DER EINFLUSS VON NACHHALTIGKEITSKRITERIEN AUF DIE VERWENDUNG FESTER UND GASFÖRMIGER BIOMASSE

Gustav RESCH[1], Christian PANZER[2], Luc PELKMANS[3], Martin JUNGINGER[4], Ric HOEFNAGELS[5]

KURZFASSUNG (in englischer Sprache)

Introduction

On the one hand, solid biomass and biogas are key for meeting the EU's 2020 RES target. According to the National Renewable Energy Action Plans (NREAPs), biomass for heating, cooling and electricity will supply about 44% of the 20% RES target by 2020 (110 Mtoe out of 244 Mtoe). The majority of this would come from solid biomass (94 Mtoe).

On the other hand, sustainability concerns related to the use of biomass deserve key importance: The Renewable Energy Directive (2009/28/EC) introduced sustainability requirements for biofuels and bioliquids. The Directive also announced that the European Commission (EC) would suggest requirements for a sustainability scheme for other energy uses of biomass as well. In February 2010, the EC adopted a report on requirements for a sustainability scheme for solid and gaseous biomass used for generating electricity, heating and cooling (COM(2010)11). At that stage, no binding criteria were suggested at the European level. Nevertheless, the Commission formulated recommendations for Member States (MS) developing sustainability schemes. By the end of 2011, the EC planned to revisit this decision based on further assessment.

Approach

Against this background, this paper provides background analysis on the role of biomass for 2020 RES target achievement and the feasible impacts arising from the use of more stringent regulations for the use of solid and gaseous biomass.[6]

Building on the findings of a detailed inventory of biomass use at present as well as feasible future potentials and the role of feasible imports to the EU, the Green-X[7] model is applied to perform a model-based assessment of the future renewable energies (RES) in general and deployment of biomass in particular, under different policy pathways at EU Member State level. In this context, the impact of possibly more stringent sustainability regulations concerning the use of solid and gaseous biomass is highlighted and implications discussed.

---

[1] TU Wien, Energy Economics Group ; Gusshausstrasse 25-29/370-3, 1040 Vienna, Austria ; Tel.:+43-1-58801-370354 ; Fax:+43-1-58801-370397 ; E-mail: resch@eeg.tuwien.ac.at, http://eeg.tuwien.ac.at

[2] TU Wien, Energy Economics Group ; Gusshausstrasse 25-29/370-3, 1040 Vienna, Austria ; Tel.:+43-1-58801-370360 ; Fax:+43-1-58801-37397 ; E-mail: panzer@eeg.tuwien.ac.at, http://eeg.tuwien.ac.at

[3] Flemish Institute for Technological Research (VITO), Belgium, E-mail: luc.pelkmans@vito.be

[4] Copernicus Institute, Utrecht University, The Netherlands, E-mail: m.junginger@uu.nl

[5] Copernicus Institute, Utrecht University, The Netherlands, E-mail: r.hoefnagels@uu.nl

[6] This work is performed within the European research project RE-Shaping (Intelligent Energy - Europe, ALTENER, Grant Agreement no. EIE/08/517/SI2.529243). For details on background, approach and results we refer to the forthcoming report on scenarios on future RES deployment, to be accessible at www.reshaping-res-policy.eu in March 2012.

[7] The Green-X model has been developed by the Energy Economics Group (EEG) at Vienna University of Technology in 2004. Initially focussed on the electricity sector, this modelling tool and its database on renewable energy (RES) potentials and costs have been extended to incorporate renewable energy technologies within all energy sectors.

The core strengths of this tool are the detailed RES resource and technology representation, and the detailed incorporation of energy policy instruments. This allows various policy design options to be assessed with respect to resulting costs and benefits as well as environmental impacts.

For further details on Green-X we refer to www.green-x.at.

References

EC, 2009. Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC. Official Journal of the European Union.

EC, 2010. Report from the Commission to the Council and the European Parliament on sustainability requirements for the use of solid and gaseous biomass sources in electricity, heating and cooling. COM(2010)11, February 2010.