

# **Promoting sustainable bioenergy production & use**

Implementation of  
sustainability criteria for  
biofuels in Sweden

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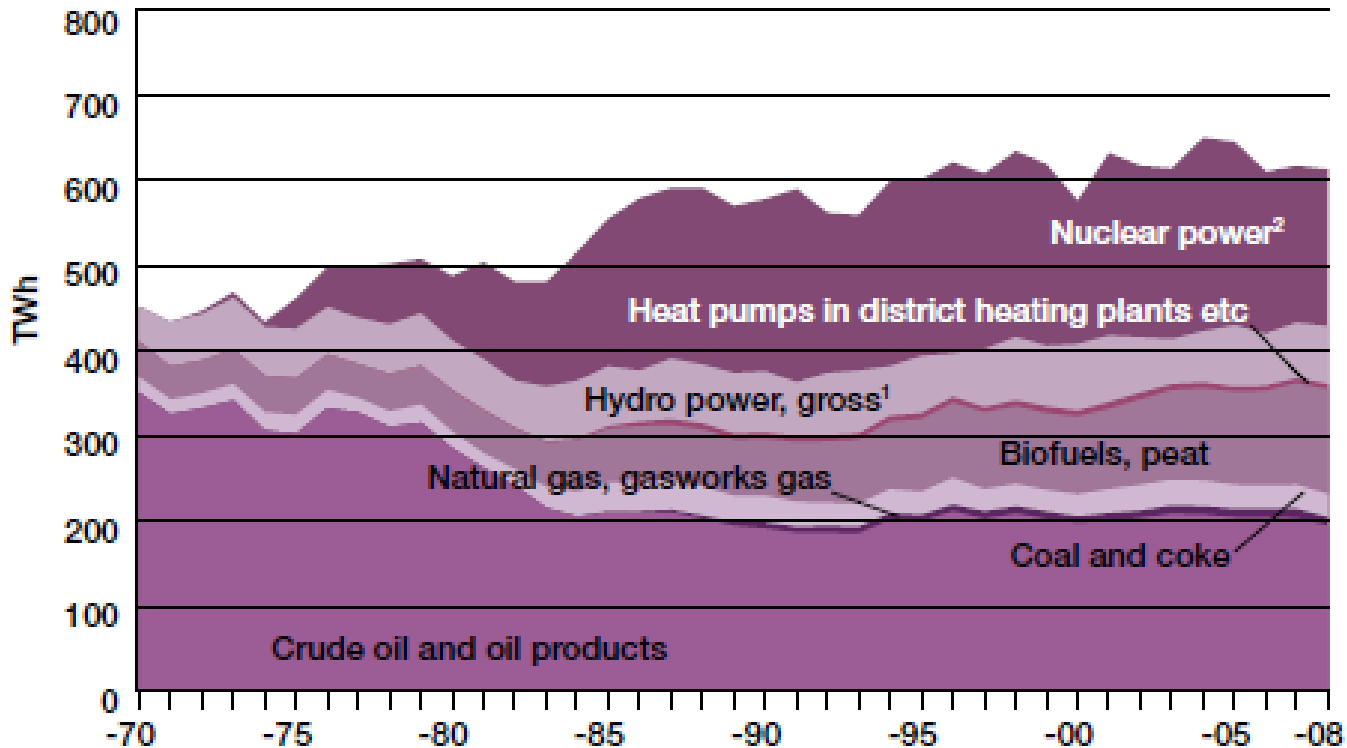
# Aim and scope

- The aim of this presentation is to:
  - Give a brief overview of
    - Energy situation in Sweden
    - Current status of the implementation of sustainability criteria for biofuels and bioliquids in Sweden
      - Planned activities and time line
      - Supporting activities
      - Suggested regulations

