The SE national verification system for biofuels and bioliquids

Swedish Energy Agency

20 december 2011

Energimyndigheten

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  - What fuels and companies are affected?
  - When and how shall the sustainability criteria be fulfilled?
  - Sustainability decision
  - Requirements on verification systems and independent auditing
  - Mass balance

Summary (1)

- From 1 November 2011, the Swedish Energy Agency can issue a sustainability decision for biofuels and bioliquids
- In order to receive a sustainability decision, the economic operator with a reporting obligation shall:
  - Have a verification system in place that ensures sustainability in the entire production chain…
  - …which is audited by an independent auditor.
  - Apply for a sustainability decision at the Swedish Energy Agency
- Sustainable quantities (and sustainability characteristics for each consignment) shall be reported annually to the Swedish Energy Agency

Summary (2)

- Sustainable = fulfils the requirements in Act (2010:598) concerning sustainability criteria for biofuels and bioliquids:
  - Greenhouse gas emission saving
  - Land criteria
  - Traceability through the production chain (the mass balance principle)
- Requirements on verification systems (sampling procedures, deviation management, etc)

Sustainability decision

- Verification sytems approved beforehand
  - The decision means that the reported quantities are to be considered sustainable
  - Is valid until further notice, but shall be reviewed
  - Application for a sustainability decision
    - Description of the verification system
    - Statement from the independent Auditor
    - Description of the independent auditor's competence and assurance of independence
    - Electronically through the Swedish Energy Agency's webpage
- (Sustainability decision for specific quantities)
  - issued if the quantity is proved sustainable after it has been put on the market)

Implementation in Sweden

Renewable Energy Directive (2009)

Act (2010:598) concerning sustainability criteria for biofuels and bioliquids (spring 2010)

- In force as of 1 Jan 2011
- Ordinance (Dec 2010)
- Regulations (Feb 2011)

→ Detailed provisions in place in February 2011

Amendments (1 Nov)

- Sustainability decision
- Reporting obligation = taxable
- Agreements within the production chain, samples etc
- → Updated Ordinance and Regulations

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The legal framework – Sweden

- HBL = Act (2010:598) concerning sustainability criteria for biofuels and bioliquids, and Act (2011:1065) concerning amendments in Act (2010:598) concerning sustainability criteria for biofuels and bioliquids
- HBF = Ordinance (2011:1088) concerning sustainability criteria for biofuels and bioliquids
- HBFS = Regulations (2011:2) concerning sustainability criteria for biofuels and bioliquids
- *Guidance 2.0*

Who is affected?

- **A reporting obligation according to HBL is designated to those who**
  - are taxable for fuel that is partly or completely comprised of biofuel or bioliquid according to Chapter 4. Energy Tax Act 1994:1776; *or*
  - are economic operators that in their business activity use biofuel or bioliquid that is neither partly nor completely taxable according to the Energy Tax Act.
- All economic actors in the production chain are indirectly affected
  - Must have procedures in place and deliver information concerning sustainability to their clients (through agreements)

Which biofuels and bioliquids are covered by HBL?

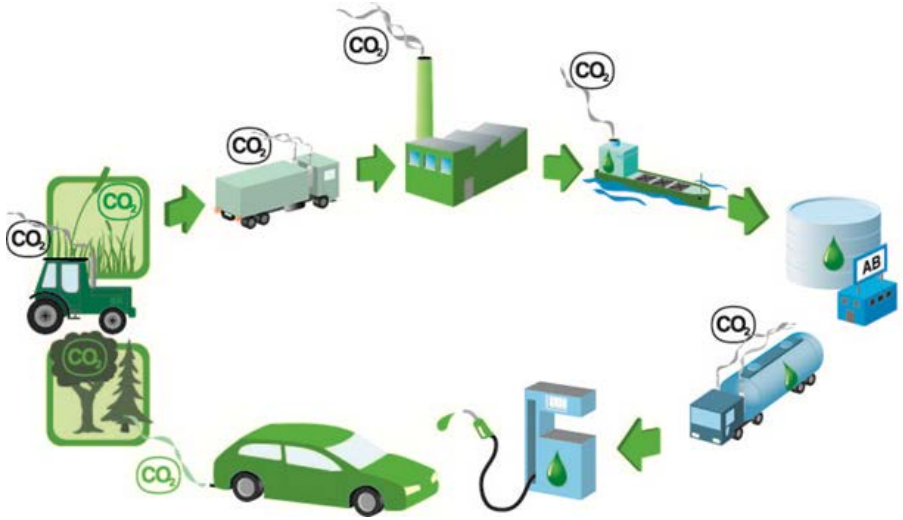
- Biofuels (for transport)
  - Ethanol, FAME biodiesel, biogas…
- Bioliquds (for energy purposes other than for transport)
  - Bio-oils, tall oil, tall oil pitch, (RME)…
  - *Only liquid fuels (not gaseous) → NOT biogas for electricity and heating*
- *Not solid biofuels*

