



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
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Swiss Federal Office of Energy SFOE

Welcome and Introduction

Workshop IEA Bioenergy Task 37



18.04.2013

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Layout of the presentation

Energy strategy 2050

Biomass utilisation in Switzerland

Energy strategy 2050 and biomass utilisation



Energy Strategy 2050

Decision of Swiss parliament in 2011:

Gradual phase-out of nuclear energy

Energy strategy 2050 - priorities

- Reduction of final energy consumption
- Reduction of electricity consumption
- Promotion of renewable energies
- Decrease of CO₂-emissions

Federal Council decides to gradually phase out nuclear energy as part of its new energy strategy


Berne, 25.05.2011 - The Federal Council intends to continue to safeguard Switzerland's high level of energy security although without nuclear energy in the medium term. That was the decision taken at its special meeting today. Existing nuclear power plants should be decommissioned at the end of their operational lifespan and not be replaced by new nuclear power plants. In order to ensure the security of supply, the Federal Council, as part of its new Energy Strategy 2050, is placing emphasis on increased energy savings (energy efficiency), the expansion of hydropower and new renewable energies, and, if necessary, on fossil fuel-based electricity production (cogeneration facilities, gas-fired combined-cycle power plants) and imports. Furthermore, Switzerland's power grid should be expanded without delay and energy research strengthened.



Energy Strategy 2050

First package of measures until 2020

- Decrease of energy and electricity consumption
- Decrease of the fossil energy share
- **Expansion of the electricity supply**
- **Increased support of the energy research**
- **Strengthening of international cooperation**

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Eidgenössisches Departement für
Umwelt, Verkehr, Energie und Kommunikation UVEK
Bundesamt für Energie BFE

13. September 2012

Energiestrategie 2050: Erstes Massnahmenpaket



Biomass utilisation in Switzerland (Status: 2011)

Wood powered plants & MSW incineration plants

- 55 plants using renewable waste (waste wood, residual wood, sewage sludge, bark etc.) -> total electricity generation 45 GWh
- 30 MSW incineration plants -> total electricity generation from renewable waste 700 GWh
- 9 wood power plants -> total electricity generation 146 GWh



Biomass utilisation in Switzerland (Status: 2011) continued

Agricultural biogas plants

- 80 plants
- power output 30 kW to > 1 MW
- 1 plant which feeds the biogas into the grid
- total electricity generation: 51 GWh

Industrial biogas plants

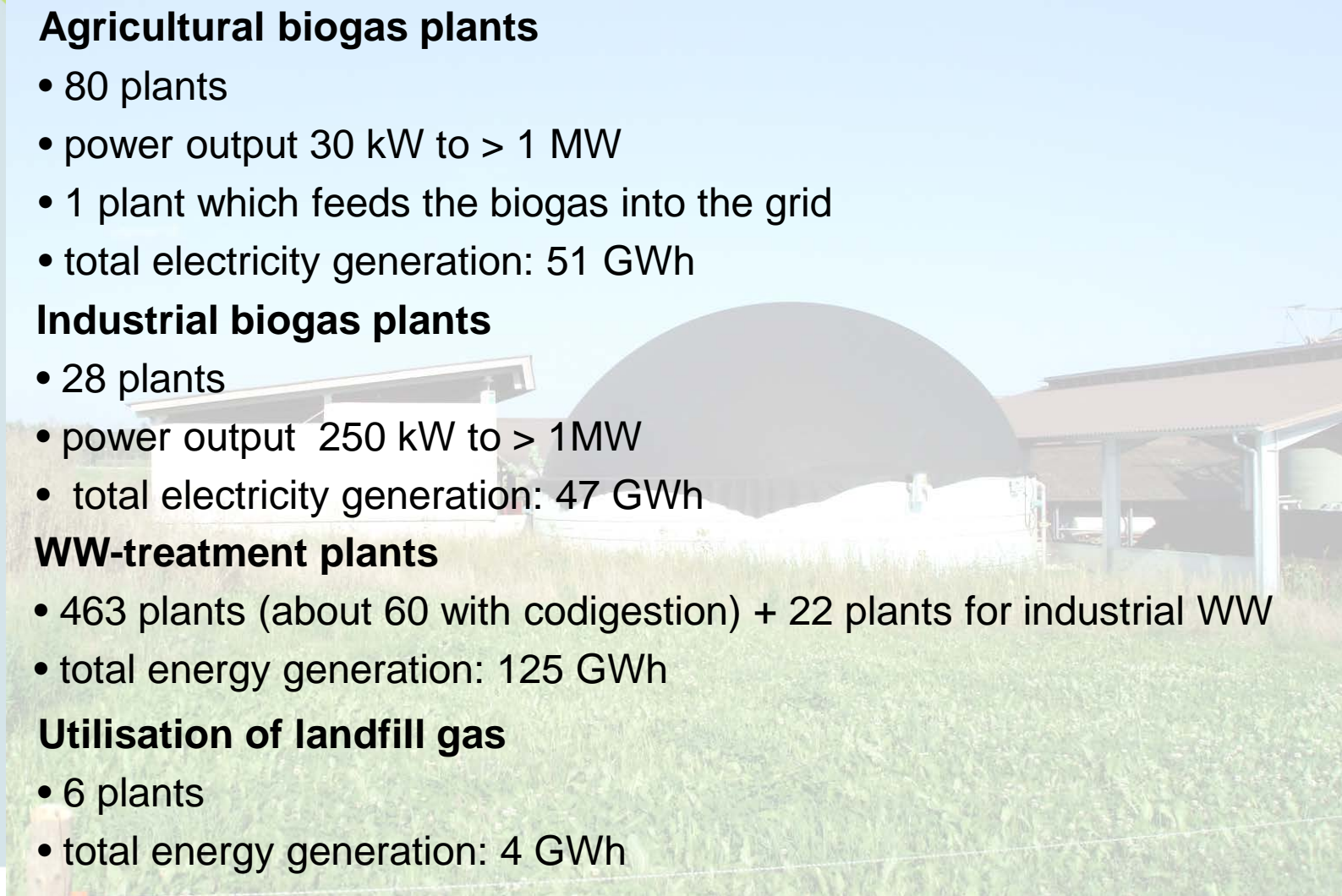
- 28 plants
- power output 250 kW to > 1MW
- total electricity generation: 47 GWh