# Energy supply in Sweden

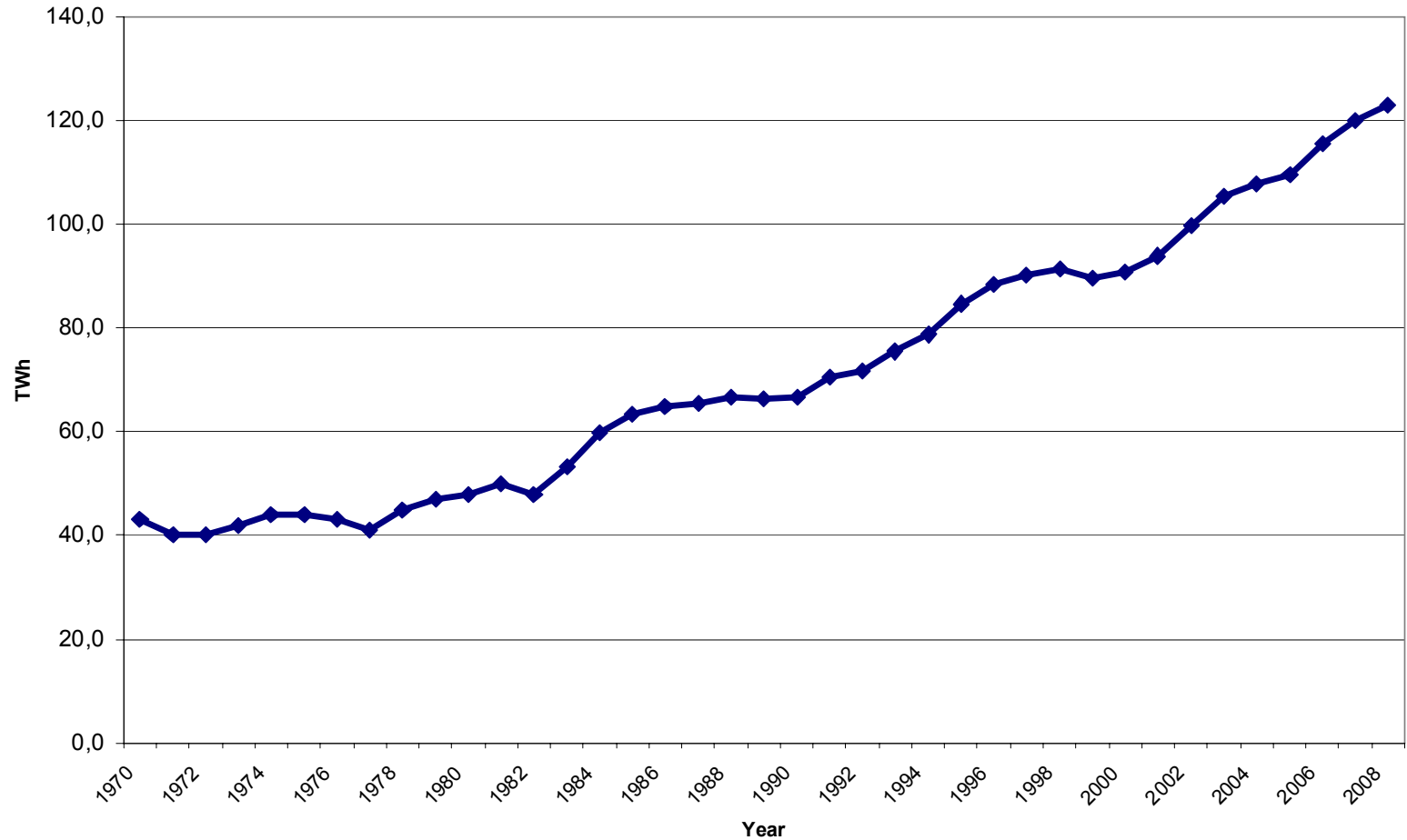
- The total energy supply was 612 TWh in 2008
- Biomass, especially woody biomass, already contributes substantially in covering energy demands in Sweden
  - The share of biofuels and peat has increased from 9% to 20 % (1970 – 2008)
    - This corresponds to 123 TWh (incl. 3 TWh peat)
    - With (solid) wood fuels incl. wood pellets being about 44%
- The share biofuels is now 34% of the total fuel quantity (351TWh)