Land criteria and land use change

- HBL Chapter 2, sections 2-5
- HBF section 5, sections 9-10
- HBFS Chapter 6, section 2. Chapter 7, section 3 och 5, Annex 7.

Determining Greenhouse gas emission savings

- HBL Chapter 2, section 1
- HBF section 4-5
- HBFS Chapter 6-7.



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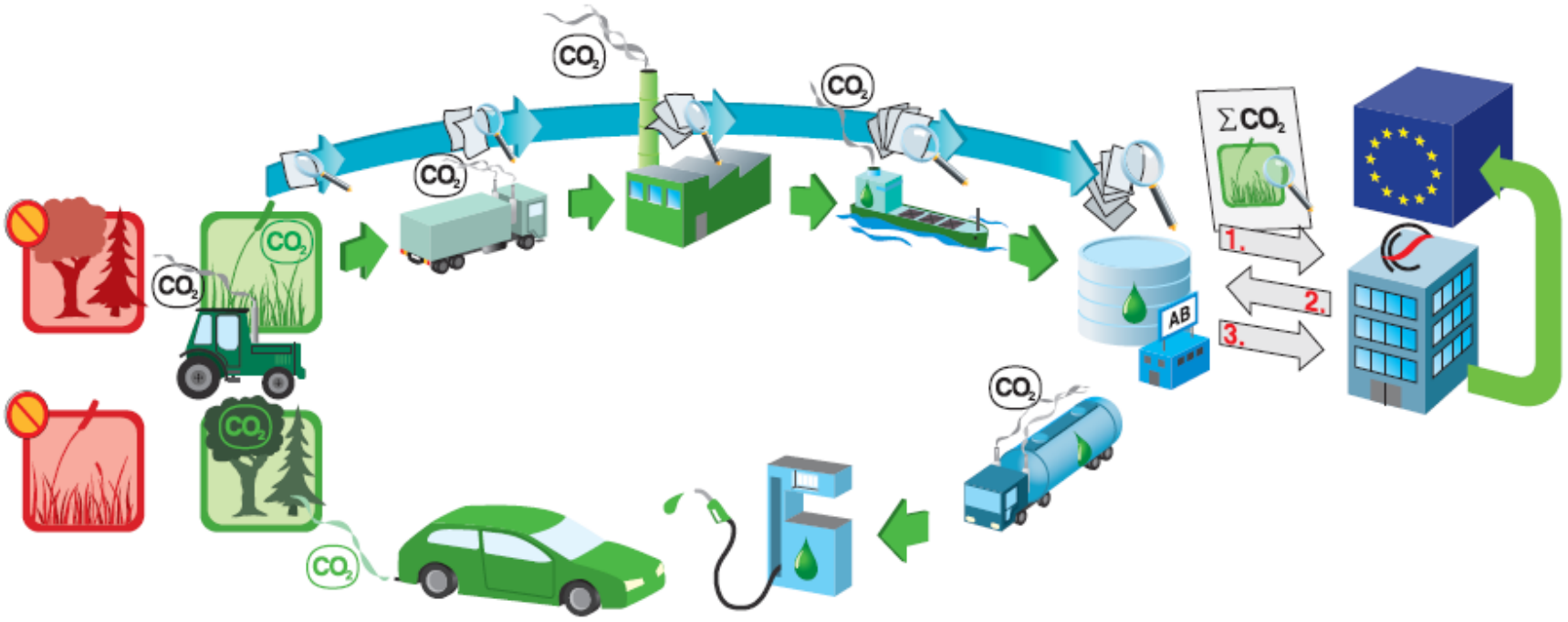
Verification system shall:

- Cover production chains handled by the system
- Be based on a risk assessment of the operation
- Take into account how the greenhouse gas emission saving is calculated
- Include written guidelines and procedures, particularly for sampling and mass balance
- Be auditable regarding the basic data pertaining to the assurance of sustainability that is saved for at least 10 years
- Be managed with a clear distribution of responsibility and functions within the organisation
- include a specific deviation management system with a designated responsible person.