WW-treatment plants

- 463 plants (about 60 with codigestion) + 22 plants for industrial WW
- total energy generation: 125 GWh

Utilisation of landfill gas

- 6 plants
- total energy generation: 4 GWh





Biomass utilisation within the Energy Strategy 2050 (I)

Expansion of electricity production from new renewables projects

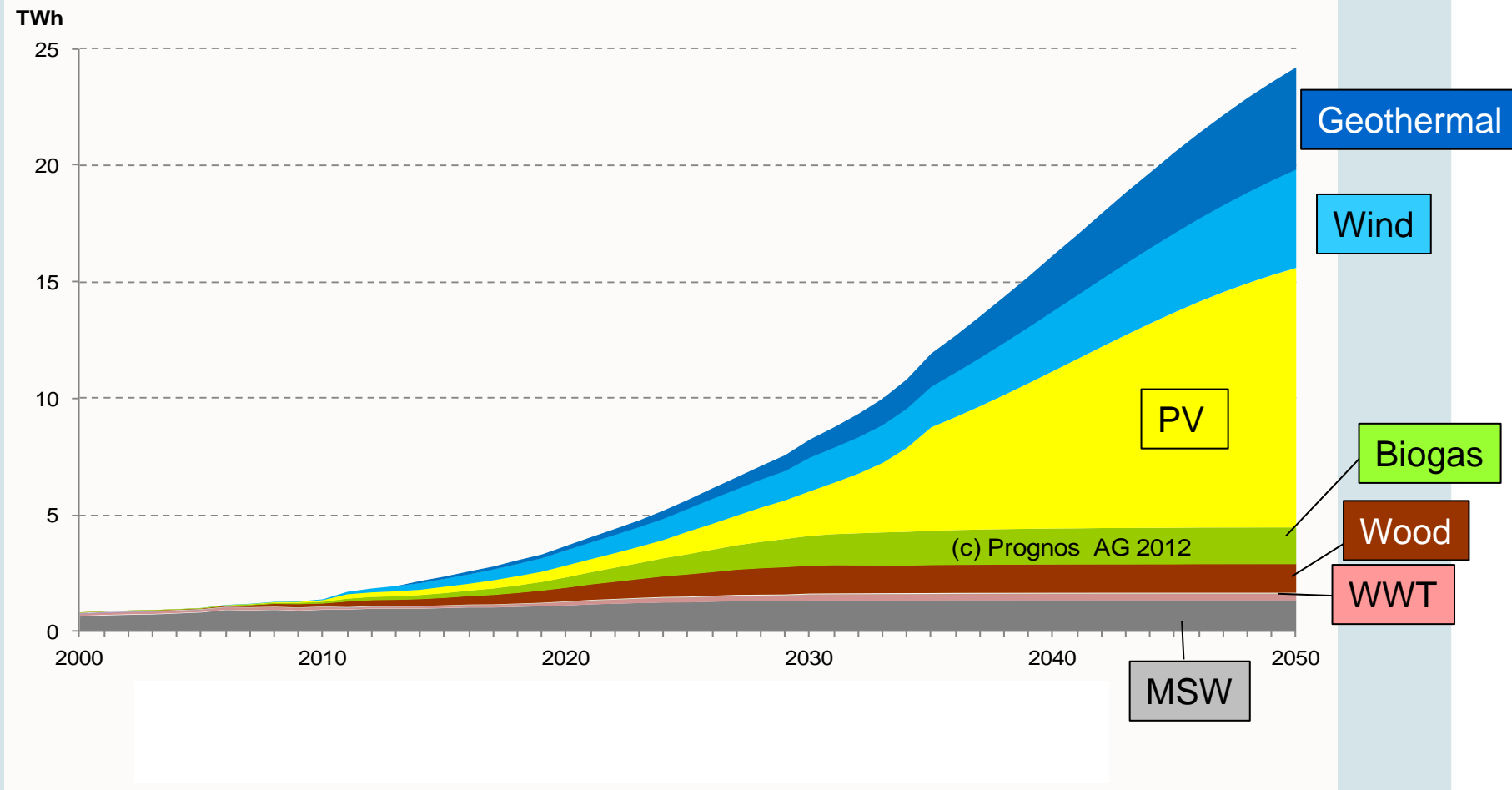
Until 2050:	24.2 TWh
Biogas	1.6 TWh
Biomass (Wood)	1.2 TWh
WW-Treatment	0.3 TWh
MSW-Incineration	1.3 TWh
PV	11.1 TWh
Wind	4.3 TWh
Geothermal	4.4 TWh