# Total energy supply in Sweden



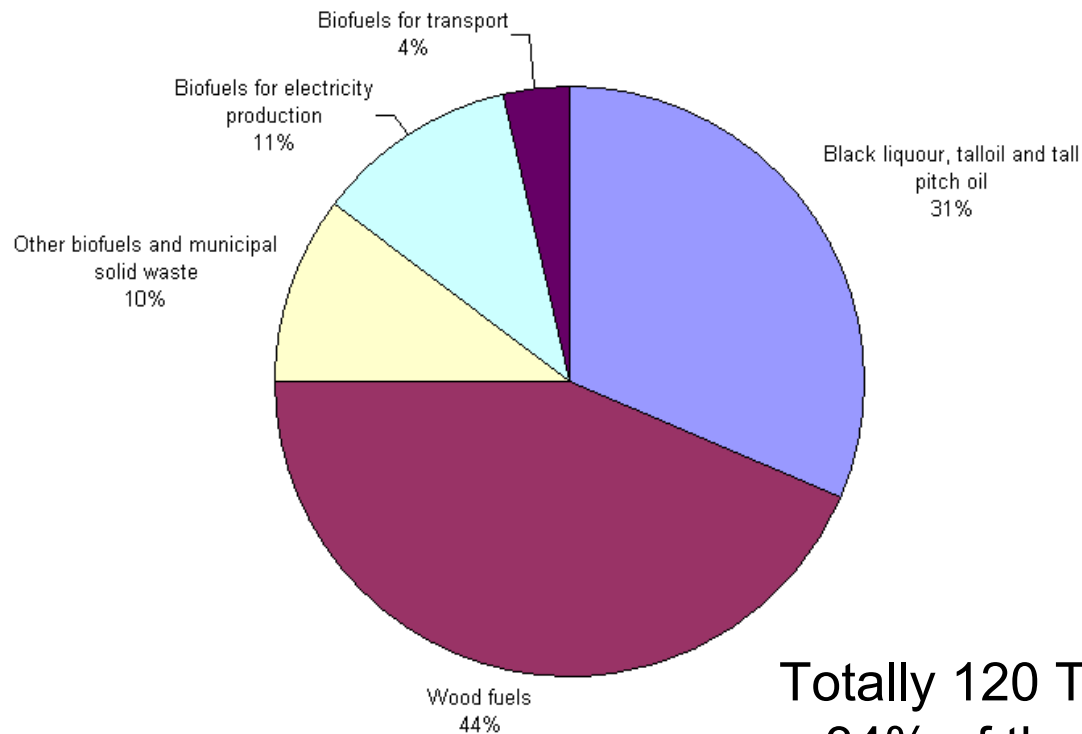
Source: Swedish Energy Agency

# Use of biofuels and peat in Sweden



Source: Swedish Energy Agency

# Share of different biofuels in Sweden

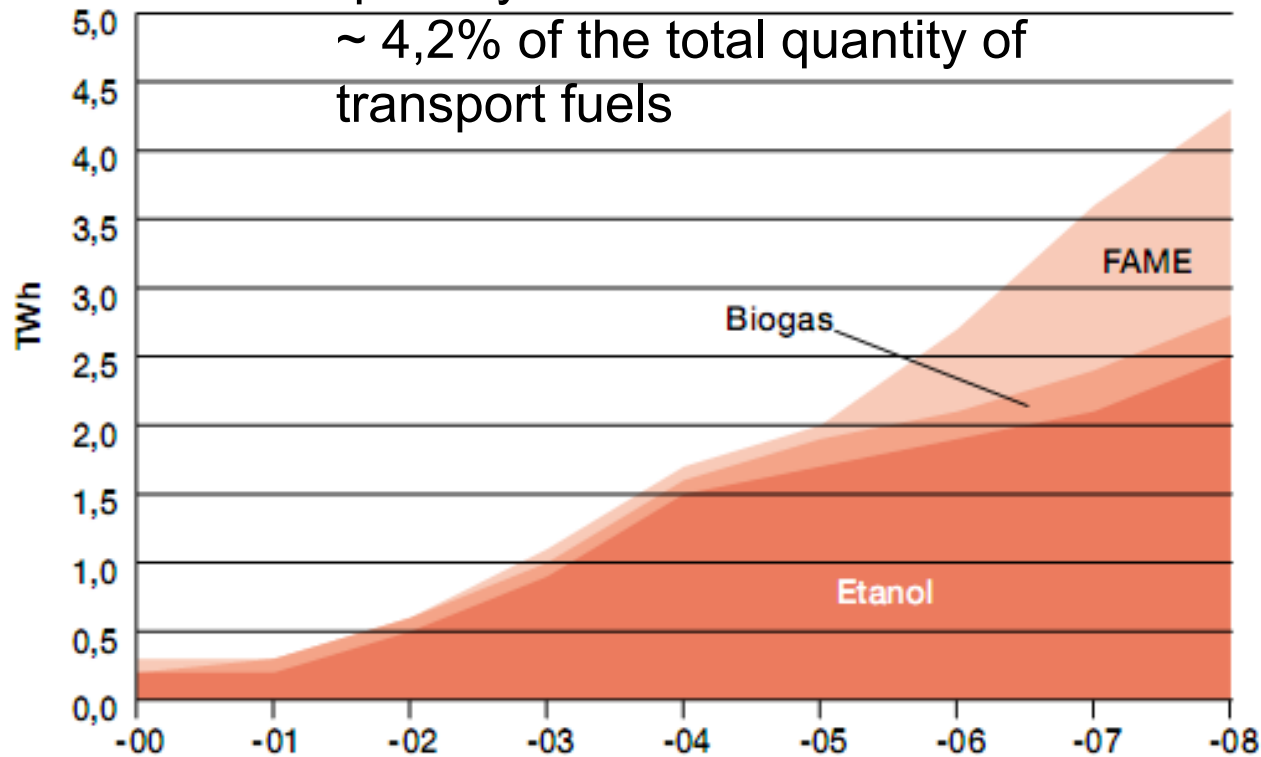