Requirements on traceability and independent auditing

- The entire production chain shall be traceable – from the place where the raw material arises to delivering/use of the fuel
  - The mass balance principle shall be applied for every ”site” in the production chain
- The economic operator with a reporting obligation shall contract an independent auditor
  1. audit of the verification system when applying for a sustainability decision – is the verification system satisfactory?
  2. audit as part of a review (through sampling) – is the verification system functioning as intended?

Overview: The Swedish system



1. Application for sustainability decision
2. Sustainability decision emitted by SEA
3. Reporting of sustainable volumes 1 April

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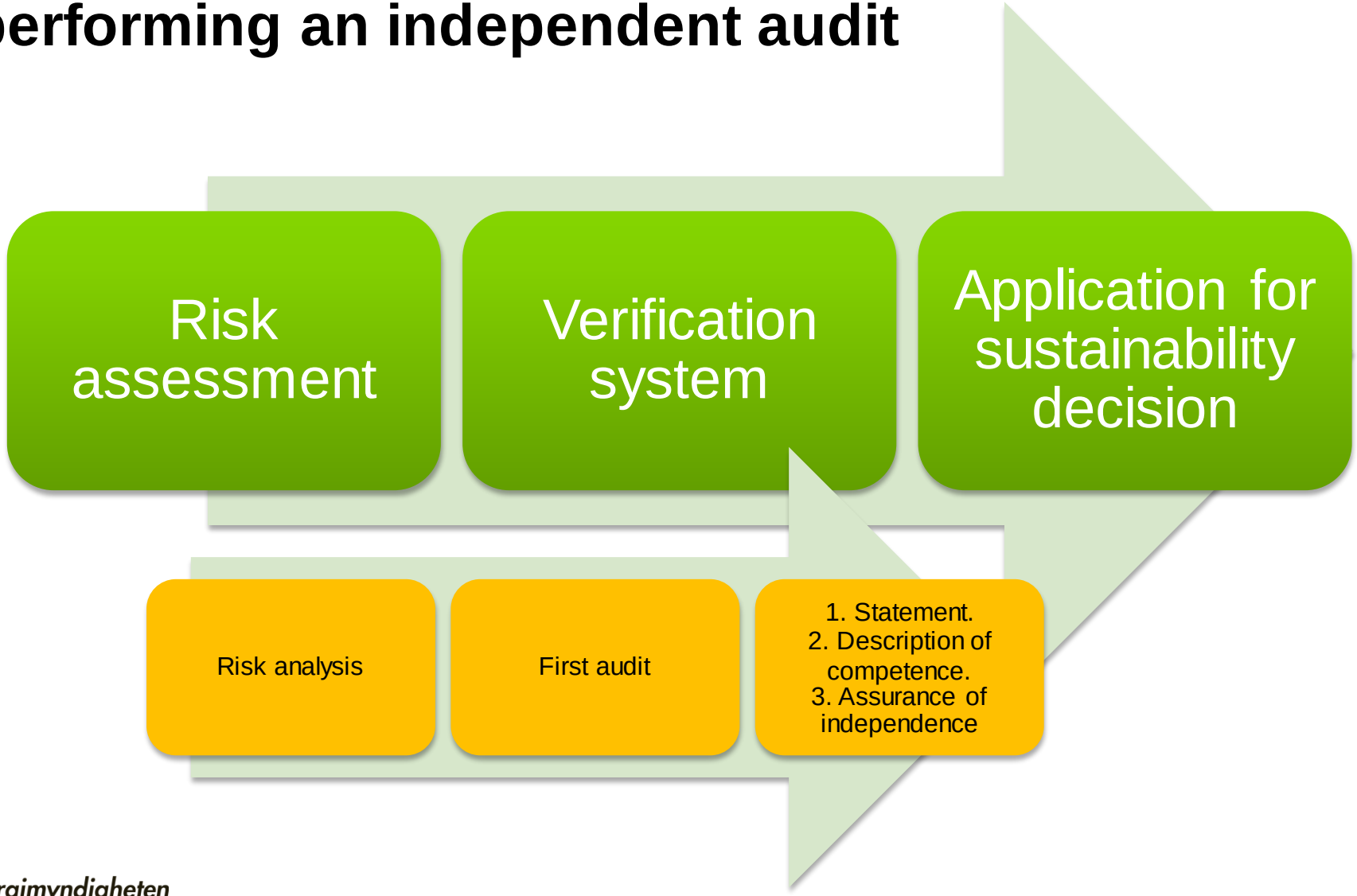
Establishment of a verification system and performing an independent audit



