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Ufficio federale dell'energia UFE
Swiss Federal Office of Energy SFOE

CODIS – 27th February 2008, Solothurn Energy from biomass and related policy



Michael Kaufmann, Deputy Director of SFOE and Head of the SwissEnergy programme

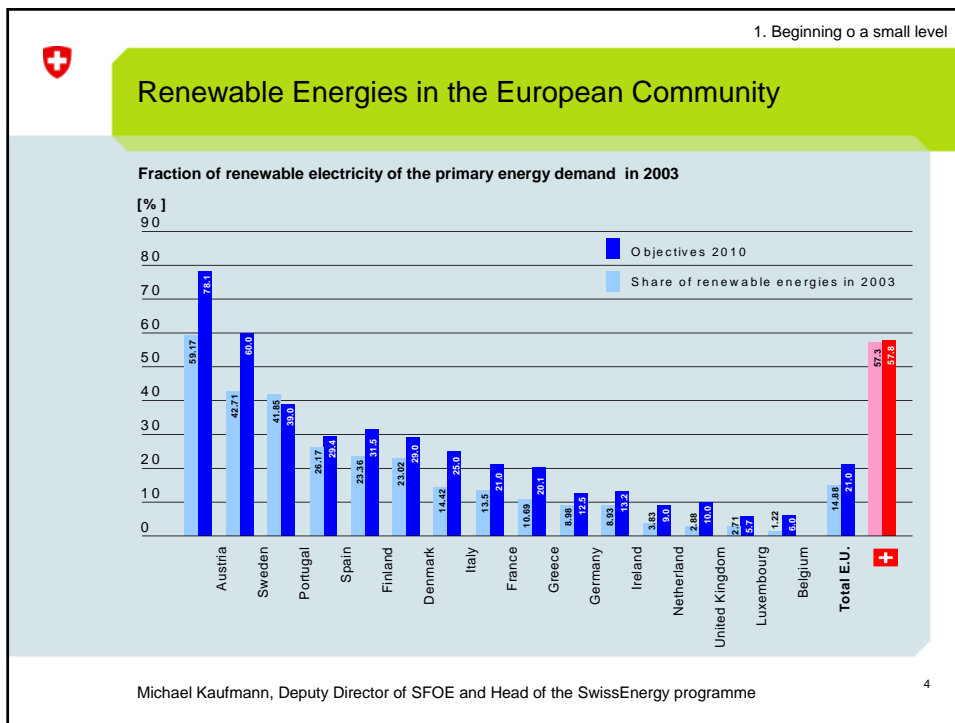
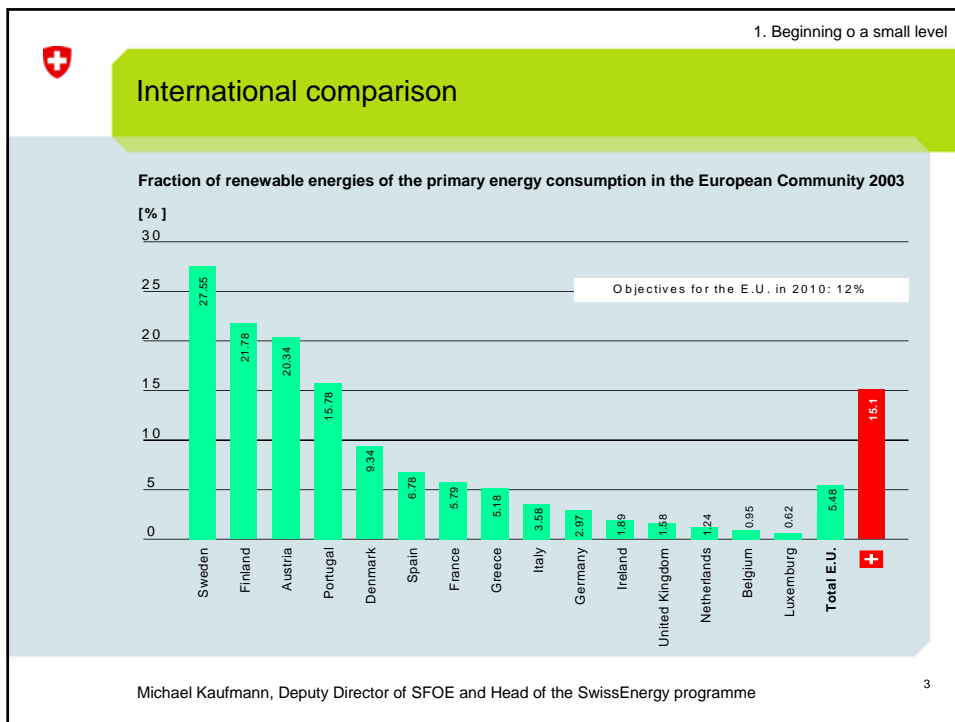