Totally 120 TWh  
~ 34% of the total quantity of  
fuels (351 TWh)

# Use of liquid and gaseous biofuels

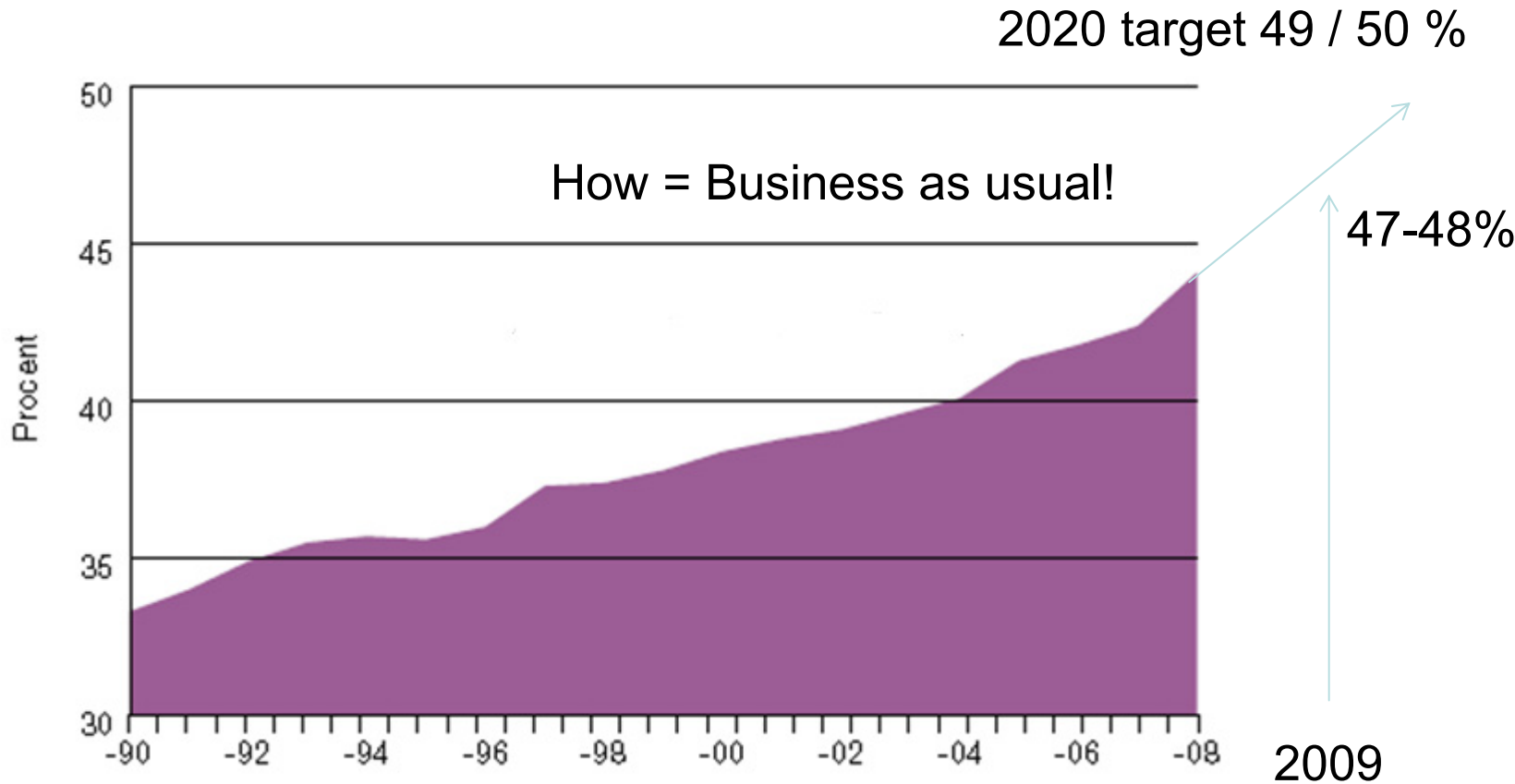
4,4 TWh ~ 3,7% of the total  
quantity of biofuels