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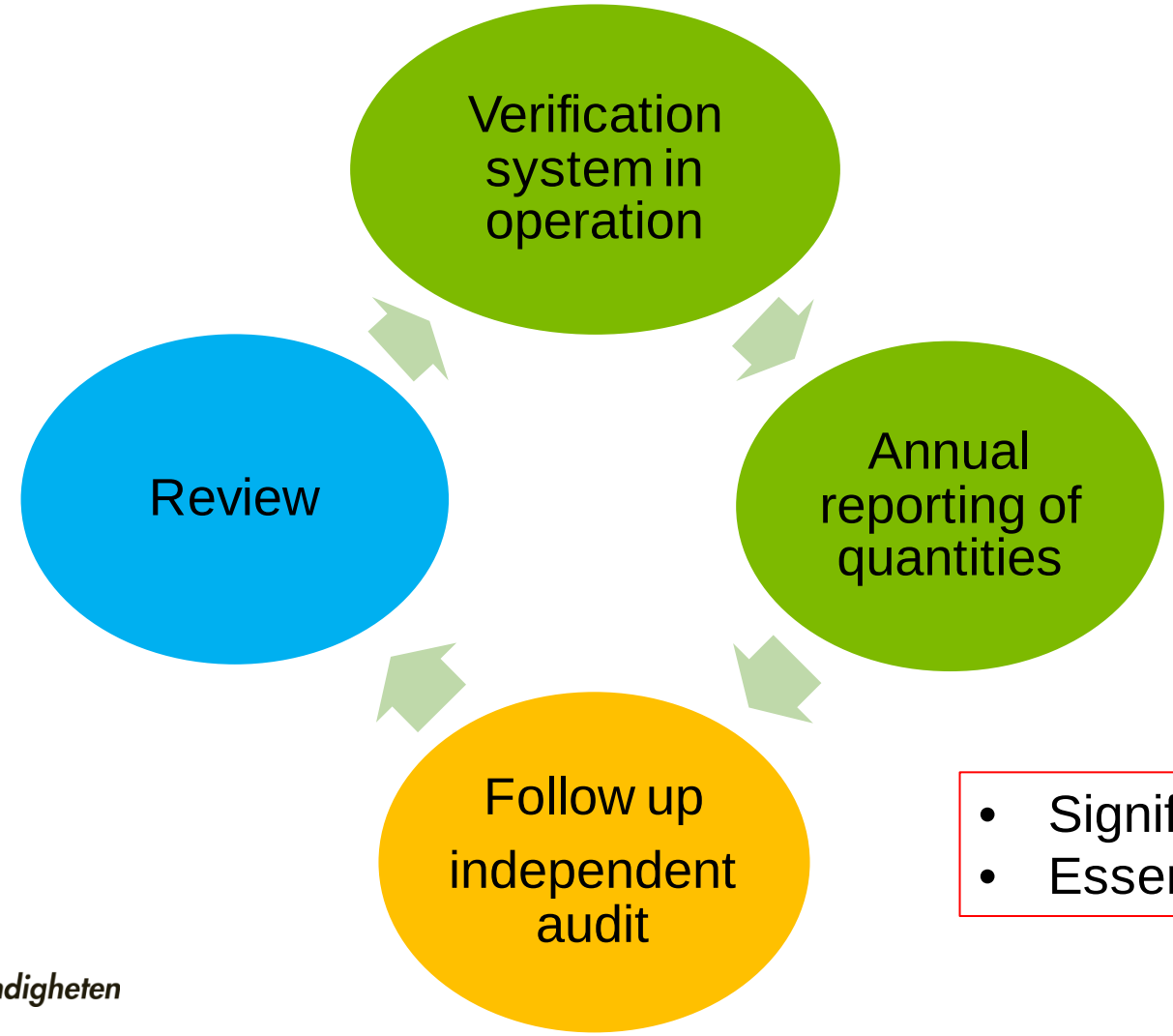
Verification system with a valid sustainability decision