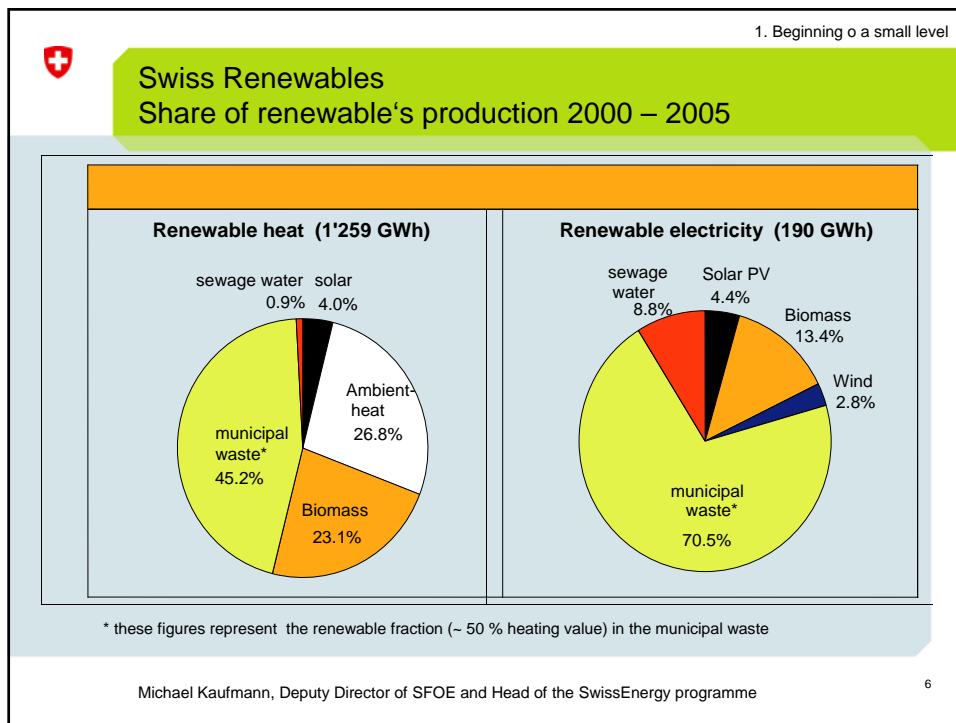
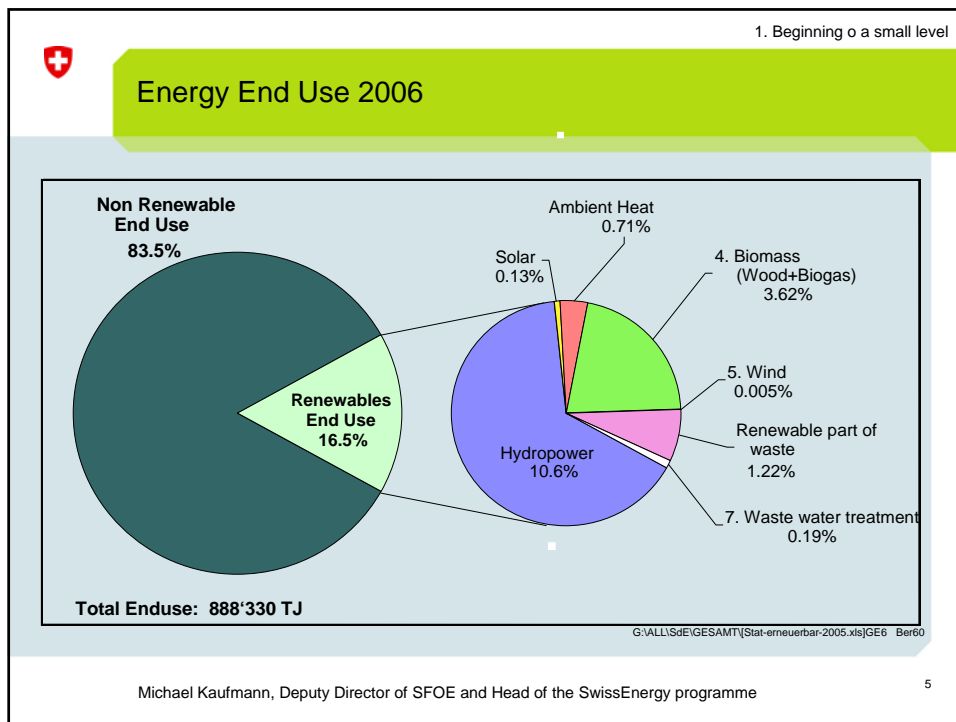
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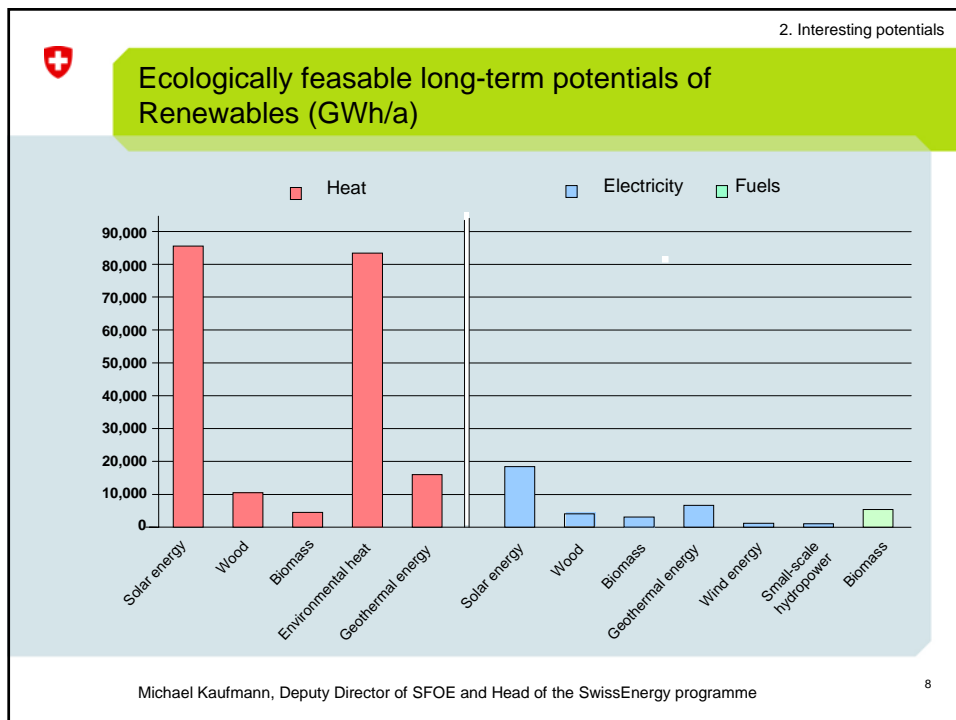
