levels are becoming more difficult to discern; a new role of the state in this new environment; and a new decision making context which makes it necessary to rethink democratic accountability. In this context, according to Gehring and Oberthür (2006), the effectiveness of environmental governance instruments, such as international regimes or different EU environmental instruments, is affected by interinstitutional influence from other regimes/policy instruments. Given the rich density (>200) of instruments in the field of European environmental policy in combination with the density of instruments at the national level it is reasonable to assume that European policy measures intended to promote EPI or measures taken to realise environmentally driven policy goals may clash with national measures, or with policy measures taken in other policy sectors.

Since implementation of bioenergy policy goals within the EU depends on a multi-level governance (MLG) system, an analysis of EPI in bioenergy policy needs to take the multi-level character of the decision making arena into account. To this aim, the relation between European bioenergy policy and Swedish
bioenergy policy is discussed in this paper in order to explore whether EPI is more successful at one level than the other and if efforts to promote EPI at EU level influences efforts to promote EPI at the national level. The analysis here should be viewed as a first step of an analysis of EPI in bioenergy policy with a multi-level governance perspective, which focuses on the multi-level part of the concept; that there are two levels of decision making that interact. This paper therefore focuses on comparing policies at the two different levels (EU and Swedish) to explore the implications of EU bioenergy policies for the promotion of EPI in Swedish bioenergy policy. It discusses to what extent the EU’s framing of bioenergy is parallel to the Swedish framing of the issue; if this has changed over time (and – if so – how); and, in what way this frame compliance/frame clash shape the prospects to promote EPI in Swedish bioenergy policy and practice.

Before moving on, it is essential to address the governance part of the MLG concept and the fact that multilevel governance also takes into account the role of non-state actors in policymaking, and thus questions the intergovernmentalist view of EU decision-making as driven by national, member state, interests (Marsh and Furlong, 2002; George, 2004). Multilevel governance theorists see policymaking as a process involving the, often non-hierarchical, “interaction between a constellation of public and private actors” (Hunt 1999, cited in Marsh and Furlong, 2002, p. 36) at different levels. Such a development in policymaking, where top-down steering is not the only way to make policy; but where actors at many different levels have an impact on the policy process, have also been addressed by many other researchers (e.g. Nakamura, 1987; Sabatier & Jenkins-Smith 1993; deLeon 1999; Carlsson, 2000). As Woodhouse and Lindblom (1993) put it, policy making is “a complexly interactive process without beginning or end” (p.10-11). According to the critics of the stages heuristics view on the policy process as a logical step-by-step procedure (see Lasswell, 1950), the policy process is thus dynamic; affected by actors on several different political levels simultaneously. Therefore, all – private and public – actors engaged in one policy area; politicians and civil servants as well as journalists, experts and non-governmental organisations (NGOs) should be included in policy studies (Sabatier & Jenkins-Smith 1999). In this paper, there is only room to explore the ‘if’ of EPI (is there EPI?) and the interaction between different policies as expressed in policy documents produced on different levels. How the decisions actually got into these documents is a question which falls outside of the scope of this paper. In a forthcoming study, however, it is definitely of relevance to also
address the ‘how’ of EPI and decision-making; how bioenergy is governed. In such a study, the institutional features of the bioenergy policy process should be mapped out through interviews with relevant actors; and the areas of competence in different sectors and on different levels should be outlined in order to provide further insight into the interactions between levels and on how institutional settings and modes of governance influence EPI efforts on EU level as well as on the Swedish level – and the interaction between the two levels. In this paper, however, the scope of the multi-level analysis is limited to comparison between policy documents at different levels. The way in which policies at different levels influence each other is measured here through timing of policy change (what change came first – Swedish or European?) but will be further addressed through interviews.

3. EPI IN EUROPEAN BIOENERGY POLICY 1995-2008

This section focuses on analysing EPI in EU-policy on bioenergy between 1995 and 2008. The aim of this analysis is: 1) to find out what drives European bioenergy policy, that is, to explore what frames are relevant in the European bioenergy debate; 2) to investigate whether environmental policy is integrated in EU bioenergy policy and if this has changed over time; 3) to analyse whether policy coordination is taking place in order to realise policy objectives as regards agricultural biomass production; and 4) to analyse policy implementation within a MLG-structure through comparing bioenergy policy and framing in EU and Sweden. First, frame development and EPI is analysed over time in EU bioenergy policy between 1995 and 2008. Second, policy coordination between the energy sector and agricultural sector as regards the integration of renewable energy policy objectives into the CAP, and the framing of bioenergy within CAP is analysed. Within the study of coordination, the paper also explores if bioenergy goals are recognised within the Environmental programmes and the research strategies. Finally, the interplay between the EU-level and the Swedish level in terms of bioenergy policy is addressed.

3.1. EPI in EU bioenergy policy: 1995-2008

1995-2003

According to Collier (2004), the general progress of EPI in EU energy policy has been slow. Collier attributes this to the priority of economy over environment; a priority which is emphasised by energy policymaking being dominated by
economic ministries, which are popular targets for energy industrial lobbying. In addition, the interest in environmental issues differs across the EU at the same time as the liberalisation of the energy market has been prioritised. Furthermore, the liberalisation of the energy market was mainly driven by the wish to increase competitiveness for European industry through low energy prices. That such a development was undesirable from an environmental perspective was not discussed to a significant extent (c.f. Collier 2004). This context may be useful to keep in mind when initialising the study of EPI in bioenergy policy. In this section, the development of bioenergy within the energy sector is in focus.