- Significant deviations
- Essential changes

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Implementation of reporting according to the Fuel Quality Directive (FQD)

- Fuel suppliers: 6 % greenhouse gas emission savings 2020
- Reporting in 2012 in accordance with Act (2011:319) on fuels
- The Swedish Energy Agency is the supervisory authority in Sweden according to Ordinance (2011:346) on fuels.
- The Swedish Agency's time schedule for regulations: spring 2012 at the earliest
- Still unclear WHAT shall be reported and HOW it shall be reported
- Proposal for a commission directive concerning reporting is still being negotiated

More information about Sustainability Criteria in Sweden

- Website: www.energimyndigheten.se/hbk
  - Legal information, guidance, FAQ, information concerning the application procedure, e-portal for application and reporting, calculation tools, news…
  - newsletter
- Questions: hbk@energimyndigheten.se or tel +46 (0)16 – 544 21 35

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Verification system

- HBL Chapter 3, section 1a
- HBF sections 14-15
- HBFS Chapter 3, section 1

Verification system

- The economic operator with a reporting obligation shall, through a verification system, ensure that the biofuels and bioliquids it is to report are to be considered sustainable.
- Direct and indirect agreements through the entire production chain
  - Samples
  - Audited by an indendent auditor
  - Accurate, reliable, and protected agains fraud

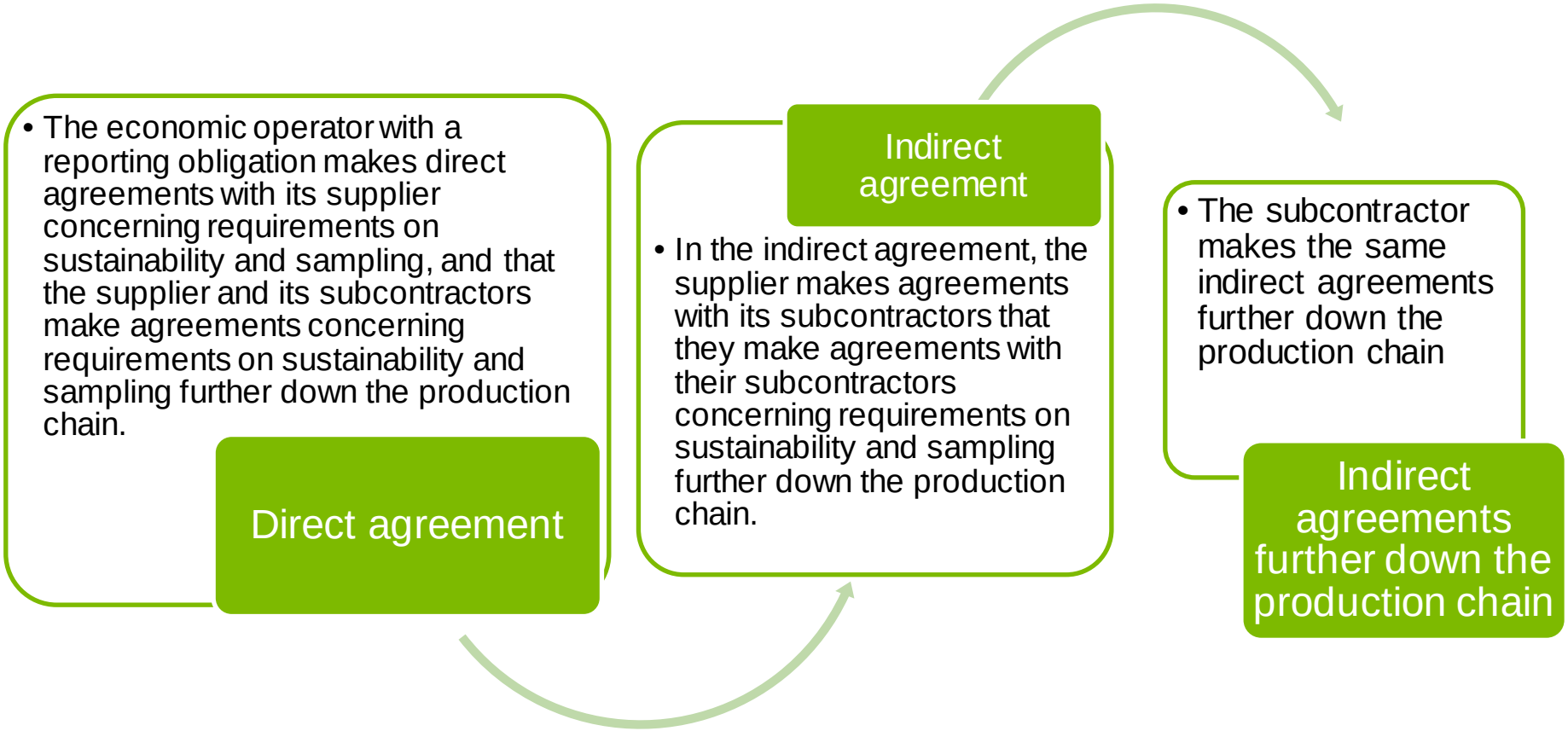
Verification system shall:

