

# A REVIEW AND HARMONISATION OF BIOMASS RESOURCE ASSESSMENTS

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## RATIONALE

It is essential to have resource assessments that are clear, reliable and detailed enough, both for policy and for industry to achieve the ambitious policy targets for bioenergy in the European Union. This raises the need for reliable knowledge of the biomass potentials for energy in Europe, based on a commonly accepted approach.

## OBJECTIVE

The overall objective of the Biomass Energy Europe (BEE) project is to improve the accuracy and comparability of future biomass resource assessments for energy by reducing heterogeneity, increasing harmonisation and exchanging knowledge.

## PROJECT STRUCTURE

The BEE project consists of four phases.

- The analysis of the approaches, methodologies and datasets used in biomass resource assessments (see the Figure below).
- The analysis of the results of biomass assessments (see the Figure below).
- The development of a harmonized approach for biomass resource assessments.
- The application of this harmonised approach to case studies.

The focus in this poster is on the first and second phase, which are currently being finalised.

## RESULTS AND CONCLUSIONS

- 250 biomass resource assessments are identified, out of which 28 are selected for detailed analysis
- A wide variety of approaches and methodologies are identified, each with specific (dis)advantages (see the Table)
- The difference in approaches and methodologies also partially explains the differences in results of biomass assessments

Methodology	Disadvantages	Advantages
Statistical analysis	No economic mechanisms, no spatially explicit information, no integration, based on crude assumptions / inaccurate	Simple, transparent, cheap, data are easily available
Spatially explicit analysis	No economic mechanisms, no integration, complex tool	Spatially explicit, transparent, based on bottom-up data on land use and climate, soil characteristics
Cost-supply analysis	No economic mechanisms, no integration	Cheap, transparent
Energy-economics / energy-system model analysis	No integration with other markets (agricultural markets), not spatially explicit, no integration, no validation based on bottom-up data on land use and climate, soil characteristics, untransparent	Economics mechanisms are included
Integrated assessment model analysis	Complex, untransparent, expensive, results are difficult to interpret, model is user unfriendly, level of details is limited	Integrated/consistent, spatially explicit

**Table:** An overview of the (dis)advantages of different approaches and methodologies used in biomass resource assessments

- Sustainability aspects are inadequately taken into account:
  - ▶ environmental factors are overrepresented, whereby biodiversity and climate aspects are included more often than soil and water aspects
  - ▶ social and economic aspects are often not taken into account. Most studies only account for the competition of biomass and land with food which always is given priority, but only few calculate the impact of bioenergy production on food prices.
- Most studies lack integration of different aspects that influence the biomass potential. The integration of different approaches and methodologies is difficult and costly, but would increase the quality and usefulness of biomass resource assessments.

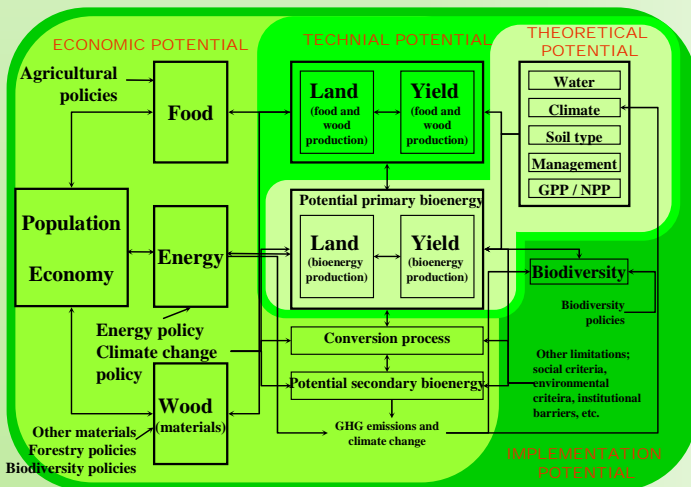
## More information on BEE:

BEE project concentrates on harmonising the biomass resource assessments in Europe and its neighbouring countries. This harmonisation will improve consistency, accuracy and reliability of biomass assessments, which can serve the planning of a transition to renewable energy in the European Union. The project will be carried out during 2008 - 2011. [www.eu-bee.com](http://www.eu-bee.com)

CEUBIOM, the "twin project" of BEE, works on classification of European biomass potential for bioenergy using terrestrial and earth observations. [www.ceubiom.org](http://www.ceubiom.org)

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**Figure:** Analytical framework used to review biomass assessments