In the White Paper (EC, 1995) An energy policy for the European Union, integration of energy market was promoted as the most central factor in the community’s energy policy. A liberalised energy market would lead to economic efficiency within the energy sector, which in turn would increase growth and standard of living. Renewable energy sources were pointed out as important to achieve the energy policy objectives (improved competitiveness, security of supply and environmental protection). Two years later, the Renewable energy White Paper (EC, 1997), emphasised that renewable energy sources were “unevenly and insufficiently exploited in the European Union” (EC, 1997, p.4, see also EC 1997a which emphasised the need to focus actions in the energy sector on the community’s priority goals, such as environmental protection, through describing the promotion of renewable energy sources and energy saving measures as two important goals). The main reasons for increasing the share of renewable energy in the EU were the EU’s international and internal environmental protection commitments (including climate change mitigation) and the potential of renewables to reduce energy import dependencies, create jobs and contribute to regional development. Biomass from agriculture was forwarded in the preceding debate by the Committee on Agriculture and Rural Development of the Parliament, which argued that better coordination of EU energy policy and agricultural policy was needed in order to make enough arable land available for energy production purposes (EC, 1997, p. 9). The Commission also stated that agriculture is a key sector to realise the renewable energy goal, since agricultural biomass production is a “new opportunity” and “contribute to rural job creation” (EC, 1997, p. 21). Thus, ‘bioenergy-for-agricultural-adaptation’ was present in policy debate on bioenergy in the mid-1990s. However, ‘bioenergy-for-security’ was also emphasised in the debate, together with the need to combat climate
change. Thus, renewable energy sources provided an opportunity to address many different policy objectives.

The Green Paper “Towards a European strategy for the security of energy supply” (EC, 2000) accounted for many different environmental problems caused by different energy sources and demonstrated pros and cons with different alternatives. The struggle against climate change was seen as a long-term matter and a difficult challenge for Europe. Furthermore, it was emphasised that the biggest obstacle for an effective environmental protection was the increased emissions of greenhouse gases. Therefore, the use of renewable energy sources was preferred. Soon after, renewable energy sources within the EU were also addressed in the directive on renewable energy production (EP and C, 2001). Here, the need to promote renewable energy sources within the EU was motivated by environmental protection needs and Kyoto commitments. As regards policy measures, all member states were assigned indicative targets on renewable energy production (the overall target was 22.1% of the EU-15s gross electricity consumption to be derived from renewable sources by 2010, and 21% for EU-25). Measures to follow up on Member States’ fulfilment of these national targets were also taken. Member States were to report in 2002 and every five years thereafter on their national indicative targets for future consumption of renewable energy sources for the coming ten years and on their measures taken to achieve these targets. Member States were also to report biannually from 2003 and onwards on their success in meeting their targets.

A few years after the renewable energy directive, the EU also adopted the biofuels directive (EP and C, 2003), aiming to boost the production and consumption in the EU through a reference value of 2% share for biofuels in transport by 2005 and 5.75% in 2010. The main reason for the biofuels promotion was to meet climate change commitments and to achieve an “environmentally friendly security of supply”. However, the directive also addresses the potential for biofuels production to create new opportunities for European agriculture within a new, market oriented CAP. During the first part of the 2000s, thus, ‘bioenergy-for-security’, ‘bioenergy-for-agricultural-adaptation’ and ‘bionergy-for-sustainability’ were still present in the bioenergy debate. However, climate change commitments were emphasised more now than before, and concrete measures to achieve the goals were taken – motivated by both environmental and security arguments. Thus, EPI started to materialise.
2004-2008: towards an EU biomass policy and climate-energy integration

The first steps towards a common European biomass policy were taken in the Commission Report on the share of renewable energy in the EU (EC, 2004). Here, the Commission concluded that the biomass potential need further assessment and that the effective use of bioenergy depends on the interaction between different policy areas where Community institutions play a key role (energy, agriculture, waste, forestry, industry, rural development, environment and trade policy). As set out in the 2004 commission report just mentioned, biomass was addressed specifically in the Biomass action plan (EC, 2005). Here, it is stated that an increased reliance on renewable energy sources is an essential element of a European energy policy, “within the context of stronger economic growth” (p.4), given renewable energy sources’ potential for domestic production and their sustainability. Biomass was also promoted as advantageous compared to conventional energy sources and other types of renewables by the European parliament, due to: “relatively low costs, less dependence on short-term weather changes, promotion of regional economic structures and provision of alternative sources of income for farmers” (EC, 2005, p. 5). The Biomass action plan recognised the need for policy coordination between energy and agricultural policy in order to secure an adequate supply of biomass. Here, the possibility for farmers to grow energy crops on set-aside land and the 2003 CAP reform with its “aid for energy crops” of €45 per hectare were mentioned. Energy forest cultivation is mentioned specifically in the action plan, stating that a changed approach is necessary given the long-term investment required for such cultivation and the long wait (minimum four years) before first harvest (p. 13).