- Cover production chains handled within the system
- Be based on a risk assessment of the operation
- Take into account how the greenhouse gas emission saving is calculated
- Include written guidelines and procedures, particularly for sampling and mass balance
- Be auditable regarding the basic data pertaining to the assurance sustainability that is saved for at least 10 years
- Be managed with a clear distribution of responsibility and functions within the organisation
- include a specific deviation management system with a designated responsible person.

Agreements

- Direct agreements in the production chain
  - Betweeen an economic operator with a reporting obligation and supplier
- Indirect agreements
  - Between supplier and subcontractor
- Samples to ensure that biofuels and bioliquids are to be considered sustainable

Agreements



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Sampling

- Sampling can be performed by
  - The economic operator with a reporting obligation
  - The independent auditor
  - Other competent and independent third party
- Samples shall cover a selection of sustainable quantities
- Sampling procedures and methods shall be part of the audit when applying for a sustainability decision
- The sample size shall be part of the audit when reviewing the sustainability decision.

Deviation management system and significant deviations

- The verification system shall include a specific system for managing deviations
- The deviation management system shall have a designated responsible person
- Significant deviations identified shall be reported to the Swedish Energy Agency electronically
- The deviation report shall include a description of the deviation as well as an action plan for rectifying the deviation

If the supplier earlier in the production chain has a Sustainable decision or is certified:

- The verification system of an economic operator with a reporting obligation only needs to include the parts of the production chain that is not covered by the certificate or the sustainability decision

Independent auditing

- HBL Chapter 3, section 1 a
- HBF sections 15, 19
- HBFS Chapter 4, sections 1-10

Independent auditing

- The verification system shall be audited by an independent auditor
- The audit shall verify that the verification system is accurate, reliable, and protected against fraud
- The audit shall include an evaluation of the frequency of samples
- The audit shall include an evaluation of the information submitted by the economic operator concerning its verification system

Independent auditing

- The auditor shall be independent relative to the audited economic operator/persons
- The auditor shall have the necessary technical and economic competence when taking into account the nature and extent of the operation
- Basic data corroborating the auditor's competence and independence shall be included in the statement that is sent to the Swedish Energy Agency

Audit before application of a sustainability decision

- Risk analysis of the verification system
- Audit plan for the verification system
- Assessment of procedures and methods, particularly concerning samples and mass balance
- Assessment of the requirements set on basic data that ensure sustainability

Audit before application for review of a sustainability decision

- Assessment of whether or not the verification system fulfills its purpose through control of samples and selection of procedures within the verification system
- Control of sampling performed by the economic operator with a reporting obligation or other third party, alternatively that sampling is performed by the auditor.

