



## Non-tech barriers and opportunities

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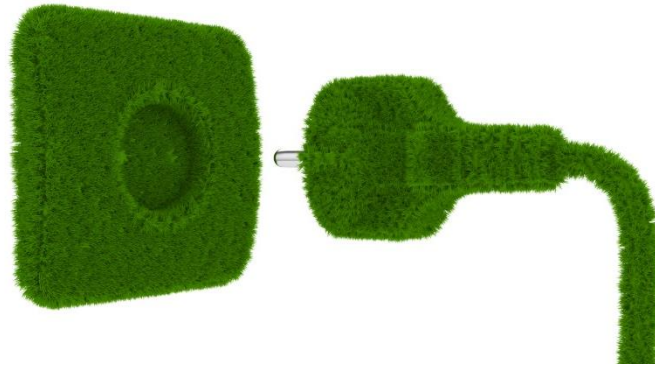


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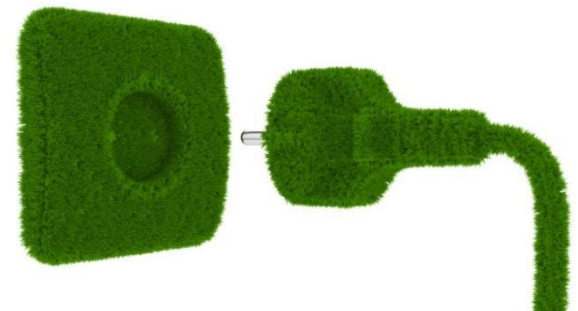
From Apr '13 to March '16

What?