The first particular biomass documents thus framed the issue both as ‘bioenergy-for-security’, and as ‘bioenergy-for-sustainability’. The ‘bioenergy-for-agricultural-adaptation’ frame was mainly expressed by the European Parliament, but was not present in Commission bioenergy documents.

In the Commission Green Paper “A European strategy for a sustainable, competitive and secure energy” (2006), the frame of ‘bioenergy-for-security’ is prominent. Even though the first heading of the document indicate that the goal of the European energy strategy is to balance sustainable development, competitiveness and security of supply, it is utterly clear that the main goal is to secure the energy supply to maintain European competitiveness and promote growth and jobs. The commission points out increased import dependence, unstable prices on raw oil, climate change and increased demand as the main
challenges in the energy field. However, it is worth mentioning that climate change is brought up in relation to the IPCC report, indicating that the main reason for tackling climate change is that “[all] regions in the world - including the EU – will otherwise face serious consequences for their economies and ecosystems” (EC 2006a, p. 3). Furthermore, the Commission suggests three principles to guide member states’ strive to contribute in a constructive way to a European energy policy. 1) Sustainability: active struggle against climate change through promoting renewable energy sources and energy efficiency. 2) Competitiveness: improve efficiency in the European network through realising the internal energy market. 3) Supply security: in a better way coordinate energy supply and demand within the EU in an international context. Concrete measures in six prioritised areas (including a common energy market and common foreign policy on energy) to enable access to sustainable, competitive and secure energy supply in the next decades. Furthermore, the Commission suggests that EU should play a leading role in the struggle against climate change through securing a more sustainable energy supply and emphasises that renewable energy sources play a significant role. Moreover, the Commission stress that the EU stands for half of the world market in this sector. Biomass in particular is primarily pointed out as an “indigenous, renewable energy source” (p. 9). Thus, ‘bioenergy-for-security’ dominated policy discourse in the Green paper.

In the Strategy for biofuels (EC 2006b), two main reasons were given for researching renewable energy sources as an alternative to oil; 1) the contribution of transport to GHG emissions which makes it necessary to find less polluting fuels, and 2) the need to guarantee security of supply by diversifying fuel sources (EC 2006b). Similar framings were expressed in the Commission communication: “An energy policy for Europe” (EC, 2007) COM 2007 1), where the points of departure for a common energy policy were; to combat climate change, limit EU:s external vulnerability to imported hydrocarbons and promote growth and employment. It sets out the aim for a European energy policy; to provide consumers with secure and affordable energy. Its main focus is lower greenhouse gas emissions. In that context, the Commission concludes that the EU has not been able to achieve its target of a 12% share of renewable energy by 2010, and therefore recaps the suggestion in the Renewable Energy Roadmap of increasing the renewable energy to 20% by 2020. Reasons given for the emphasis on renewables in general is that it improves security of supply, creates European jobs and emits less GHGs (EC, 2007, p. 13-14). It is worth
noting, however, that clean coal and carbon capture and storage is also promoted as important parts of an EU energy policy, and fossil fuels are said to certainly remain an important part of the European energy mix.

In 2007, the integration of climate policy and energy policy was given a boost in a Commission message and a Green Paper on adapting Europe to climate change (EC, 2007a). Following the climate Green paper, the commission proposed a directive on the promotion of the use of energy from renewable sources in January 2008, where binding national targets for Member States were set in order to reach an overall binding target of 20% share of renewable energy sources by 2020. The directive also established a common framework for renewable energy promotion, including environmental sustainability criteria for biofuels and other bioliquids. The directive proposal did not mention other kinds of bioenergy specifically. However, renewables in general were promoted partly on the basis of climate change and its consequences for Europe, but also on basis of it’s characteristics as an indigenous energy source with potential of generating growth and jobs. Thus, the security frame dominated policy discourse regarding renewable energy in Europe; but the sustainability frame, predominately relating to climate change and its effects were also emphasised in policy documents. Thus climate policy has been integrated into EU energy policy, and given that also biodiversity issues were regarded in the directive when discussing biofuel production, other types of environmental issues were regarded as well (EC, 2008).

3.2. Policy coordination 1995-2008

According to Buller (2004), EPI has been particularly difficult to achieve within the common agricultural policy (CAP), mainly due to socio-economic and cultural reasons, combined with slow-changing policy goals and policy measures intended to increase productivity and agricultural export. Nevertheless, as stated above, for EPI in energy policy to result in more than rhetorical undertakings on renewables, the agricultural sector needs to be taken on board, and in such a strive, Buller (2004) argues, the common agricultural policy is the main instrument. This section therefore aims to explore in what way renewable energy sources, in particular biomass, have been addressed within the CAP. EPI within CAP has been addressed in many previous studies (see e.g. Baldock and Lowe, 1996; Buller, 2004; Lenschow, 2004), and therefore does not need further
analysis here. However, the framing of the particular biomass issue has not been addressed before, and therefore the analysis' main aim is to explore this area.

For EPI to materialise, other policy coordinative measures are also important. Therefore, this section first analyses overarching policy coordinative measures in the area of bioenergy, mainly within the environmental action programmes and in framework research programmes, before turning to bioenergy framing within CAP.