Reporting

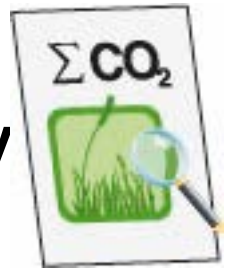
- HBL Chapter 3, section 1 e
- HBF section 13
- HBFS Chapter 5, section 1

Reporting

- The economic operator with a reporting obligation shall report the quantity of sustainable fuel that
  - is, or forms part of fuel for which the economic operator's tax obligations have entered into force in accordance with Act (1994:1776) concerning Energy Tax
  - sustainable bioliquids used
- Annual reporting, done at the latest 1 April for the previous year (starts 1 April 2012)
- Electronically on the Swedish Energy Agency's website

Reporting

Consignment = quantity with unique sustainability characteristics



- *fuel category*
- *uses*
- *sustainable quantity*
- lower heating value
- *raw material*
- *country of origin*
- *Residuals/waste*
- *cellulose content of the raw material*
- *emission savings*
- *method for the determination of emission savings*
- *type of production chain*
- *claimed considerations*
- *Certification that goes beyond requirements in the directive*

Mass balance system

- (a) allows consignments of raw material or biofuel with differing sustainability characteristics to be mixed;
- (b) requires information about the sustainability characteristics and sizes of the consignments referred to in point (a) to remain assigned to the mixture; and
- (c) provides for the sum of all consignments withdrawn from the mixture to be described as having the same sustainability characteristics, in the same quantities, as the sum of all consignments added to the mixture.

Mass balance system

- Traceability from the feedstock production up until the release of the fuels for consumption
- The mass balance shall be achieved over an appropriate period of time and in a defined “site”
- Economic actors with a reporting obligation may regard their tax warehouses in Sweden as a single “site”

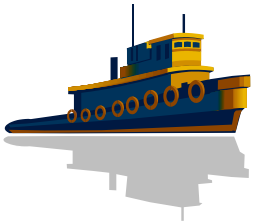
Mass balance system

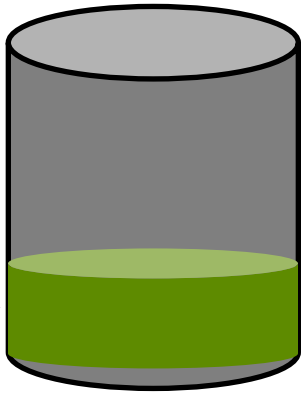
- Consignments which would normally be in physical contact can be considered a mixture
- Consignments which can be physically separated can only be considered a mixture if they are the same type of biofuel/bioliquid or feedstock/raw material

Mass balance achieved during a specific time period and within a site

Ethanol 500 m^3
sustainability
characteristics

xxxxx zzzzzz
xxxxx zzzzzz
xxxxx zzzzzz





Ethanol 500 m^3
sustainability
characteristics

xxxxx zzzzzz
xxxxx zzzzzz
xxxxx zzzzzz

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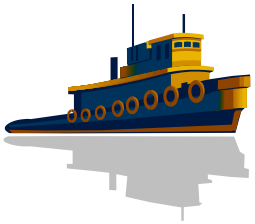
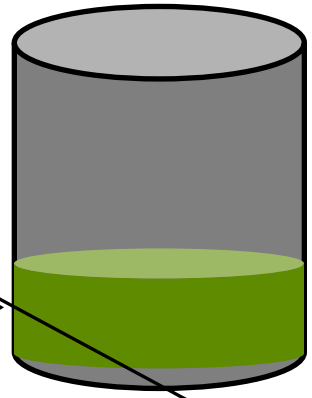
One type of biofuel not physically mixed, but stored within the same site

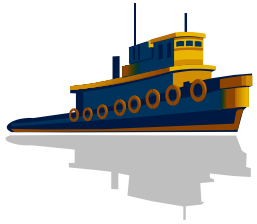
Ethanol 500 m³
sustainability
characteristics
xxxxx zzzzzz
xxxxx zzzzzz
xxxxx zzzzzz

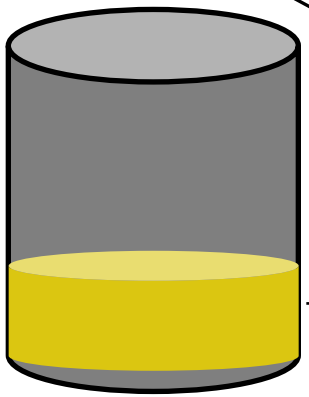




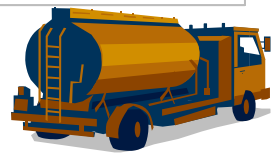
Ethanol 500 m³

Ethanol 500 m³





Ethanol 500 m³
sustainability
characteristics
xxxxx zzzzzz
xxxxx zzzzzz
xxxxx zzzzzz



