

## **The Swiss environmental policy and the use of biomass**

**Dr. Gérard Poffet**

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### **Agenda**

- **Environmental policy in Switzerland**
- **Biomass in Switzerland**
- **Biomass in Switzerland's waste management industry**
- **Conclusions**



## **Environmental policy in Switzerland**

**The basic principles are set down in the Federal Constitution of the Swiss Confederation**

- **Art. 73 Sustainable Development**
- **Art. 74 Protection of the Environment**



## **Environmental policy = Resources policy**

**Natural resources such as air, water, soil, forest and landscape should be preserved on a long-term basis for use by society and the economy**



## **Objectives of environmental and resources policies**

- **Safety**
- **Health**
- **Raw materials**
- **Natural diversity**



## **Tasks of environmental and resources policies**

- **To monitor the environment**
- **To prepare legislation**
- **To implement the legal principles**



## Challenge of Swiss environmental policy

- **Organizing access to the natural basis of life**
- **Co-operation with Federal Offices, Cantons and partners from politics, the economy and society**



## Biomass in Switzerland

- **Wide variety of materials**
- **Many different activities and protagonists**
- **Different requirements and objectives**



**from the environmental point of view and optimal use of biomass**



## Material Use of Biomass

### Basic principle – the closing of material cycles

#### Forestry

- Wood as building material

#### Agriculture

- Compost, digestate, farm manure
- Recovery of phosphorus
- Soil conditioner
- Food production



## Use of biomass for energy

- Only 15% of final energy consumption stems from renewable sources
- Biomass is the second most important renewable energy source
- Available quantity of biomass limits the potential for energy use in Switzerland
- Energy crops not significant



## Possible Conflicts in the Use of Biomass

### Agriculture

- Use of farmland for energy production instead of for food production
- Destruction of nutrients
- Possible pollution

### Forestry

- Energy products versus sustainable forest use

### Soil protection

- Application of artificial fertilizers – lack of soil conditioners



## Biomass within Swiss waste policy

### Two important objectives of waste policy stand out

1. To make a contribution to the sustainable use of non-renewable and renewable raw materials
2. Waste disposal must be environmentally compatible



## Biowaste in Switzerland

- 800'000 t/y in composting and digestion plants
- Solid waste incinerations with electricity production from renewable energy sources (wood, green waste, animal remains tec.)
- Quality specifications necessary for compost and digestate

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## Compost and Digestate in Switzerland – 2 Studies

1. Organic pollutants in compost and digestate
2. Effects of compost and digestate on the environment, on soil fertility and on plant health



Most compost and digestate in Switzerland is of good quality



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## Conclusions

- **Environmental standards**
- **Sensible estimates of potential**
- **Check options for use with life cycle assessments**
- **Biomass strategy for Switzerland**