Project description:

Background

Crops and livestock account for 90 percent of the agricultural sector in Turkey. The type and quantity of crops that form the basis of the agricultural sector - wheat, barley, tobacco, cotton, rice, etc - give rise to huge amounts of agricultural residues.

These residues are generally treated in an uncontrolled manner, and either burned in open-air fires or allowed to decay. In either case, they result in significant environmental impacts while at the same time potentially useful resources are wasted.

Key constraints to addressing these problems are the low awareness of modern technologies and the lack of incentives. The potential benefits of dealing with agricultural residues in a sustainable manner are win-win. The environmental benefits such as a reduction in emissions and conservation of natural resources are complemented by the economic benefits brought, for example, through a reduction in imported fuel consumption.

Objectives

The project aimed to strengthen the capacity of Turkey to exploit the potential of
agricultural waste residues to produce environmental, economic and social benefits in a sustainable way. It aimed to achieve the new experience for Turkey of the energy recovery of agricultural waste by agro-industry.

It planned to research and map the potential of agricultural waste to be exploited in a sustainable way, including by assessing the barriers that would need to be overcome. It then sought to explore available technologies to develop solutions for exploiting agricultural waste in the local environment, which it could develop into an Action Plan for the Ministry of Environment.

To support these actions, the Agro-Waste project sought to set up an investment support infrastructure, including feasibility studies, the preparation of software and the setting up of a helpdesk. It also intended to organise training for personnel involved in the field and disseminate the project’s results to a wide audience.

Results

The Agro-Waste project succeeded in raising awareness and providing technical assistance for exploiting agro-waste in the Adana-Mersi area of Turkey. It achieved a certain level of sustainability at local and academic level with strong interest and some commitment by local-level stakeholders to using this new technology. However, the biggest challenge remains impacting on national-level renewable energy policies and legislation.

The project established a data base of agricultural waste production throughout Turkey, indicating the calorific values of each waste type and providing information on a province-by-province basis. It included data on agricultural waste (field crops, fruit crops, their residues and animal waste) as well as its distribution at local, regional and national level. The project also prepared technical documents on agro-waste recovery, including two case studies for medium-scale Turkish industries. An excel spreadsheet was provided on the beneficiary’s web site, which interested investors can use to see if the replacement of conventional combustibles by agro-biofuel is feasible for their business.

The project thus provided an important impetus towards the installation of agro-waste-combusting plants in the area of Adana and its surrounding provinces, as well as in the regions of Urfa and Isparta. The Çukobirlik company, for which one of the feasibility pre-studies was carried out, actually decided to invest in a 5 MW agro-fuel combustion plant as a result of the project. It will co-operate with the beneficiary during the implementation phase.

Training activities were successfully implemented, generating interest from universities and medium scale agro-industry. Training activities were even continued beyond the project at a decentralised level by the Ministry of Agriculture and Rural Affairs (MARA).

The potential environmental benefits of the project are clearly significant, but there are little awareness and few incentives for using renewable energy in Turkey. However, despite the interest from MARA and its province directorates in the promotion of agro-fuel valorisation, the project is hampered by the low engagement of the Ministries of the Environment and Forest (MoEF) and of
Energy and Natural Resources (MoENR) towards sustainable implementation at national level.

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Environmental issues addressed:
Themes
Waste - Agricultural waste

Keywords
agricultural waste
Natura 2000 sites
Not applicable

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Beneficiaries:
Coordinator University of Çukurova, Faculty of Agriculture
Type of organisation University
Description The University of Çukurova is located in Adana in southern Turkey. The Faculty of Agriculture is a centre for excellence in agricultural policy, economics, as well as in waste, soil, and water management research projects.
Partners TUBITAK Marmara Research Centre, Turkey EXERGIA S.A., Greece EMC Environment Engineering, United Kingdom

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Administrative data:
Project reference LIFE03 TCY/TR/000061
Duration 02-JAN-2004 to 02-JAN-2006
Total budget 548,270.00 €
EU contribution 383,787.00 €
Project location: Mediterr. Turkey (TR)(Turkey Türkiye)

Read more:

Project website
- Website of the project (TR/EN)

Publication: Guidelines-Manual
- Title: "A Guide on Exploitation of Agricultural Residues in Turkey" (EN) Author: University of Çukurova - Faculty of Agriculture No of pages: 76

Publication: Layman report
- Title: Layman report Year: 2006 No of pages: 11

Project description
- Environmental issues
- Beneficiaries
- Administrative data

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