Overarching coordinative measures

In 1990, the Commission emphasised the importance of energy efficiency, development of strategic technology and the significance of renewable energy alternatives (EC, 1990). In the fifth environment action program, EAP, (EC, 1993) three coherent goals for EU energy policy were established; to promote economic growth, secure an effective and secure energy supply and secure a clean environment. In response to this programme, agriculture council of ministers stated that it was necessary to take the EU:s commitments in the are of climate change etc into account (Buller, 2004). However, it was not until the initialisation of the Cardiff process (EC, 1998) the EU started to make an overarching attempt on many levels to achieve the goal of EPI, especially in three prioritised areas: transport, energy and agriculture. One concrete measure implemented as a result of the Cardiff process was environmental impact assessment in all important policy proposals. Policy coordinative measures in the area of RES were also undertaken within the fifth framework program for research and technological development, where the section “Energy, environment and sustainable development” focussed on European research on environment and energy. The aim was to contribute to ongoing EU programmes (e.g. SAVE and ALTENER4) of particular importance for the integration of environment and energy. However, Collier (2004) points out that the ALTENER programme had difficulties in reaching its goals, since the programme is weak, and specific numeric targets were not adopted until 1993.

In the 6th EAP (EP and C, 2002), which is valid until 2012, the overarching aim is to ensure a high level of protection (while respecting the subsidiarity principle and the different situations in various parts of the EU), and to achieve a decoupling between environmental pressures and economic growth. It sets out to identify the most important environmental problems and their underlying causes and since climate change is mentioned as the problem of highest priority, both
transport and energy sectors are mentioned especially in this programme (since they contribute significantly to the emissions of greenhouse gases) and EPI is awarded a prominent position. The programme underlines the importance of reducing greenhouse gas emissions in the energy sector and sets out to promote the use of renewable energy sources both through a review of energy subsidies and through using incentives (on EU and local level). In the four-year review of the 6th EAP, the Commission emphasises that new knowledge on the effects of climate change calls for new measures. It sets out to encourage renewable energy sources and increase research in technologies such as CSS (Carbon Sequestration and Storage), hydrogen fuels and 2nd generation of biofuels. Furthermore, the Commission pin-points EPI in agricultural sector as successful, achieved mainly through cross-compliance, while stating that the Cardiff process has not lived up to its expectations (EC, 2007b). The 7th Framework Research Programme also addresses the new challenges for the EU (such as climate change and the need for bioenergy) and is to provide “valuable support to innovations in the farming sector and to policy targeting” (EC, 2008a, p. 9).

Thus, several efforts to coordinate energy and climate policy have been undertaken on the EU level since the beginning of the 1990s. However, as the commission concludes, the efforts to achieve sustainable development have been variously effective in different sectors, and there are many environmental goals that have not yet been achieved (EC, 2008a). Therefore, the next section turns to explore to what extent renewable energy policy goals have been integrated into the CAP.

**Integrating bioenergy goals into CAP**

The overarching policy goals of the European Union Common Agricultural Policy (CAP) are increased productivity, reasonable standard of living for the farmers and their families, a stable market, secure food supply and reasonable food prices for European consumers (Article 33 of the EC-declaration). In order to achieve these goals, the internal market and prices are regulated and there are marginal protection measures as well as measures to influence the environmental impact and structure of agriculture. The CAP is subject to the overall environmental policy goals for the EC and article 174 of the EC-declaration, which states that the environmental policy should build on the Polluter Pays Principle (PPP) and aim for a careful and rational use of natural resources (OJ 2002). There are also specific environmental goals for agriculture
Söderberg: EPI in European Bioenergy Policy

(OJ 1996) and member states are required to implement environmental programmes for agriculture (OJ 1992a).

The MacSharry reform of 1992 brought with it a major change within CAP, including an aim to ensure farmers a good income and reduce agricultural prices to enhance (internal and international) competitiveness. An agri-environmental scheme was introduced and measures were taken with direct relevance for the production of agrobiomass (even though energy policy was not mentioned explicitly in the policy documents) including support for agricultural production of biomass for energy purposes on set-aside land (OJ 1992a; OJ 1992b). The main reason for the introduction of these support systems was to compensate European farmers who produced certain crops for their loss of income due to international market prices. The aim of the undertaken measures was to avoid agricultural surplus production through creating new markets for agricultural products, establish a more diversified agricultural production and steer production towards cultivating other crops than the surplus crops (DEIAgra, 2006). Thus, bioenergy-for-agricultural-adaptation dominated the policy agenda during the 1990s.

Agenda 2000 aimed to reform the EU in order to prepare for the Eastern enlargement. Within Agenda 2000 a new CAP reform process was initiated in 1997. Under the new CAP (agreed upon at the Berlin European Council 24-26 March 1999), sustainability was included as one of the aims, together with aims to achieve a European agriculture that was multi-functional and competitive. In 1999, the Commission also emphasised the relevance of agricultural biomass for fighting climate change (EC, 1999) and called for policy measures. In response to a subsequent Commission proposal (OJ, 1998), Article 6 of Council Regulation No 1251/1999 of 17 May 1999 authorised member states to “pay national aid up to 50% of the costs associated with establishing multiannual crops intended for bio-mass production on set-aside land” (OJ, 1999, p. 6-7). Thus, ‘bioenergy-for-sustainability’ was present in the overarching policy documents, but not specifically recognised within CAP measures. Within CAP, the previous ‘bioenergy-for-agricultural-adaptation’ frame was still present, since bioenergy crops were only allowed to be produced on set-aside-land with the purpose of reducing surplus production. This situation, as we shall see, however changed when the CAP was reformed again in 2003.

