

# Newsletter

Number 1

1st Meeting in Valladolid

Ideas to participate in BIO-EN-AREA

Bioenergy in Southeast Sweden

Biomass potential in Western Macedonia

Bioenergy in Castilla y León

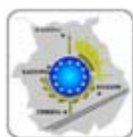


**BIO-EN-AREA project** has started its activities in the first semester of year 2010. The first Steering Committee meeting took place in Valladolid in March 2010 where partners from 7 European Regions started to share their experiences in bioenergy.

Their major objective is to improve regional policies for bioenergy, and help to draft or implement their Regional Biomass Action Plans (BAP).

**Bioenergy** is also understood as a tool for rural development. The appropriate use of different types of biomass will contribute to a more competitive and sustainable local and regional development. Through the exchange and transfer of good practices, European Regions will learn from neighbour experiences.

The Partnership will work together to establish a new **BIO-EN-AREA network** open to European Regions that will continue to cooperate and share experiences in the future.



HELLENIC REPUBLIC  
REGION OF WESTERN MACEDONIA



## The Partnership and the Call for proposals for sub-projects

The project has brought together partners from South, Central and North Europe:

- Regional Energy Agency of Castilla y León
- Region of Western Macedonia
- The Autonomous Province of Trento
- Kosice Self-governing Region
- South East Regional Authority
- Energy Agency for South East Sweden
- Tartu Regional Energy Agency

**BIO-EN-AREA** promotes the interregional cooperation to increase the capacity of partner Regions to capitalise, share and transfer existing experience in bioenergy policy making and development at regional level, with a view to reach or overpass the EU target of 20% of the total energy used coming renewable energy sources by 2020.

### Call for proposals for sub-projects

16 June – 20 Sept 2010

BIO-EN-AREA gives the opportunity to collaborate with the partners through sub-projects. There is a Call now open for proposals.

Public authorities and bodies governed by public law are encouraged to collaborate with BIO-EN-AREA partnership and prepare an application form.

The sub-projects proposals will have to be elaborated by at least 3 participants from different Regions participating in BIO-EN-AREA.

All the information about the Call and how to proceed to submit a proposal can be found on the projects website [www.bioenarea.eu](http://www.bioenarea.eu)

While some areas involved in the project have already adopted (SERA - Ireland) or drafted (EREN - Castilla y León) their BAP and/or a strategy for energy (Trento), others have still to develop their own regional strategy and BAP (Kosice, Western Macedonia, South East Sweden and Tartu).



### Levels of cooperation for sub-projects ideas and expected results

Exchange of experience	Joint publications Development of databases Interregional conferences/seminars Study visits
Transfer of good practices	Feasibility studies Awareness raising publications Recommendations to improve regional policies Development of pilot projects
Joint development of new approach	Technical reports Communication materials Methodological guide and/or training tools to develop Bioenergy Action Plans

## Bioenergy in the Southeast of Sweden. Counties of Kalmar, Kronoberg and Blekinge.

Energy supplied from **biomass combustion** accounts for about 60 % in the Southeast of Sweden.

Preconditions and frameworks to use biomass for energy purposes from agriculture as well as forestry are favorable in the Southeast of Sweden due to positive legal frameworks and policies with regard to the use of bioenergy, good conditions regarding the resources and well developed infrastructure.

The whole of Sweden has today well established **biomass chains** for forest products but even for agricultural products due to well organized infrastructure within the wood working industries and the highly organized forest owners and farmers.

The most common **biomass energy sources** are residues both from the forest and the wood working industries.

Whereas energy recovery of wooden fuels is well established and used in many places are renewable primary products as straw, grain or fast growing woods (for example salix) not as much established yet.

Logs and pellets are mainly used in the smaller range of performance (10 – 50 kW). Wood chips have the biggest application range (50 – 5.000 kW). Wood chips are usually produced of wood residues.

The wood residues are coming from pulpwood harvesting, thinning and landscape management, sawmill residues as well as used wood. It is chipped in stationary or in mobile chippers. The availability is good.

Forest wood chips are extracted from thinning material (small dimensioned wood), forest residues (leftovers from the harvesting) or wood residues from the wood working industries.

Other biomasses as **biogas** are not as big as woody biomasses. Today there are about 20 biogas plants in the southeast of Sweden.

Currently mainly waste and sewage is digested in biogas plants in this region. Approximately, 51 GWh biogas were produced in the southeast of Sweden in 2008. However, the production of biogas has increased with 12 % since 2006. Growth can be seen within the whole biogas sector and above all for co-digestion and industrial plants.

