



Raising Awareness
on Sustainable Energy through Development of Agro-
Energetic Chain Models

Radar Project Monthly Newsletter

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*“The impacts of RADAR Project Activities
on the members of the Rural SEC and the
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Edited by Agricultural University of Plovdiv - Bulgaria

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*“New funding opportunities at national level
in Latvia in renewable energy field”*

Edited by Riga Managers School - Latvia

Newsletter n° 13/2009



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Servizio Agricoltura,
Forestazione e Pesca



NEWS and PUBLICATION p 7

ARTICLE:

**Agricultural and Industrial Uses
of Geothermal Energy in Europe**
IGA International Summer
School

NEWS:

2-4 December 2009
GEOPOWER EUROPE 2009
MUNICH - GERMANY



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Dear Reader,

RADAR Project Newsletter comes up again after the summer break with the last three editions before the end of RADAR Project.

In this number, the first article is proposed by the *Agriculture University of Plovdiv*, that shows the path followed by the Bulgarian Rural Sustainable Energy Community within the RADAR Project activities and the impacts that these have had in the awareness and information on Sustainable Energy Use.

The second article is written by the Latvian partner of RADAR Project, *Riga Mangers School*, and it focuses on "*New funding opportunities at national level in Latvia in renewable energy field*", describing the support provided by the European Union on the use of bioenergy in Latvia.

Geothermal energy is the main issue of the section "*News and Publication*", where it is presented an article of the International Summer Course of the International Geothermal Association, titled "*Agricultural and Industrial Uses of Geothermal Energy in Europe*", and also the "*Geopower Europe 2009*" event that will take place from 2 to 4 December 2009 in Munich.

Enjoy your reading!!

Best Wishes from RADAR MANAGEMENT UNIT





Raising Awareness on Sustainable Energy through Development of Agro- Energetic Chain Models

I - Participation and Impacts of the Rural SEC in the RADAR Project

The impacts of RADAR Project Activities on the members of the Rural SEC and the Bulgarian community



Edited by

AGRICULTURAL UNIVERSITY-PLOVDIV

Stakeholder's community identification in Bulgarian Pilot Area began in February 2008 with meetings and nominating participants for regional steering committee. First meeting between members of AUP and EAP was dedicated to identification of the members of rural Sustainable Energy Community (SEC) in Pazardjik. As first result a list of stakeholders with their coordinates had been prepared. The second step was the participation of nominated four members of Elected Board of SEC (B_SEC) in the project study tour in Church Stretton, Shropshire, in the beginning of April 2008. Participating members of Bulgarian SEC were strongly impressed. They prepared a lot of photos and videos during the site visits and collected advertising materials. After coming back in Bulgaria these materials had been disseminated between the members of rural SEC. The members of B_SEC signed the Declaration.

In the beginning of June 2008 the meeting of Steering and Scientific Technical Committee of the project had been hosted by the Agricultural University, Plovdiv. Some of the member of B_SEC and rural SEC took part in the meeting and presented their ideas and points of view concerning Sustainable Energy

development in Bulgarian Pilot Area. A site visit in pelleting plant Ahira had been organized, where representatives of the plant demonstrated their technology and production.

Later, in December 2008, the Description of Bulgarian Pilot Area and the ideas for developing Agro-Energetic Chain on the basis of Agricultural residues and waste had been presented during the Conference on Energy Efficiency in the municipality of Karlovo, part of Bulgarian Pilot Area.

However, the idea of the representatives of Agricultural University, Plovdiv, for larger use of agricultural residues and waste in the Agro-Energetic chain was not accepted in the rural SEC. The Pilot Area is abounded with forests and so rich to wood residues. The ownership of the forests in the Pilot Area are more than 80 % public. The agriculture in the region is mostly private and its outputs are not sustainable. That is why the Agro-energetic chain recommended by rural SEC members was built up on the basis of wood residues and waste. The final decision had been formulated during the workshop in Energy Efficiency Agency in Pazardjik at the end of February 2009: The purpose of the Agro-energetic chain is to change the mix of energy sources used in the Pilot Area by



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increasing the share of wood residues in the energy balance. The fuel

predominantly used for heating in Pazardjik Region presently is oil. Last years the price of oil is rising continuously; moreover, its environmental impact is strongly negative. The substitution of oil with residual biomass will contribute to reducing heating costs and improving environmental conditions. Another economic advantage of the chosen Agro-energetic model is the possibility for reduction of fossil fuels' import through its substitution by local produced wood residues.

The contributions of the project include proving the possibility of reduction of resources (about 3 times) from energy budgets for public buildings of 7 municipalities as a result of the combination of measures for energy efficiency and substitution of expensive imported fossil fuel (oil) with local renewable energy sources – wood residues for boilers with efficiency higher than 85%.

The final project for Agro-energetic chain had been presented also at the students of Agricultural University from the specialties Agro economy and Plant Protection in March 2009.



II – New Funding opportunities on Renewable Energy Use in RADAR Countries

National and Regional Funding Opportunities Renewable Energy Promotion in Latvian Agricultural Sector



Edited by

At present in Latvia utilization of bio-energy are realized based on support of European Union.

1. EU Structural Fund support – up to 50% of the total project costs

Operation Program “Infrastructure and services”.