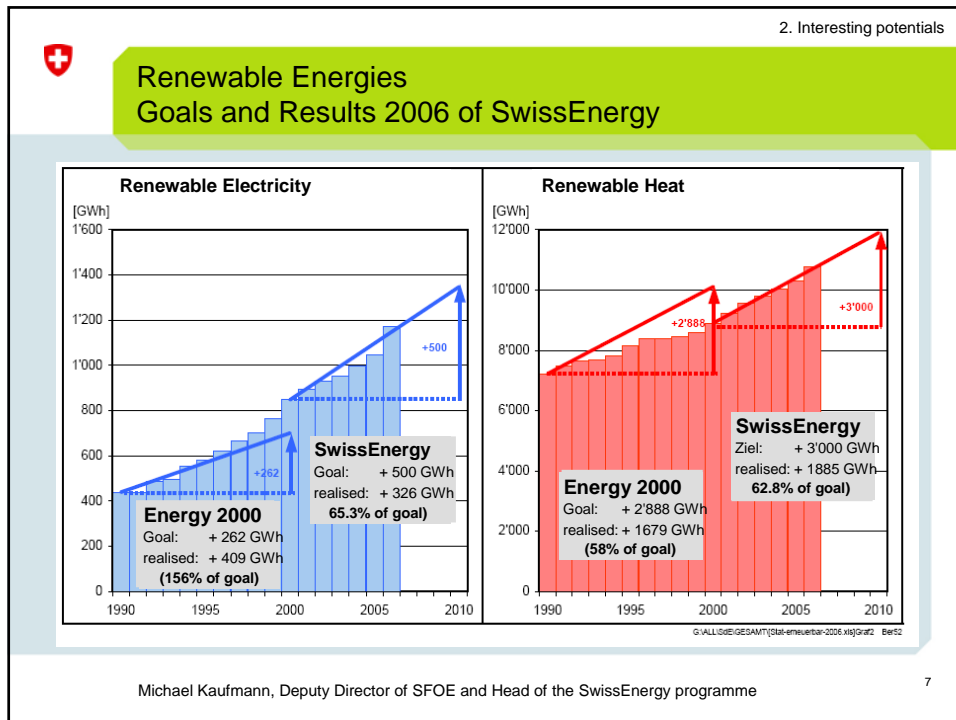
- Beginning o a small level
- Interesting potentials
- New instruments and incentives for renewables in Switzerland
- Agricultural potentials – optimization is the key word!