In 2002, the Commission reviewed the Common Agricultural Policy, and proposed changes to achieve, inter alia, a more competitive, market oriented and
sustainable agriculture. In this communication, energy crop cultivation was proposed to be stimulated in order to reduce CO2 emissions and to reduce the use of fossil fuels, with regard to EU commitments under the Kyoto Protocol and the EU energy and environmental policies. With the objective of “achieving carbon dioxide substitution” (EC, 2002, p. 22) a carbon credit was introduced through an aid for energy crops on 45 EUR/ha to producers who had a contract with a collector (or processed the energy crops themselves). Furthermore, the land used for energy crops was no longer counted as set-aside land. The measures were to be reviewed after five years with regards to the development of the EU biofuels initiative (EC, 2002; EC, 2003; see also OJ, 2006). It is evident that a substantial reframing took place within EU bioenergy policy during this time, and that this time, the reframing also had implications in CAP measures (OJ, 2003, p. 6). After 2003, thus, ‘bioenergy-for-agricultural-adaptation’ was combined with ‘bioenergy-for-sustainability’ and direct support schemes for energy crops were introduced with regard to climate change and future policy schemes on biofuels.

In 2005, sugar beet, artichoke and chicory roots for energy production were allowed under the reform of the Common Market Organisation for sugar, in order to increase the outlets for these products (DEIAgri, 2006). In 2006, the Commission proposed to extend the energy crop aid scheme to all Member States (DEIAgri, 2006). However, the latest development in the area of energy crop production in agriculture is that the Commission in its’ communication “Preparing the health check of the CAP” pointed out climate and bioenergy as challenges for CAP (EC, 2007a). In a recent proposal, the commission states that climate and energy has moved to the top of the agenda and that agriculture and forestry “can make an important contribution in providing feed stocks for bioenergy, in carbon sequestration and in further reducing GHG emissions” (EC, 2008a, p. 9). At the same time, the Commission has made a full-turn as regards the energy crop aid scheme (which was proposed to be expanded in 2006) and now proposes to abolish the energy crop scheme due to “current very strong demand for bio-energy” (EC, 2008a, p. 8). Furthermore, the Commission calls for additional funding for the 2010-2013, in order to reinforce the efforts within the EU as regards climate change, biodiversity, renewable energy and water management. Increased production of agricultural and forestry biomass is motivated by the EU renewable energy and fuel consumption targets in 2020 (EC, 2008, p. 152). Member States are encouraged to adapt their strategies and
programmes to work towards, inter alia; investments in input saving machinery (e.g. water/energy savings), production of renewable energy production on and off farms and development of sustainable production of biofuel processing; biodiversity; climate change mitigation; local scale renewable energy projects (EC, 2008a, p. 152).

After the CAP reform of 2003, thus, much has happened in the area of bioenergy within the agricultural sector. Before 2003, there were no direct support schemes for bioenergy within CAP. After 2003, however, direct support schemes were introduced, motivated by the need for achieving the EU:s commitment under the Kyoto protocol. During 2008, another step has been taken, where bioenergy explicitly is recognised as a challenge for CAP, and where policy measures have moved away from the separate direct aid for energy crops and instead are more focussed on investment support schemes where Member States are given more freedom while encourage to invest the additional funding for 2010-2013 in different energy saving/renewable energy projects in within the agricultural sector. There is a significant different in the degree of policy coordination and in the integration of environmental issues during the last five years. Due to the shift away from product support, surplus production is no longer seen as such a big problem for CAP (see EC, 2008a, p. 2), instead, agriculture is now viewed as a potential contributor to the achievement of EU:s sustainability goals, in all three dimensions of sustainability – social, economic and ecologic. Thus, the frame of ‘bioenergy-for-sustainability’ is now combined to ‘bioenergy-as-entrepreneurial-practice’ within CAP, aiming to promote a sustainable and market oriented agriculture in the EU.

3.3. A MLG perspective on EPI implementation: implications for Swedish bioenergy policy 1995-2008

The consequences of a multi-level governance structure for EPI are analysed here. This section aims to explore the implementation of EU:s goals on bioenergy through analysing how EU bioenergy policy affects Member State ability to promote EPI in bioenergy development. Therefore, the relation between European bioenergy policy and Swedish bioenergy policy is discussed. To what extent is the EU’s framing of bioenergy parallel to the Swedish framing of the issue? Has this changed over time, and – if so – how? And, in what way does this frame compliance/frame clash shape the prospects to promote EPI in Swedish bioenergy policy and practice? The bioenergy framing is addressed on the
overarching levels of relevant Swedish policies, while the impact of EU policy on Swedish policy is addressed through some illustrative examples.