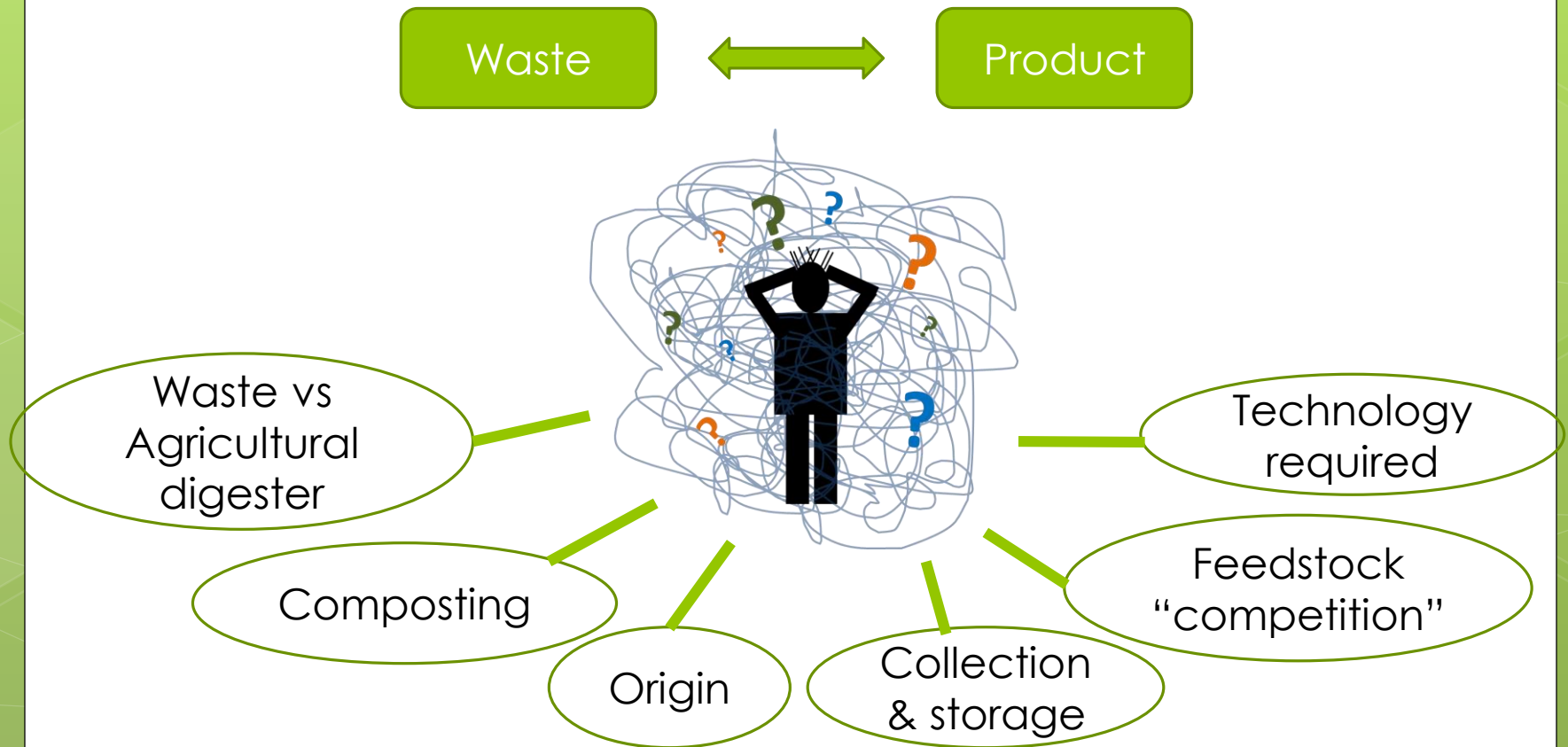


# From Grass to Energy

- Legal Framework & Incentives
  - Classification of grass
  - Comparative Assessment
- SWOT Analysis
- Policy Recommendations
- Conclusions

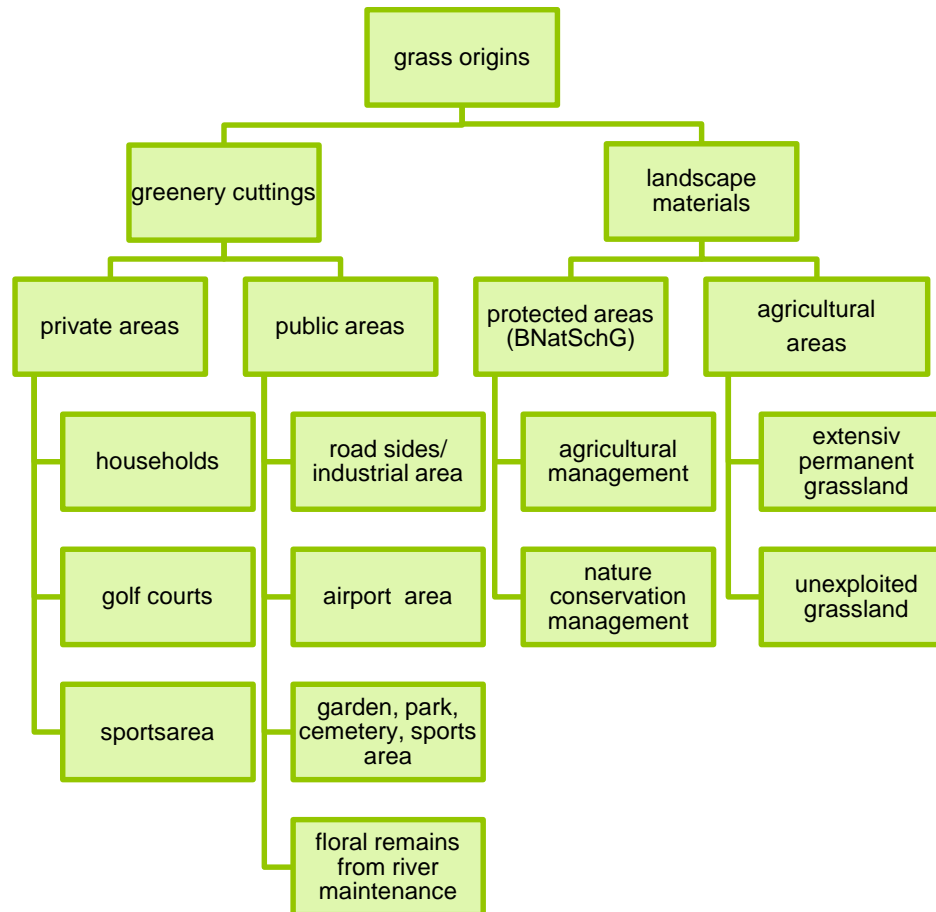


# Legal Framework & Incentives



## Legal Framework

### Classification of grass



## Legal Framework

- **Legal binding: grass has to follow waste regulations for collections, treatment, documentation and usages, if “Organic waste definition on place of origins” is applicable:**
  - European definition under Article 3(4) [2008/98/EC] as: “...**biodegradable garden and park waste**”
  - Minimum definition, direct binding for member states

- **Implementation in National Waste Law**

- **More complex organic waste definition**



- e.g. German Waste definition under Organic Waste Ordinance No. 20 02 01, Annex 1 as: “...**biodegradable waste as a waste of sports facilities, places, sites and children's playground, biodegradable cemetery waste, biodegradable garden and park waste, wood clearing debris, landscaping waste, organic waste from the water maintenance.**”

## Legal Framework

- Operational responsibility for grass (waste) collection and treatment residues by...?