~ 4,2% of the total quantity of  
transport fuels



Source: Swedish Energy Agency

# Renewable energy share in Sweden



Source: Swedish Energy Agency

# Incentives

- Renewable Energy Directive RED (2009/28/EC)
  - Sustainability criteria for biofuels (liquid and gaseous),
    - Implementation in progress in Sweden
    - According to the directive it should be implemented in 5 December 2010
  - National Renewable Energy Action Plans under Directive 2009/28/EC
    - Reported to the COM in June 2010, English version available
- Fuel Quality Directive FQD (2009/30/EC)

# Renewable Energy Directive

- Target
  - EU target, at least 20% renewable energy in 2020
  - Binding national targets in 2020
    - Targets for Sweden are:
      - 49% renewable energy of the total final energy consumption (50% national target)
      - 10% renewable energy of the total final energy consumption in the transport sector

# Sustainability criteria

Climate benefit Biodiversity	⇒	Adopted rules
Social sustainability and prices of food	⇒	COM follow up: -Land use rights -Work conditions (i.e. ILO convention)

# Terms of the directive about sustainability criteria

- Detailed rules and regulations about the criteria, calculation methods, control and verification
  - Biofuels for the transport sector and bioliquids for other purposes
    - Ethanol, FAME/RME, biogas
    - Tall oil pitch, bio oils (MFA, palm oil, rape seed oil etc.)
  - Solid biofuels are excluded (Report from COM SEC(2010)65)
    - Binding criteria not suggested, monitoring and voluntary actions are recommended
- Should be incorporated 5 December 2010
- There are many detailed regulations / terms in the directive.
  - Additional consultative- and / or binding supplements from COM

# Directive criteria (art. 17)

- Reduction of greenhouse gas emissions
  - 35% by time of introduction (60% 2018)
  - Calculation method according to the directive
    - Default values for the whole production chain
    - Calculations based on actual values
    - A combination of disaggregated values and actual values based on calculation for different parts of the production chain
- Protection of high biodiversity areas
  - Natural forests (Primary forest and other wooded land)
  - Protected areas (Reservs etc.)
  - Grasslands (Natural and non natural)
- Protection of high carbon stock areas
  - Wetlands
  - Peat lands
  - Continuously forested areas

# Fulfilment of the criteria according to the directive - Why

- To be able to include fuels to the binding national targets
- To be able to use quotas for renewable energy – e.g. for the electricity certificate system and a possible biofuel quota obligation
- To be able to give subsidies / financial support – e.g. exemption from energy tax, direct support / subsidies

# Directive's legitimate claim of a control system (art. 18)

- The economic actors should show that the criteria set out in art. 17.2-5 has been fulfilled
  - Presenting a chain of custody by e.g. using a “mass balance” system
    - Information should be verified by independent auditing
- An alternative to the above procedure is to use:
  - Voluntary certification system approved by COM
  - Bilateral agreement between COM and a third country

# The implementation process in Sweden

- An investigation carried out by the Swedish Energy Agency about implementation of the sustainability criteria in Sweden (2009)
- Government proposal to the law (March 2010)
- Law of sustainability criteria (adopted May 2010)
- Several Swedish Energy Agency initiated actions during 2010:
  - Suggestions to solutions about “unsolved problems”. Reported to the Swedish government 3 September
  - Basis to government regulations. Reported 3 September
  - Authority regulations. Preliminary publication in December 2010

# Decided regulations in Sweden

- A new law - Law of sustainability criteria
  - It is an overall law and includes regulations for e.g. :
    - Sustainability criteria
    - Reporting obligation / requirements
    - Requirements for independent auditing
    - The law came into force 1 August 2010
- Suggested changes
  - Law on tax on energy
    - Conditionality that the criteria should be fulfilled to be entitled to tax credits for biofuels for transport and taxable liquid biofuels
    - Law in force 1 January 2012
  - Law on electricity certificates
    - Conditionality that the criteria should be fulfilled for electricity certificate justified liquid biofuels, e.g. tall oil pitch
    - Law in force 1 January 2011