Swedish bioenergy frames and policy prior to 1995
The European Union Common Agricultural Policy (CAP) prior to 2003 bear significant resemblance to the Swedish agricultural policy aims applied before 1989. However, the Swedish agricultural policy went through a deregulation process in the early 1990s to reduce surplus production and adapt agriculture to market conditions. Agricultural sector policy and energy policy was highly coordinated during this period of time, and energy sector goals of phasing out nuclear power, reducing oil-dependency, fight climate change and increase the use of renewable energy were recognised and addressed within agriculture. In that context, the frames of ‘bioenergy-as-entrepreneurial-practice’, ‘bioenergy-for-sustainability’ and ‘bioenergy-for-agricultural-adaptation’ was profoundly present in Swedish bioenergy policy. During the 1990s, the adaptation frame was abandoned and instead ‘bioenergy-as-entrepreneurial-practice’ became prominent within Swedish agriculture. The policies during this time included large-scale support schemes to inspire farmers to shift away from traditional crops to new types of crops, such as energy forest (Figure 1), which were seen as a business opportunity for farmers in the first half of the 1990s. Prior to the EU membership, planting of energy forest was thus granted substantial support in Sweden, covering almost the entire planting cost. As a consequence, energy forest cultivation grew rapidly in Sweden as part of the large-scale agricultural adaptation to market conditions. In the years before entering the EU, the EPI process was strong in the context of bioenergy within the energy sector and present, while more shallow in the agricultural sector.
Figure 1: Salix planting 1989-2002 in relation to subsidies (STEM 2003)

**Entering the EU – joining CAP**

When Sweden entered the EU, the agricultural sector was reregulated and the strive to shift agricultural production to energy crop production was undermined since CAP supported traditional cereal production at the same time as the implementation of EU-regulations (OJ 1992a; OJ 1992b) brought about a drastic reduction of the energy forest support-schemes. Environmental argumentation gained importance on an overarching policy level and both environmental and rural job and landscape conservation arguments for bioenergy utilisation were presented. These views were also incorporated in the first Swedish environmental programme for agriculture (Prop. 1994/95:75), which contained measures to preserve biological diversity and cultural values, decrease the negative environmental impact from agricultural practices, and promote ecological production methods. The dominating frames were a mix of bioenergy-as-entrepreneurial-practice and bioenergy-for-sustainability and the strategies undertaken were consequently motivated both by environmental and rural development arguments, even though the measures were less effective than before after the EU-adjustment. Thus, entering the EU boosted the environmental ambitions in Swedish agricultural policy. EPI was strengthened in Swedish agricultural bioenergy during this period of time but the constraints from EU-regulations decelerated the development of energy forest cultivation.

After joining the EU, Sweden aimed to prompt environmental requirements in CAP, both in order to decrease the risk of trans-border pollution and to
strengthen the relative competitiveness of Swedish agriculture. Agriculture was seen as an important producer of food, but also of other products such as renewable energy. Environmental, especially climate, concerns were an integrated part of Swedish energy policy rhetoric and strategies. Bioenergy measures were mainly driven by a strong political will to start nuclear phase-out and promote sustainable development, manifested in large funding for an energy restructuring programme and in the closing down of the nuclear reactor Barsebäck 1 in 1999. This development triggered a renewed interest in bioenergy based on environmental arguments. The framing of bioenergy now also took into consideration possible environmental problems from its use, especially the handling of ashes, which indicates a process of integration of sustainability goals into the deeper core of sector frames. The bioenergy-for-sustainability frame thus dominated policy discourse in the energy sector. In the extended Swedish environmental programme for agriculture, agricultural bioenergy stimulation was related to the renewable energy goal in Swedish energy policy and to the ongoing EU-discussions on a common strategy for renewable energy. In relation to this, the Swedish government declared that agricultural bioenergy production could increase (Prop. 1997/98:2). After the change in EU subsidy regulations in 1998, the Swedish support for energy forest plantation was raised to €550/ha (Figure 3), in line with the energy policy aim to increase the use of renewable energy. Swedish policy bills also emphasised that subsidies could now be employed for general energy forest cultivation measures (not only for planting) (Prop. 1997/98:145). The support was motivated by the argument that “the cultivation of energy forest contributes in a positive way to the reduction of greenhouse gases, both through increasing the supply of renewable energy and through tying up carbon dioxide during growth” (Skr. 1998/99:5, p. 66).

After the 2003 CAP-reform, which contained a European support for energy forest, the Swedish overarching food policy aim was modified. The goal was now to achieve “an ecologically, economically and socially sustainable food production that reflects consumer demand” (Prop. 2004/05:1, attachment 30). In the years after entering the EU, there was a clear move within Swedish bioenergy discourse towards seeing energy crops and energy forest as means to achieve sustainability, and the frame of bioenergy-as-entrepreneurial-practice began to incorporate the sustainability frame. The energy policy decision of 2002 (Prop. 2001/02:143) contained a long-term strategy focus, aiming to increase the ambitions, stimulate technological development and investments through system
stability, and keep costs down. Three arguments for bioenergy utilisation were presented: 1) the energy policy decision of 1997 which emphasised a sustainable energy supply, especially to compensate for the proposed close-down of another nuclear power-plant; 2) the EU-aim to decrease dependency on imported energy and thereby increase supply security; and 3) the need to reduce CO2-emissions (see also Prop. 2001/02:55). Renewable energy use was to increase by 10 TWh between 2002 and 2010. Therefore, a new system with electricity certificates, based on quotas for the use of electricity from renewable sources, was introduced in 2003.