- No obligatory REGULATION by EU

- Separate (regular) municipal collection

- Bringsystem to municipal Greenery Parks

- Mutual collection with household wastes



- e.g. According to German Closed Cycle Management Act organic waste producers from **private households** are **obliged to deliver green waste to the public waste authorities**, unless they **are capable of own home composting**

## Legal Framework

### Promotion of grass as Renewable Energy Sources :

- *Feed-In Tariff System*



- *Quota certificate system*



- *Extra tariff for grass digestion (organic waste)*



- *Extra tariff for substrate digestion (ag. Product)*





## Incentives

### Summary

- **Incentives** for production of renewable energy exist, but decrease
  - Germany : since 2014 only additon incentives for waste grass digestion*
  - Denmark : increased support for biogas*
- **Separate collection services** are in place (partly depending on municipalities)
- Valorisation of **bio-waste** (incl. grass):
  - Technical requirements process (stabilization & hygienisation)
  - Quality of resulting fertilizers (Certification)
  - Eligibility for bio-waste incentives

## SWOT- Analysis

### **STRENGTH**

- AD as tool for waste management
- Subsidies for nature management
- Increased incentives bio-waste vs. energy crops (IT, GE)
- Digestate as fertilizer

### **WEAKNESSES**

- Grass = bioWASTE
- Insufficient awareness of technologies
- Roadsides grass : complex pretreatment
- No specific "grass incentive" in AD
- Stakeholders don't know each other
- Grass often left on site

## SWOT- Analysis

### **OPPORTUNITIES**

- Substitution of energy crops
- Better grass valorisation incentives
- Grass from urban and suburban areas - > often cut and collected

### **THREATS**

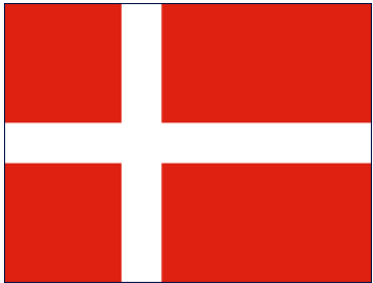
- Elaboration of legal requirements for digestate
- Grass collection focus on disposal costs, AD-operators focus on good quality feedstock
- Transport + gate fee vs. leaving in situ
- Support to AD goes down

## Policy recommendation



1. Status “waste” to “secondary resource”
2. Better control on implementation of the Verge Decree
3. “Pro Rata” status of animal manure for digestate
4. Incentives (€) for grass processing
5. Facilitate small scale pilot projects -> how can “burden” be lowered?
6. Incentive for CO<sub>2</sub> reduction compared to other feedstock

## Policy recommendation



1. Lower amount of allowed energy crops
2. Increase awareness on dumping of road side grass
3. Economic remuneration of natural area management for mowing (and collection), reflecting the value of enhancing biodiversity
4. Limit the amount of urban grass that can be processed in composting plants

## Policy Recommendation



1. New and clear definitions of waste vs. by-product vs. other residual organic material
2. Subsidies for the grass chain
  1. Incentive for collected material (gate fee)
  2. Defiscalisation for companies involved in the grass chain
  3. Incentives for (social) cooperatives involved in the grass chain

## Policy Recommendation



1. Accountable long-term legislation
2. Clear legislation on grass as a product or waste
3. Need for “cost efficient” production
4. Further support maintenance of permanent grassland
5. Eco-System-services financed by own funding programmes

## Policy Recommendation



1. Modify grass classification
2. Increase financial support to the biogas sector
3. Separate incentives for grass digestion
4. Support of biomethane production



## Policy Recommendation



1. Legal status of mowed grass  
Waste or by-product  
Possibilities for agricultural digesters
2. Subsidy for the use of grass



- 1, increased renewable energy from non-food biomass
- 2, Recycling of organic waste
- 3, Job creation

## Conclusions

- **Legislation** is complex and should be made clearer
  - Impact from availability other (better) waste streams (BE, DK)
  - Impact from legislation (IT, D, PT)
- ➔ Strong correlation between legislation and numbers of bioenergy facilities
- Lessons learned: agrosector has huge potential but restrictions according to input caps (monocultures, efficiency)
- Valorisation of organic waste as prioritized input material
- Bioenergy in the role of flexible electricity supplier

# Thank you for your attention

## Flanders (Belgium)



## Denmark



## Germany



## Portugal



## Italy

