

Sustainable Use of Natural Energy Sources on National and Regional Level



Vitajte
Welcome



Biomass in Germany

Technologies Experiences Action plan
Possibilities for international Co-operations

Präsentiert von



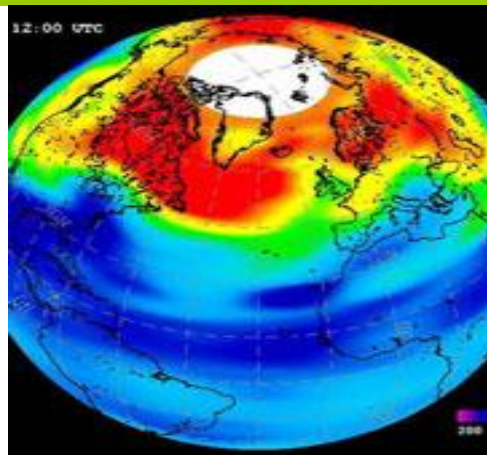
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16 – 18 October 2012, Slovensko, Banska Bystrica, Hotel LUX
10th International Conference ENEF

Strategies of the EU Commission: Sustainable Energies 2020

'Earth Summit',
United Nations
Conference on
Environment and
Development held
on in Rio de Janeiro
in 1992 and 2012



→ **AGENDA 21:**
Imperative of
Sustainable
Development!

Scops

- **Enlargement of Integration sustainable Energies**
- **Implementation of modern + flexible Infrastructure**
- **closer Coordination+ Co-Operation of EU States**
- **Harmonisation of national systems of supportings**

Biomass in Germany: Facts and Experiences: generally

- **Biomass is the most important renewable Energy carriers (almost 69%)**
- **Use is in solid, liquid, and in gaseous form for the generation of power and for the production of bio-fuels;**
- **2010: generation of about 70% of the total Energy from renewable sources by various biomass energy purposes:**
 - **5.5% of total consumption of electricity;**
 - **8.7% of the total demand for heat;**
 - **5.8% of the total consumption of fuel;**

Biomass in Germany: Facts and Experiences: especially **WOOD**

- **Wood** is on the wind the second most important renewables
- **Continuous increase in the domestic Consumption of wood raw materials:**
→ 130 million cubic meters per year
- **Raw wood materials: timber, wood (waste wood), Industrial wood residues;**
- **2010: A total of 77 million cubic material and some 53 million cubic meters used to produce energy**

Biomass in Germany: Facts and Experiences in Agriculture

- **Agriculture is an important supplier of biomass for energy use;**
- **2011: About 2 million hectares used for growing energy crops**
 - **about 17% of arable land**
- **Main uses:**
 - **Cultivation of rapeseed for biodiesel production (910,000 ha),**
 - **Provision of substrates for biogas production (800,000 ha),**
 - **Growing of plants for the production of bio-ethanol (250,000 ha),**
 - **In addition: cultivation of renewable 300,000 ha Raw materials for the industrial use,**
 - **name: "industrial plant"**
- **Existing additional potential from 2020:
2.5 million - 4 million (but only 'theoretically':
the pros and cons)**

Biomass in Germany: Facts and Experiences

Generation of Electricity from Biomass

Development of Generation of Electricity from Biomass 1997 - 2007

Biomass					
GWh					
1.079	1.791	3.206	6.970	10.495	19.500
(1997)	(1999)	(2001)	(2003)	(2005)	(2007)
Proportion of Biomass electricity of Generation of Electricity from sustainable Energies					
%					
4,4	5,9	8,2	14,3	16,5	22,3

Source: BMU / AGEE-Sat, Stand Juni 2008

Biomass in Germany: Facts and Experiences

Refunding for Electricity from Biomass 2012 – 2014

Basic Refunding in Cent / kWh

Up 150 kWh:	11,32 (2012);	11,21 (2013);	11,10 (2014)
>150 kW - 500kW:	8,9	8,82	8,73
>500 kW - 5 MW:	8,0	7,92	7,85
>5MW - 20MW:	7,56	7,48	7,41

Source: BMELV

National biomass action plan of the Federal Republic of Germany to 2020

Objectives and Measures

- 2020 approximately 70 million cubic meters of wood energy use
→ currently increasing by approximately 40% (50 million)
- Increase the production of energy crops
- Promoting the knowledge and acceptance
→ Initiate new communication platforms
- Promoting of research and development of new technologies
- Increase the share of bio-energy in energy consumption
of currently 6% to 11% in 2020
- Improve the opportunities for investment and for
financial support (subsidies) by the State

Source: BMELV

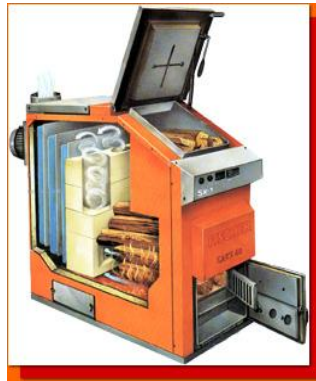
Biomass Technologies

Exemple: Biomass Feuerungsanlagen in Berlin

Scheitholzfeuerungen - Vergaserkessel

Leistungsklasse: 15 – 100 kW

Wirkungsgrade: 85-90%



Exemple1: Wärmebedarf: ca. 40 MWh/a -

Holzbedarf: ca. 12 t/a (20% Feuchtigkeit)