Nothing much happened in Swedish agricultural bioenergy policy between 1998 and 2003. Instead, Swedish bioenergy policy focussed on increasing the demand for renewable energy in general through introduction of electricity certificates to promote the most cost-effective renewable energy (in 2003). After the 2003 CAP-reform, however, the general interest in growing energy crops has increased in Sweden. As a direct effect of EU regulations, support schemes for energy crop planting were introduced in the Rural Development Programme for Sweden 2007-2013 (Regeringskansliet, 2007). In 2007, an investigation ordered by the Ministry of Agriculture on the role of agriculture as energy producer proposed new policy measures for energy crop stimulation. The investigation concludes that there are significant potential for increasing the production of biomass in agriculture, and holds that market measures constitute the main way forward, but also proposes a support for energy forest (Salix) intended to increase the interest in Salix among bioenergy producers. The aim of the proposed measure is to increase the area of Salix cultivation from 15,000 hectares to 50,000 hectares (SOU 2007:36). If this measure is implemented, it constitutes a new grip in Swedish agricultural bioenergy policy. Instead of focussing on the farmers, it focuses on the demand side of bioenergy and thus follows the tendency in Swedish bioenergy policy over the last years on increasing the demand side. However, what is new is that now this line is incorporated in the agricultural branch of bioenergy production. These measures are mainly proposed on the basis of energy crop’s potential to contribute to climate change mitigation but also due to the potential to increase energy security. The frame of ‘bioenergy-for-sustainability’ is thus still combined to ‘bioenergy-as-entrepreneurial-practise’ in Swedish bioenergy policy. What is new, however, is that suddenly, in 2007, the frame of ‘bioenergy-for-security’ is once again found within Swedish agricultural policy. This frame has not been present
in the Swedish agricultural debate since 1985. Note bene, however, that it was partly the oil crises of the 1970s and the cold war that gave rise to the ‘bioenergy-for-security’ frame in Sweden and that it was under the main influence of this frame together with rising surplus production costs in agriculture the first measures to invest in research on agricultural bioenergy production were stimulated in the 1970s.

4. Conclusion

This paper set out to explore EPI in EU bioenergy policy from a multi-level governance perspective, to provide some tentative conclusions and to pin-down areas for future research. Is there EPI in EU bioenergy policy over time? Are policies coordinated and does the framing of bioenergy differ between energy and agriculture? To what extent is the EU’s framing of bioenergy parallel to the Swedish framing of the issue and in what way does this frame compliance (frame clash shape the prospects to promote EPI in Swedish bioenergy policy and practice? In this final section of the paper, these questions are discussed as the main findings are presented, some tentative conclusions are provided, and the roadmap for future research is drawn up. In table 2 (see end of section 4), a brief summary of the framing of bioenergy over time and the main developments in the studied policy sectors is provided.

4.1. EPI, policy coordination and multi-level implications

In the mid-1990s, the view on bioenergy in policy documents was as a means to achieve a number of different goals. Both ‘bioenergy-for-security’, ‘bioenergy-for-agricultural-adaptation’ and ‘bioenergy-for-sustainability’ frames were present in policy debate, and even though environmental arguments were provided for a renewable energy venture, no concrete policy measures were undertaken. Therefore, the EPI process was merely a question of rhetoric. This changed during the first part of the 2000s, even though the same frames were still present in the EU bioenergy debate. However, climate change commitments became more emphasised, and concrete measures to achieve the goals were taken – motivated by both environmental and security arguments. EPI started to materialise in the 2000s, and after 2004, different measures have been implemented aiming to promote biofuels and biomass in the EU. These measures have been motivated by climate change, in concert with the need to promote indigenous energy sources to increase the security of energy supply. Given the
greater emphasis on climate change and sustainability as compared to previous documents, and the significant increase in concrete policy measures directed towards member state compliance with EU renewables goals, this indicates that EPI has been given a boost in the last years. It seems that, even though security of supply is still often a tight companion to sustainability in policy documents on bioenergy, climate change policy has moved from merely being dutifully mentioned as "international climate commitments" in policy documents, to a prominent place in policy rhetoric which is followed-up by concrete policy measures.

This development is also visible in the coordination between the energy sector and the agricultural sector as regards bioenergy. Up until the CAP reform 2003, biomass production within agriculture was framed as a means to adapt agriculture to market conditions and reduce surplus agriculture production through diversifying the production and creating new agricultural markets. However cultivation of pure energy crops (that is, non-food crops produced solely for energy production) was only allowed on set-aside land and national support was limited to covering maximum half of the costs. In Commission documents, climate change was one of the reasons for agricultural production of biomass, but the sustainability frame did not reach CAP measures until the 2003 reform, when a substantial reframing took place. Now, sustainability was emphasised in motives for policy measures, which in turn were adjusted in order to stimulate increased biomass production in agriculture through direct support schemes with regards to climate change and biofuel policy. Thus, from a slow start regarding EPI in the field of agrobiomass, the process has accelerated in recent years. Environmental arguments are now driving the process, strongly assisted by the need to increase security of supply and this also wears off on the degree of policy coordination in order to make sure that the renewable energy goal are followed up in implementing policy sectors.