Activity 3.5.2.2 "Development of Cogeneration Power Plants Utilising Renewable Energy Sources"

- Total funding: 17.35 milj. LVL
- Aim of activity: support for building of new cogeneration stations and reconstruction of existing stations
- Receivers of funding: licensable public service providers
- Amount of public funding: min. – 100.000 LVL, max. – 4.000.000 LVL

Activity 3.5.2.3."Development of Wind Power Stations"

- Total funding: 7.03 milj. LVL
- Aim of activity: support for building of new wind power stations and reconstruction of existing stations
- Receivers of funding: licensable public service providers
- Amount of public funding: min. – 500.000 LVL, max. – 3.000.000 LVL

2. Obligate purchase

One of the state's support methods for producing of electricity and heat energy is obligate purchase in accordance with:

Cabinet Regulation Nr.198 “Electricity Production from RES” (since February, 2009)

Cabinet Regulation Nr.221 “Electricity Production from Cogeneration” (since March,2009)

Dependent on way of energy obtaining state purchases electricity:
From hydropower plants for 5000 operation hours/year;
From wind power stations – 3500 operation hours/year;
Power stations utilising biogas – 8000 operation hours/year.

Obligate purchase in accordance with Cabinet Regulation Nr. 198:

Annual quota for obligate purchased from RES produced electricity amount in period from 2007 till 2010

- On getting rights can pretend wind, hydro, biomass and biogas electro stations
- The price of obligate purchase is based on price formula
- Price level depends on set electric capacity if less capacity, higher coefficient - k

In price formula is included attachment to natural gas tariffs - T_g

- Natural gas tariffs once in a month is approved by Public Utilities Commission (PUC)

Total part of consumption of Latvian electro energy end-users, which is obligatory covered by such electro energy, which is produced utilizing RES

No.	Kind of RES and power station	In 2009	In 2010 and in after 10 years
1.	Hydropower plants with capacity over 5 MW	36,35 %	34,31 %
2.	Hydropower plants with capacity up to 5 MW	1,88 %	1,98 %
3.	Wind power stations with capacity up to 250 kW	0,20 %	0,27 %
4.	Wind power stations with capacity over 250 kW	3,88 %	5,10 %
5.	Biogas electricity generation plants	6,90 %	7,93 %
6.	Biomass electricity generation plants and generation plants, in which biomass is used together with fossil fuel	3,46 %	4,97 %
7.	Solar power plants	0,00 %	0,01 %
Total		52,67 %	54,57 %

Biogas electricity generation plants

	Capacity < 2 MW	Capacity ≥ 2 MW
First 10 years	$C = 188 \times e \times k$	$C = T_g \times k \times 4,5;$
After 10 years	$C = 188 \times e \times k \times 0,8$	$C = T_g \times k \times 3,4;$

Biomass electricity generation plants

	Capacity < 4 MW	Capacity ≥ 4 MW
First 10 years	$C = \frac{T_g \times k}{9,3} \times 4,5;$	$C = \frac{T_g \times k}{9,3} \times 3,6;$
After 10 years	$C = \frac{T_g \times k}{9,3} \times 3,4;$	$C = \frac{T_g \times k}{9,3} \times 3$

Cogeneration plants using RES

$$C = \frac{T_g \times k}{9,3} \times 4,5;$$

C – price without VAT for public seller to purchase electricity from biogas plant (LVL/MWh);

e – fixed rate of LVL by the Bank of Latvia against EU single currency on a day, when is made a bill of electro energy;

k – price differentiation coefficient that depends on plant's capacity (range of capacity < 0,08 MW k = 1,24; 0,8 – 1,0 MW k = 1,055; > 100 MW k = 0,8)

T_g – natural gas trade end tariff approved by Public Utilities Commission. If in power station, in which energy is produced utilizing RES, use also other kind of fuels, power station is equipped with device system, which allows to count consumption of each fuel separately. If from RES produced energy makes at least 90 % from in power station consumed amount of fuel, than it's assumed that all in power station produced energy is obtained from RES.

News and Publications

ARTICLE

Agricultural and Industrial Uses of Geothermal Energy in Europe

Kiril Popovski

International Summer School



Geothermal energy use in agriculture was one of the most important development directions in Europe during the 80-ies of the last century. However, it is recently the field of application with the biggest stagnation. Except in Hungary, there is practically no new projects in Europe during the last 10-15 years. Reasons can be located in lack of adequate and economically justified technologies, complicate maintenance and exploitation, environmental problems and, most of all, absence of governmental support and good organization. It is possible to state that most of them can be overcome by right approach to the problem and, based on the reached experience, to justify re-opening of a new process of development with significant economical and environmental benefits for the regions where hydrogeothermal resources are on disposal.

To download the article:
<http://pangea.stanford.edu/ERE/db/IGAstandard/search.htm>

2-4 December 2009

GEOPOWER EUROPE 2009

MUNICH – GERMANY

www.greenpowerconferences.com/

Organised in partnership with the European Geothermal Energy Council (EGEC), GeoPower Europe 2009 is a new addition to Green Power Conferences' successful Geothermal series, launched in San Francisco in March of this year.

Bringing together the driving forces from every part of the geothermal supply chain - from government and investors, to developers and technology providers, GeoPower Europe 2009 will challenge the industry to find new ways to unleash the potential of Europe's geothermal resources.

In a series of open panel discussions, leading policy-makers and CEOs will focus on:

- Identifying current barriers to large-scale geothermal development in Europe
- Comparing incentive regimes and uncovering the best opportunities in emerging markets
- Navigating concession and permitting systems and understanding the competitive environment
- Raising capital through World Bank, EU and private financing
- Creating economically viable projects using low-temperature energy conversion technologies
- Overcoming the arguments against Enhanced Geothermal Systems