Reduced production output from landfills is expected in the future, due to the prohibition to deposit organic waste since 2005. At the same time an increase is predicted for co-digestion plants, industrial plants and farm scale biogas plants. Agriculture contributes with straw for combustion, grain for the production of ethanol as well as salix and grain for combustion.

Even smaller amounts of manure and ley for biogas production and oil plants for the production of RME are provided by agriculture. About two percent of the total agricultural area in Sweden is used for the production of bioenergy.





## Biomass in Western Macedonia Region

The availability of **agricultural residues** in the region of Western Macedonia for co-firing applications is calculated based on a detailed appraisal of biomass availability for the four prefectures of Kozani, Florina, Grevena, Kastoria.

The comparison of the residue availability for the Western Macedonia region with the whole of Greece makes evident that many residues that are abundant as a country total are absent from the area. Cereals are the most important cultivation and residue availability constitutes the 85.9% of the total.

West Macedonia produces 6.46% of the available residue quantities of Greece, which amount to 6.68% of their energy potential (in dry basis). The 48.2% of those quantities come from the Kozani Prefecture, followed by Florina and Grevena's.

Main crops and residue availability in West Macedonia (total)

PRODUCT	AVERAGE 2004 - 2009			Total quantity (dry t/year)	Residue Yield (dry t/ha)	Available quantity (dry t/year)	Energy (GJ/year)
	Land (ha)	Quantity (wet t)	Yield (wet t/ha)				
WHEAT SOFT	39.811	129.356	3,25	109.952	2,76	54.976	887.996
WHEAT DURUM	60.576	145.739	2,41	123.878	2,04	61.939	1.000.464
MAIZE	22.342	233.834	10,47	95.872	4,29	57.523	774.712
OAT	210	444	2,11	297	1,41	149	2.430
BARLEY	21.038	69.406	3,30	47.196	2,24	23.598	404.569
SUGARBEAT	1.988	94.536	47,56	9.454	4,76	4.727	31.399
TOBACCO	1.696	2.869	1,69	430	0,25	258	246
COTTON	9	0	0,00	0	0,00	0	0
SUNFLOWER	61	83	1,36	165	2,72	99	1.719
PEAR TREE	210	2.009	9,58	402	1,92	321	4.841
APRICOT TREE	26	41	1,56	9	0,33	7	123
CHERRY TREE	198	636	3,22	318	1,61	254	4.786
APPLE TREE	2.750	51.967	18,90	9.354	3,40	7.483	111.212
PEACH TREE	1.048	30.367	28,96	7.288	6,95	5.830	92.777
NECTARINE TREE	181	4.018	22,20	804	4,44	643	10.216
ALMOND TREE	390	1.065	2,73	2.268	5,81	1.814	28.056
VINES	2.694	19.375	7,19	13.756	5,11	11.005	149.249
OLIVES	243	34	0,14	27	0,11	16	266
<b>TOTAL</b>				<b>421.470</b>		<b>230.644</b>	<b>3.505.063</b>

### BIOENERGY INICIATIVES IN WESTERN MACEDONIA REGION

Pilot project for the plantation of cardoon in selected areas for co-firing purposes.

A pilot project is under way this period of time in the Region of Western Macedonia for the plantation, collection and co-firing with lignite in the thermo-electric power plants of the Region. In total 80 contracts with producers have been signed for the cultivation of roughly 400 ha.

The next steps of this pilot application is the co-firing process of the estimated biomass production of 5.500-6.000tons at the lignite-based power plants. The co-firing process will take place in the coming autumn and the results of the pilot project will be known by the end of the year.

Pilot uses of biomass resources for energy and heating needs in Wood processing plants

Wood processing plants in the Region of Western Macedonia (prefecture of Grevena) cover exclusively their needs in heating and partly in energy from burning of wooden remains coming from forest industries. Other smaller applications of bio-energy are performed at Regional level.

**Forest residues** mainly exist in the prefectures of Grevena and Florina where forest covers the most of the soil surface.

Considering the composition and productivity of non-public forests their production is not proportional for wood production because the unwillingness of householder to invest capital, mainly in the work of reforestations, plantations, opening up forest roads, protection and preservation, excluding the naturally small householders.

## Bioenergy in Castilla y León

Castilla y León is the largest region in Spain. It is divided in 9 provinces with a total area of 94.200 km<sup>2</sup>.

Primary energy consumption in Castilla y León is close to 10.5 Mtoe/year, against a production of approximately 4 Mtoe/year.

More than 90% of the primary energy consumption is based on fossil sources, especially coal and oil, and 7% comes from renewable energy sources.

Almost 30% of primary energy production in Castilla y León comes from renewable sources and **biomass** represents 6% (257 ktoe/year). Nowadays the most important sources used are forest biomass and its related industries.