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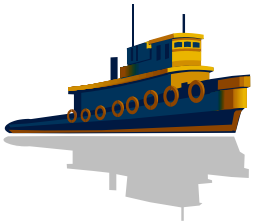
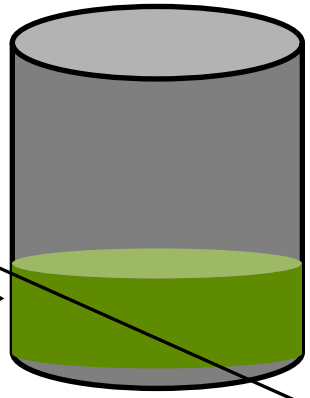
Two different types of bioliquids which are not physically mixed, but stored within the same site

NOT ALLOWED TO SWITCH SUSTAINABILITY CHARACTERISTICS BETWEEN DIFFERENT TYPES OF BIOFUELS/BIOLIQUIDS/ FEEDSTOCKS IF THEY HAVEN'T BEEN PHYSICALLY MIXED IN THE SAME TANK

Palmoil 500 m³ sustainability characteristics

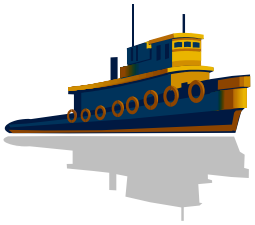
xxxxx zzzzzz
xxxxx zzzzzz
xxxxx zzzzzz

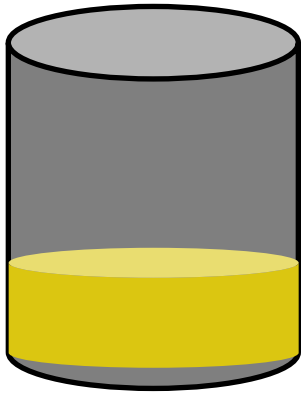




Palmoil 500 m³

Rapeseed oil 500 m³





Rapeseed oil 500 m³ sustainability characteristics

zzzzzz
zzz
xx zzzzz

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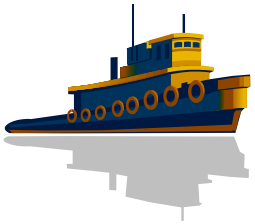
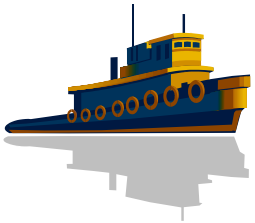
Physically mixed in the same tank and different types of bioliquids

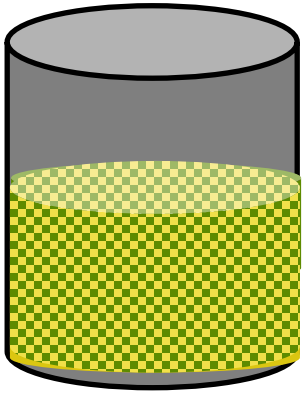
Palmoil 500 m^3 sustainability characteristics

xxxxx zzzzzz
xxxxx zzzzzz
xxxxx zzzzzz



Rapeseed oil 500 m^3





Rapeseed oil 500 m^3

Palmoil 500 m^3 sustainability characteristics

xxxxx zzzzzz
xxxxx zzzzzz
xxxxx zzzzzz

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Revocation of sustainability decision

- The sustainability decision can be revoked by SEA if:
  - the econonomic operator , or someone in the production chain break the rules of the verification system so that:
    - The biofuels reported can not (with good reason) be considered sustainable
    - The sustianability can not be satisfactory assessed
  - it is obvious that the reported biofuels can not be considered sustainable even though the commitments in the verification system is followed
- A sustainability decision shall not be revoked due to minor errors
- A revoked sustainability decision is in force immediately

Supervision by the SEA

- Due to supervision plan
  - Certain aspects of the regulation (e.g mass balance or land criteria)
  - Certain types of operators
  - Etc.
- If suspicion of irregularities of particular operators, quantities or parts of verification systems
- SEA can request all information neccesary and can prescribe measures to be taken