For Sweden, which had gone through agricultural deregulation and introduced coordinative measures to increase both the supply and demand for biofuels, the EU membership put a hold on the process. During the first years after entering the EU, CAP placed external constraints on the Swedish renewable energy policy goals (in place since 1997) since the possibility to stimulate the supply side of energy crop cultivation was restricted. Swedish energy policy instead focussed on demand increasing measures such as electricity certificates. With CAP a frame that had been abandoned – ‘bioenergy-for-agricultural-adaptation’ – once
again began to influence Swedish agriculture; but on the other hand, it also brought with a much clearer environmental focus. Responding to CAP regulations, an environmental plan for sustainable agriculture was implemented. Sweden has been responding to the EU increases in energy crop support and adjusted support-levels in accordance with the maximum support allowed. However, given that CAP meant that farmers could earn more through growing traditional crops, nothing much has happened in the field of Swedish agrobiomass after entering the EU. Currently, however, at the same time as ‘bioenergy-for-security’ is influencing Swedish bioenergy policy for the first time in twenty years, new developments indicate a possible revival for energy crop cultivation in Swedish agriculture.

4.2. A roadmap for future research

One explanation for the recent increase in renewable energy interest, both in Sweden and within the EU, may be the context of increasing attention to climate change globally in response to the fourth IPCC report (2007) and the Stern report. It is worth noting, as Mahmoudi (2008) points out, that the common view within the EU is that the renewable energy target should not interfere with the regular market equilibrium, which provides an indication on what overarching goal is guiding European policies in general. Given Collier’s (2004) analysis of the priority of economy over environment in the debate on liberalising the European energy market, it is appropriate to pose the question whether anything has really changed, besides a rhetorical emphasis on climate change? Given that the Stern report emphasises the costs for doing nothing – is it a genuine environmental concern that drives the European renewable energy venture, or is it still economy? This question is of the utmost importance to explore in interviews with policy-makers, especially since the author previously has noted (Söderberg, 2008) that environmentally benign outcomes can arise from other frames than an environmental one (e.g. from a security or market frame) but that outcomes are more sustainable in the long-term in those cases where a genuine environmental concern is the main driver. However, as Bäckstrand notes, the future European prospects to adapt to climate change also depends on considerable changes in individual lifestyles – something that the European citizens may not agree to unless climate change is classified as an important security issue (Bäckstrand, 2008).
A forthcoming study should also address the ‘how’ of EPI in EU bioenergy policymaking, and the governance part of MLG. Who is involved in policy formulating processes and to what extent are interest organisations able to influence policy?

Table 2 – bioenergy frames and developments 1995-2008

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<td><strong>Main developments</strong></td>
<td>Indicative renewable energy targets in 2001 directive and 5,75% target in biofuels directive 2003</td>
<td>Agenda 2000</td>
<td>Drastic cut-down support for energy forest due to EU-entrance, political will to phase-out nuclear power, climate change</td>
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<td><strong>Main developments</strong></td>
<td>Biomass plan, biofuels strategy coordination needs acknowledged, climate change hausse</td>
<td>2003 CAP reform, aid for energy crops, measures based on climate change. End of 2008, new measures to encourage investment in renewables</td>
<td>Support schemes for energy crops, renewable electricity certificates, proposed measures to promote energy forest in 2007.</td>
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**Concluding remarks**

To conclude, this tentative study shows that EPI has grown stronger within European bioenergy policy during the studied period. This has also led to significantly more coordinated policies at the European level. From a multi-level governance perspective, this is the most important development as regards the possibilities for member states to promote EPI in their bioenergy policies, at least in the Swedish case. This is because Sweden had achieved a very high degree of policy coordination before entering the EU. Renewable energy goals were in place and policy measures in implementing sectors were adjusted to these goals. When entering the EU, Swedish energy policy remained under national control,
but coordinative attempts were restrained by the agricultural sector’s adherence to CAP regulations and the frame clash that occurred. After the 2003 CAP reform, however, the two policy areas are more in step on an EU level, and this is also visible within the renewed interest in energy crop cultivation in Sweden. It thus seems that coordination on a broad scale is important to ensure if EU politicians are seriously interested in implementing their renewable energy goal, regardless of whether or not this venture is rooted in Article six of the treaty or in the strive for a less import-dependent energy supply. To corroborate the drivers and obstacles for EPI in EU:s bioenergy policy, a forthcoming study will address the areas identified in this paper in interviews with the actors participating in this process.
5. REFERENCES


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6. Notes

1 This paper constitutes the first part of a study of EPI in EU bioenergy policy with a multi-level-governance perspective. In this paper, the aim is to use text analysis in order to map out the general trends and pinpoint the issues to address in forthcoming research, where interviews with central actors will be conducted in order to corroborate the results from the text analysis and to provide deeper insight into the policy processes.

2 Similar (but different) approaches to the study of ideas in policy refer - instead of to frames - to concepts such as values (Dunn, 1994), paradigms (Hall, 1993), or belief systems (Sabatier & Jenkins-Smith, 1993 & 1999).


4 For descriptions of SAVE and ALTERNER, see e.g. Collier, 2004.

5 This section (3.3) is adapted from Söderberg (2008) unless otherwise stated.