Current situation of energetic uses from bioenergy in Castilla y León

For **electrical applications** of bioenergy, the total installed power comes to 36.4 MWe. Using solid biomass, Combined Heat and Power plants and medium sized power installations contribute to the total with 22.3 MWe. Biogas electrical installations represent a total of 11.7 MWe.

Total installed power for **thermal applications** of bioenergy comes to 306 MWt. They mostly consist of industries and processing installations (39%) and automatic boilers in buildings (37%). There are also a few District Heatings, with a total installed power of 6.8 MWt and thermal use of biogas in waste water treatment plants, with a total installed power of 2.9 MWt.

Total capacity for **biofuels production** in Castilla y León is around 257,000 t/year.

In **solid biofuels**, the production of pellets must be emphasized with a figure of 40,700 t/year. Biofuels for transport, mostly biodiesel and bioethanol manufacturing, represent 84% of total installed capacity.

Final use of **liquid biofuels** is mostly aimed at consumption in transport. Almost 97% of a total figure of 42,550 t/year represents biodiesel consumption in Castilla y León.

**Biofuels distribution** depends on its state of aggregation. Suppliers of solid biofuels, like pellets or wood chips, manage an average amount of 10,000 t/year. For biodiesel, petrol stations approximately supply 50,000 t/year. Short bioethanol demand has an effect on the lack of supply that only reaches 1,000 t/year.

Primary energy production in Castilla y León

Source	Primary energy Regional production (Mtoe/year)	(%)
Coal	1.730	43
Oil and natural gas	6	0
Nuclear	1.048	26
Hydro	458	11
Wind	480	12
<b>B/OMASS</b>	<b>257</b>	<b>6</b>
Solar	9	0
Geothermal	0	0
Total CyL	3.988	100

Figures for energetic context characterization in Castilla y León

Distribution of primary energy consumption (%)				
Fossil		Nuclear		Renewable
92		1		7
Distribution of renewable primary energy consumption (%)				
Hydro	Wind	Solar	Bioenergy	Geothermal
49	20	3	28	0
Distribution of biomass primary energy consumption (%)				
Thermal		Electric		Transport
62		26		12
Final energy consumption				
7 (Mtoe/year)				

Castilla y León is promoting a specific Plan for bioenergy development between 2010 and 2020 with a review foreseen by 2015. The Regional **Plan for Bioenergy in Castilla y León** is currently in its approval phase following the established legal procedures.

The Plan analyses biomass different sources and its possible energetic use. It also makes a diagnosis about actual situation and its future prevision which allows establishing quantitative objectives for 2020.

BAP in Castilla y León sets **targets for 2020** of 1,637 ktoe/year in resources of biomass supply, evaluated in terms of primary energy. For bioenergy the BAP sets figures of 313 MWe and 1,180 MWt installed power.

## Biomass Action Plans in EU

Following EU Commission recommendations, several Regions and countries have developed their own BAPs



Estonia, Netherlands, Ireland, SE Region (Ireland), UK, Scotland, Wales, NE Region (UK), Lithuania, Bulgaria, Hessen and Branderburg (Germany), North Karelia and East Region (Finland), Castilla y León (Spain).

### In our next Newsletter:

...bioenergy in Trento, South East Ireland, Tartu and Kosice regions  
...sub-projects proposals

**Visit our website and participate in our forum!**



## Upcoming events in bioenergy:

**30 June - 1 July 2010**

Brussels, Belgium

[2010 AEBIOM European Biomass Conference and RENEXPO](#)

**31 August - 4 September 2010**

Tampere and Jämsä, Finland

[Forest Bioenergy](#)

**7-8 September 2010**

Stuttgart, Germany

[10th Pellets Industry Forum](#)

**13-14 September 2010**

Berlin, Germany

[FAME 2010 Summit And Exhibition - Defining The Future Biofuels Market](#)

**13-15 September 2010**

Amsterdam, Holland:

[International Biomass Valorisation Congress](#)

**14-15 September 2010**

Kiev, Ukraine

[6th International Conference on Biomass for Energy](#)

**21-23 September 2010**

Birmingham, UK

[BioTen - UK bioenergy conference 2010](#)

**30 September – 1 October 2010**

Istanbul, Turkey

[Bioenergy Markets Turkey](#)

**6-7 October 2010**

Warwickshire, U.K.

[European Bioenergy Expo and Conference](#)

**7-10 October 2010**

Augsburg, Germany

[RENEXPO® 2010](#)

**27-29 October 2010**

Valladolid, Spain

[Expobioenergía 2010 - International Bioenergy Fair](#)

**16-19 November 2010**

Hannover, Germany

[Bioenergy Decentral - The global meeting place for decentralized energy supply](#)