

*Sharad B. Karmacharya and L.J. de Vries*  
**DEFINING A COORDINATION FRAMEWORK FOR RENEWABLE ENERGY  
PROMOTION IN EU**

Sharad B. Karmacharya: Delft University of Technology; Feldmannweg 238, 2628 KX, Delft,  
The Netherlands, +31 619694082, sharad.karmacharya@gmail.com

L.J. de Vries: Faculty of Technology, Policy and Management, Energy & Industry Section  
Jaffalaan 5, 2628 BX Delft, The Netherlands, +31 (0)15 - 278 1137

**Overview**

The green energy market in Europe is growing strongly, supported by policies for security of supply, fuel diversification, environmental control and market liberalization. Renewable energy is now considered a premium product by consumers, while it offers the possibility of contributing to a sustainable energy solution in the long term. However, most renewable forms of energy are not yet commercially viable by themselves, so some form of public support is needed to facilitate the development and promotion of these technologies. The European Union recognizes this and allows member states to implement support schemes for the development of renewable energy.

After the publication of White Paper for a Community strategy and Action Plan on renewable energy, the European commission introduced a set of ambitious indicative targets for each member states in the year 2001. In order to create a transparent renewable electricity market in the EU, it is necessary to track the flow of renewable electricity. In order to do this, the European Commission introduced a concept called 'guarantee of origin' (GO) in Directive 2001/77/EC (which makes implementation mandatory for all member states). A GO is a statement that specifies the source of a certain quantity of renewable energy with date and place of production and, in case of hydroelectric installations, with plant capacity.

However, the diverging interests of the member states and the primitive definition of guarantee of origin led to numerous variations in the implementation of the renewable energy policy in EU. The principle of subsidiarity – letting policy be made by the lowest competent authority – turned out to conflict with the goal of a transparent, competitive market for electricity, including green electricity, in Europe. Different member states have different objectives with respect to renewable industry. Some member states favour investment in renewable energy for the sake of security of supply while others strive for creating a competitive edge in the renewable energy technology industry. Environmental benefits and socio-economic benefits of a domestic renewable energy industry are other driving factors for the promotion of renewable energy.

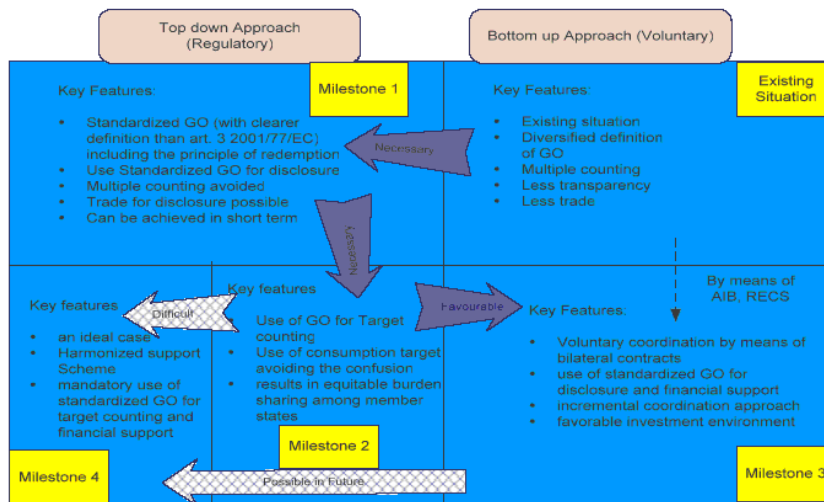
These diverging national interests in combination with the primitive and unclear definitions of guarantee of origin of EU have led to a state of diverging policies among member states, thereby creating substantial confusion. This has hindered the formation of a transparent renewable electricity market in EU and is one of the barriers to ensuring consumer confidence in the renewable electricity market. Thus there is a need for a coordination mechanism that facilitates the implementation of the EU objectives as well as assures the member states' national interests. In the absence of such coordination, the EU directives will remain only on paper and the growing divergence between individual policies leads to a non-transparent market. In such a dynamic and opaque policy environment, a clear roadmap of coordination will help in forming a robust regional policy environment in the EU.

## Methods

A qualitative study of EU renewable energy policy regarding the tracking of green electricity and an extensive literature survey of different support schemes and the project reports of EU on guarantee of origins.

## Results

The paper identifies two basic approaches to establishing a coordination mechanism, namely a top-down approach from the EU in the form of EU directives and a bottom-up approach from the member states in the form of bilateral agreements between Member states. In the paper, a roadmap is developed for achieving such coordination among member states in EU regarding the renewable energy policy. The proposed roadmap consists of different stages of coordination: it begins with the identification of the existing situation of renewable energy policy in EU; the second step includes the need to standardize the tracking mechanism, and the last stages include integrating other policies with this standard tracking system. Examples of other policies are the disclosure of the source of electricity (fuel), target counting and support schemes. The proposed coordination framework can be visualized as shown below:



## Conclusion

In addition to arriving at a structured roadmap, the research provides policy recommendations which can serve as a platform for developing an effective regional renewable energy policy in the EU. The recommendations are targeted at different involved actors, namely the European Commission, member states, and non-governmental organizations.

## Main bibliographical references

EU commission (2001). Directive 2001/77/EC of the European Parliament and of the Council on the promotion of electricity from renewable sources in the internal electricity market. Official Journal of the European Communities, 33-40.

EU commission (2004). Communication from the commission to the council and the European parliament, The share of renewable energy in the EU (Rep. No. COM(2004) 366).

Linden, N. H., Burger, V., Garcia, F. R., Green, J., Jansen, J. C., Timpe, C. et al. (2004). Guarantee of Origin as a Tool for Renewable Energy Policy Formulation (Rep. No. ECN-C--04-078).

North, D. C. (2005). Understanding the process of economic change. Princeton University Press, Rev Ed edition (January 3, 2005)

RECS International (2005). Use of guarantee of origin Evaluation report RECS International. Available from:

<<http://members.recs.org/download.asp?url=%2FRECS+International%2FPosition+%26+Expert+Papers%2FExpert+papers%2F05+Evaluation+Report%2EPDF>>

Keywords: Guarantee of Origin (GO), renewable energy policy, target counting, support schemes