Kesselleistung: 25 kW + Pufferspeicher: 1500 Liter + Zubehör

Preis ohne Montage und MwSt: ca. 6 500 Euro

Biomass Technologies

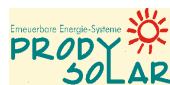
Exemple: Biomass Feuerungsanlagen in Berlin

Holzpelletsfeuerung - Alternative zum Heizöl

- Leistungsklasse: 15 kW bis 1 00 kW
- Wirkungsgrade: 88 bis 95%



Exemple 2:



Wärmebedarf: ca. 50 MWh/a

Kesselleistung: 25 kW +

Preis ohne Montage und MwSt:

Bundesförderung:

Pelletsbedarf: ca. 10 t/a

Raumaustragungssystem + Zubehör

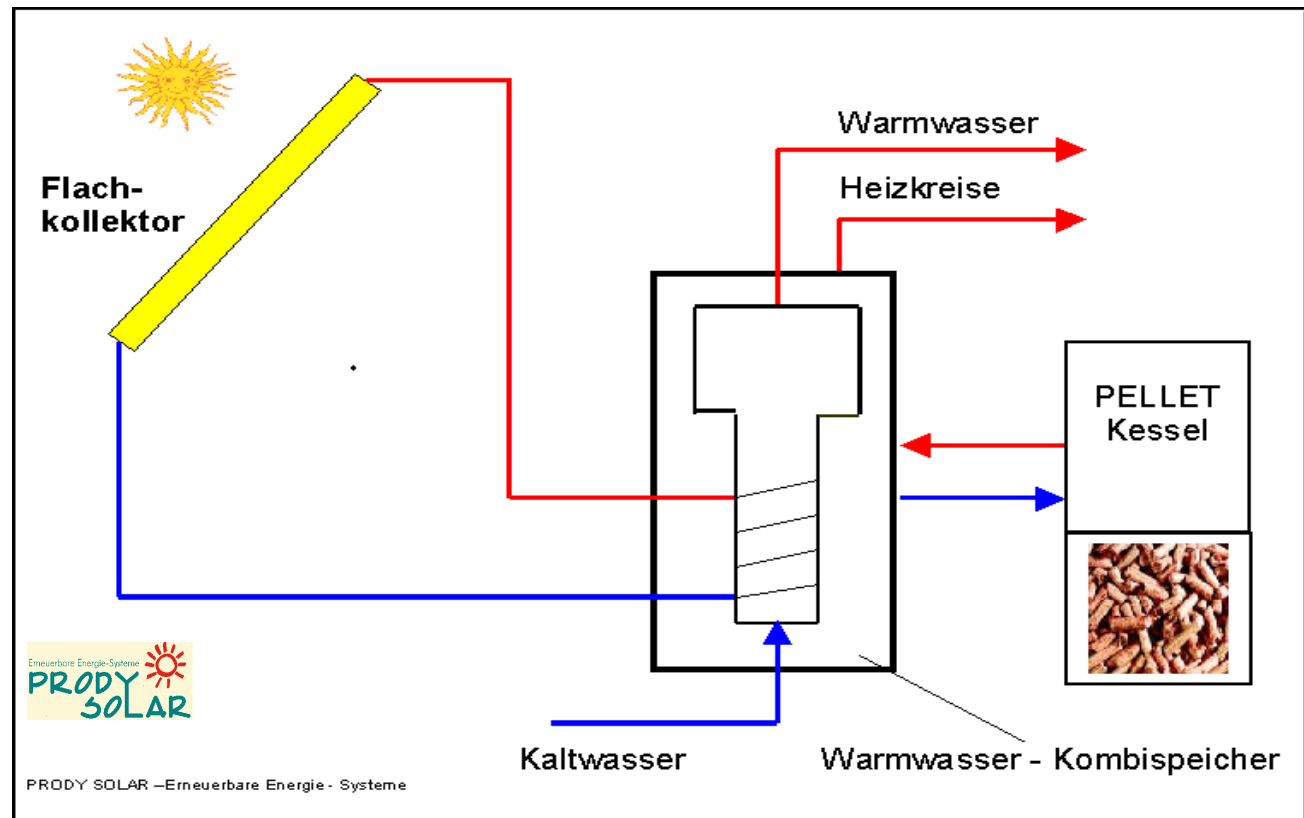
ca. 11 500 Euro

2.500 Euro – Zuschuss
(5kW bis 100 kW)

Biomass Technologies

Exemple: Biomass Feuerungs-Anlagen in Berlin

Biomass Solar Systemes (Kombi-Speicher)





Potential international Co-Operation Partner

Exemple: Fachagentur für Nachwachsende Rohstoffe e.V. (FNR)

- ❖ FNR unterstützt Forschung und Entwicklung von erneuerbaren Ressourcen
- ❖ FNR involviert in EU-Projekte und unterstützt Projekte mit internationalen Partnern Beispiele:
 - European Biofuels Technology Platform
 - ERA-NET Bioenergy
 - 4BIOMASS
 - WoodWisdom-Net

Kontakt FNR:

www.fnr.de