Biomass utilisation within the Energy Strategy 2050 (II)

Electricity production from new renewables





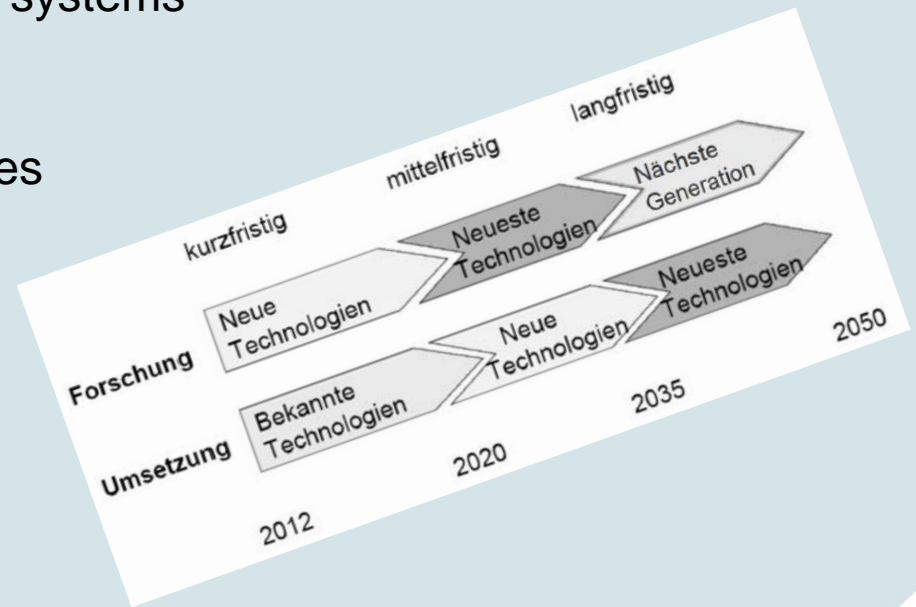
Biomass utilisation within the Energy Strategy 2050 (III)

Biomass research

Action plan: coordinated energy research

Built-up of 7 centres of excellence in different energy related areas:

- Efficiency
- Grids and their components, energy systems
- Storage of heat and electricity
- Electricity production from renewables
- Economy and legal aspects
- Mobility and Industry
- **Biomass**

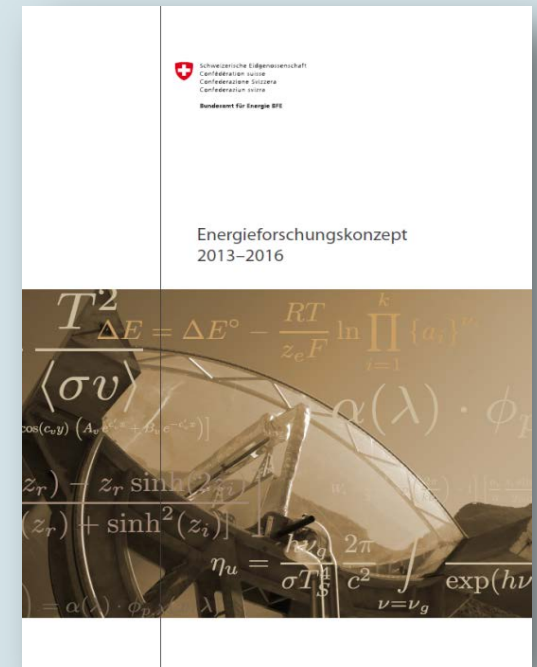




Biomass utilisation within the Energy Strategy 2050 (IV)

Aims of the biomass research programme 2013-2016

- Development of new processes and technologies
- Up-scaling or downsizing of close-to-market technologies
- Quality management
- Systems optimisation and integration



www.bfe.admin.ch/research/biomass



**Thank you very much
for your attention**

**For more information visit:
www.bfe.admin.ch**

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