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3. New instruments and incentives for renewables in Switzerland

 **SwissEnergy**
the networking of Swiss energy activities

- **Partnership** for efficiency and renewables of confederation, cantons, private energy agencies, economy, environmental and consumer organizations
- About **30 organizations** directly involved (such as: agency of enterprises, MINERGIE, Energho, EcoDrive, EcoCar, SAFE, eae, EnergieStadt, etc.)
- **Steering of activities** with long-term and yearly contracts between SwissEnergy and the agencies
- Contracts include **objectives**, prescriptions about main activities and communications and finance conditions
- SwissEnergy as a „**go-between**“ melting together public and private actors (economy, climate-cent, branch-organizations, etc.)

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3. New instruments and incentives for renewables in Switzerland

 **SwissEnergy**
main results


Energy-saving effects are measured yearly by a complicated and scientific adjusted **analysis-programme** („Wirkungsanalyse“) and a **controlling-programme** (MIS), which implicates all programme-activities

Main Results

- Without SwissEnergy Swiss energy-consumption would be higher by 6 % (CO₂-emissions 7 %)
- Programme alone is not able to reach the CO₂-aims of Switzerland (therefore the CO₂-tax)
- Programme will not reach the objectives in electricity-consumption (already + 9 %)
- Programme is heading towards aims with renewables

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3. New instruments and incentives for renewables in Switzerland

 **Current swiss energy policy**
The energy strategy of the Federal Council


The energy strategy of the Federal Council is structured in four columns:

- Energy Efficiency
- Renewable Energies
- Main power stations
- Energy Foreign Policy

→The goal: „2000-watt society“

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3. New instruments and incentives for renewables in Switzerland

 **Swiss energy policy**
Measures to reduce CO₂ emissions

- SwissEnergy (including promotion and supporting programs of the Cantons) since 2000
- Climate Cent on motor fuels since 2005
- CO₂ fee on combustibles
- revision of the mineral oil tax law
- Bonus/Malus car tax

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3. New instruments and incentives for renewables in Switzerland



Swiss Renewables: New measures (2008)

Feed-in-tarif-system for electricity


- Objectif: + 10% of renewables in share of today 60% of electricity production
- Feed-in-tarifs for all renewables (hydro till 10 MW)
- Feed-in-tarifs cover production costs
- Limited to maximal costs of 0,6 cent / kwh (for teh consumer)
- Limits für PV (yearly kontingents)
- System starts up in october 2008

Detaxation for biofuels
pondering ecological aspects = ecobalance

Other measures for renewables
(heat, building) in discussion

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3. New instruments and incentives for renewables in Switzerland



Modelled results of new Swiss feed-in-tariff-system till 2030

Technology	Ceiling in accordance with the Energy Act	Total potential built up (GWh)
Water power till 10 MW	1655	2300
Biomass (without Waste incineration plant)	600	3200
Geothermal energy	288	810
Wind	500	500
Photovoltaic	90	600
Wast incineration plant	900	900
TOTAL	4033	8310

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4. Agricultural potentials – optimization is the key word

Policy Thrust Promotion of Renewables

Heat
Biomass and wood, waste incineration, solar thermal, deep geothermal
Heat pumps have considerable potential
Instruments: Promotion programmes (when needed), CO₂ tax, risk capital

Electricity
Hydro, biomass, wood, geothermal (combined heat & power), wind
Later: photovoltaics
Instruments: Feed-in tariffs, risk capital

Biofuels
Bioethanol, biodiesel, biogas
Instrument: Fuel tax exemption

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4. Agricultural potentials – optimization is the key word

Biomass, potentials 2040 (primary energy)

Biomassepotenzial 2040

Category	Theoretisches Potenzial [PJ]	ökologisches Nettoproduktionspotenzial [PJ]	Nutzung 2005 [PJ]
Holz	100	50	25
Ackerkulturen, Energiepflanzen	60	10	5
Wiesensyd	50	5	2
Emergückstände, Hofdünger	50	25	2
Struktureiche Biomasse	5	2	1
Altholz, Restholz	15	10	10
biogene Abfälle	50	25	20
Total	334	126	53

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The most important aspects for biomass use

- Biogas installations must have a certain scale
- Co-substrates must partly cover the composting or fermentation process
- Combined heat-power-generation should be only allowed, if the efficiency of the whole system is on a high level
- There must be a strategy about using biomass for cogeneration for power generation alone or for biogas or ethanol for fuels

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Example: Biogas plant at Altikofen (LU, 2006)



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 Switzerland is not an island...



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**Thank you
for your attention!**

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