# Law on sustainability criteria in Sweden

- Regulations coming in to force
  - (The law 1 August 2010)
  - Regulation on notification 1 October 2010
  - Regulation on reporting 1 January 2011
- Provisional regulation
  - Claim on green house gas reduction for biofuels which are produced in plants which were in operation January 2008. In force 1 April 2013

# Law on sustainability criteria in Sweden

- Chapter 2 in the law
  - A) GHG reduction (35%)
  - B) Soil issues (biodiversity, high carbon storage)
- Exemption for wastes and residues (1 Chapter, paragraph 3)
  - Biofuels produced of waste and other residues that those from agriculture, aquaculture, fisheries, and forestry, need only meet the claim in A (above)

# Law on sustainability criteria in Sweden

- Residues (Chapter 1, paragraph 2)
  - Definition:
    - Residue is a substance from processing
    - It is not an end product(s) which the production process direct aims to produce
    - It is not the main purpose of the production process
    - The production process has not purposely changed

# Law on sustainability criteria in Sweden

- Residues – further explanation
  - “Waste.... And processing residues ....  
The GHG emissions over a life cycle should be set to zero until this material is collected

# Law on sustainability criteria in Sweden

## – Claim of GHG emission reductions

A plant which is in operation / is going to be put in operation	Dec 2009	April 2013	Jan 2017	Dec 2018
Before Jan 2008		35%	50%	
Jan 2008 – Jan 2017	35%		50%	
After Jan 2017			50%	60%

# Law on sustainability criteria in Sweden

- Actors which have a reporting obligation (Chapter 3, paragraph 1)
  - Supplier to a public “sales point” (i.e. point of duty)
  - User who is not getting biofuel from a “sales point”
- *NOTE: There is already a harmonisation procedure ongoing concerning the tax obligation and when the tax obligation comes in to force for taxable fuels*

# Law on sustainability criteria in Sweden

- Reporting obligation (Chapter 3, paragraph 1)
  - Reporting on sustainable quantities
  - Proof that the criterias are fulfilled
    - By using:
      - Own control system
      - Approved certification
      - Statement from an independed auditing
- *NOTE: The regulator (in this case the Swedish Energy Agency) desides about the sustainable quantities*

# Law on sustainability criteria in Sweden

- Reporting obligation notification (Chapter 3, paragraph 2)
  - Notification should be submitted not later than 1 October 2010
  - A form for notification is available from the webb site:
    - <http://www.energimyndigheten/hbk>

# Unsolved problems

- Regulations about the sustainability criterias and the law on tax on energy
  - Financial risks due to authority desicion concerning the fuel volumes which have passed the point of duty
- Definition of “an actor” who has a reporting obligation

# Suggested solutions and regulations

- The Swedish Energy Agency suggests the following changes on laws
  - The Swedish Energy Agency is given the right to issue time limited preliminary clearances based on information from the actor's control system
    - Actor = who has a reporting obligation
  - Complete harmonisation between the reporting obligation and the tax obligation for taxable fuel

# Suggested authority regulation

- A clarification concerning specific criterias
- Requirement of a controll system
- Requirement of an independent auditing
  - Competence
  - Implementation
- Application of a preliminary clearance
- Reporting obligation
- Bases / authorisation for the Swedish Energy Agency to issue regulations within specific issues

# Next steps in the implementation

- Swedish Government
  - To issue overall regulations
  - Prepare changes on laws
- Swedish Energy Agency
  - To issue authority regulations
    - GHG calculations
    - Control system and independent auditing
    - Reporting
  - Guidance, information, etc.
  - Verification issues, bases for judgements, etc.
  - Process descriptions, authority administrative routines, IT-support
  - Bases / authorisation for the Swedish Energy Agency to issue regulations within certain grounds
- International activities, EU comitology about the sustainability criteria, BioGrace, CA, REFUREC, ISO/CEN, etc.

# More information

- **On webb:**
  - <http://www.energimyndigheten.se/hbk>
- You can subscribe an information letter by using the link above. Note: The letter is in Swedish
- **Mailbox:**
  - [hbk@energimyndigheten.se](mailto:hbk@energimyndigheten.se)
- **Persons directly involved into implementation:** Jonas Paulsson, Lina Engström, Emmi Jozsa, Erik Beckman, Per Wollin and Linus Hagberg

# Many Thanks for Your Attention

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