

Planning sustainable energy at local scale

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European forests have an important role in rural development as a source of raw material and food, as well as for their recreational value. Rural development focuses on the use of local resources to provide benefits to the local population. It also aims to prevent the depopulation of rural areas by increasing local employment opportunities. In developing distributed energy systems for rural communities, it is crucial to understand that local decision making processes need to be guided by a careful evaluation of the sustainability of production chains and alternative choices. A recent study by an international team of scientists led by Dr. Salvatore Martire from EFI looks at the possibilities an integrated assessment can offer to rural development and energy policy objectives.

The researchers applied a Sustainability Impact Assessment (SIA) for local bioenergy development in the alpine area of Lake Como, Italy. They modelled the local bioenergy chain in 2008 as well as eleven scenarios considering different biomass utilizations, mechanization levels, combustion technologies, and subsidies schemes in 2020.

The scenario analysis applied in the research supports the bioenergy planning with its implications for the different policy aims and concerns. Regional and local authorities believe that the improvement of short bioenergy chains can stimulate development in [rural areas](#), aid in meeting regional goals by 2020 and improve the security of energy supply.

The authors state that for the Lake Como area increasing the efficiency

of combustion technology is crucial, but not just for increasing energy production. More efficient plants help ensure the profitability of the whole chain in the long run. Also, improving [energy](#) efficiency is environmentally beneficial, as upgrading of combustion technologies implies a considerable reduction in pollutant emissions. The case study represents a reference on the availability of raw material, the technologies involved in the various processes, and the features of the resulting products. Using the same framework and method for updates will facilitate monitoring the actual impacts of the implemented actions, thus supporting sustainable productions.

More information: "Sustainability impact assessment for local energy supplies' development – The case of the alpine area of Lake Como, Italy," *Biomass and Bioenergy*, Volume 83, December 2015, Pages 60-76, ISSN 0961-9534, [dx.doi.org/10.1016/j.biombioe.2015.08.020](https://doi.org/10.1016/j.biombioe.2015.08.020)

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