



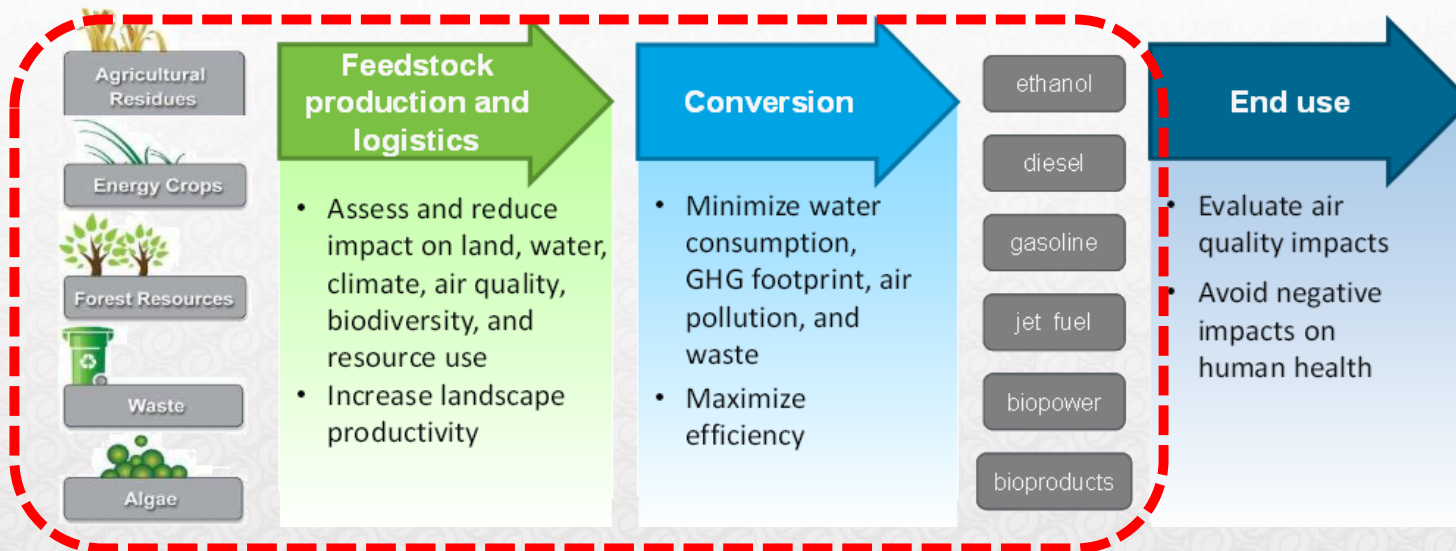
International Standard on Sustainable Criteria for Bio-energy

FDIS ISO 13065

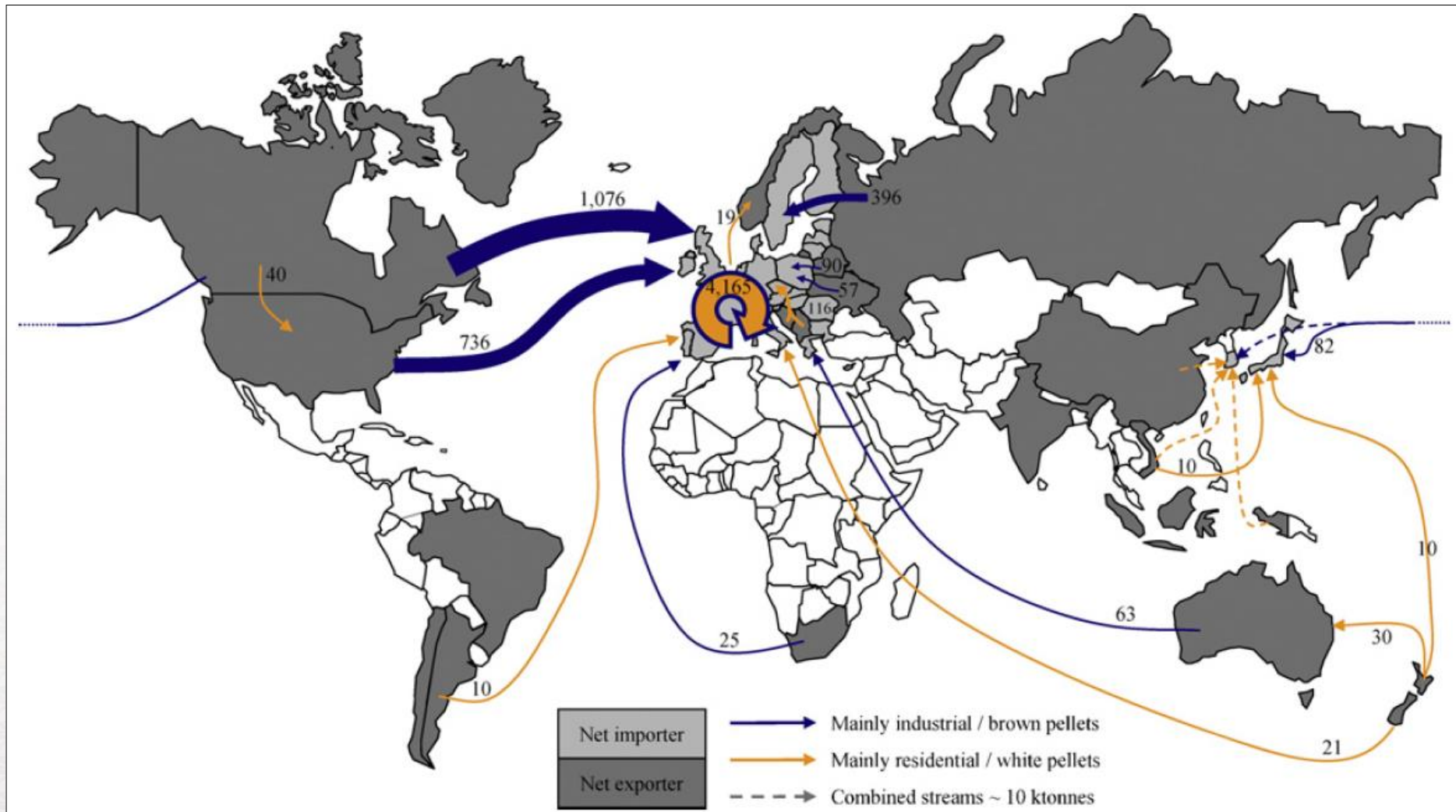
Mathias Gustavsson

FDIS - ISO 13065: Sustainable bio-energy processes

- ➔ A framework for considering environmental, social and economic aspects within the bio-energy supply chain
- ➔ Standardization in the field of sustainability criteria and indicators for production, supply chain and application of bioenergy

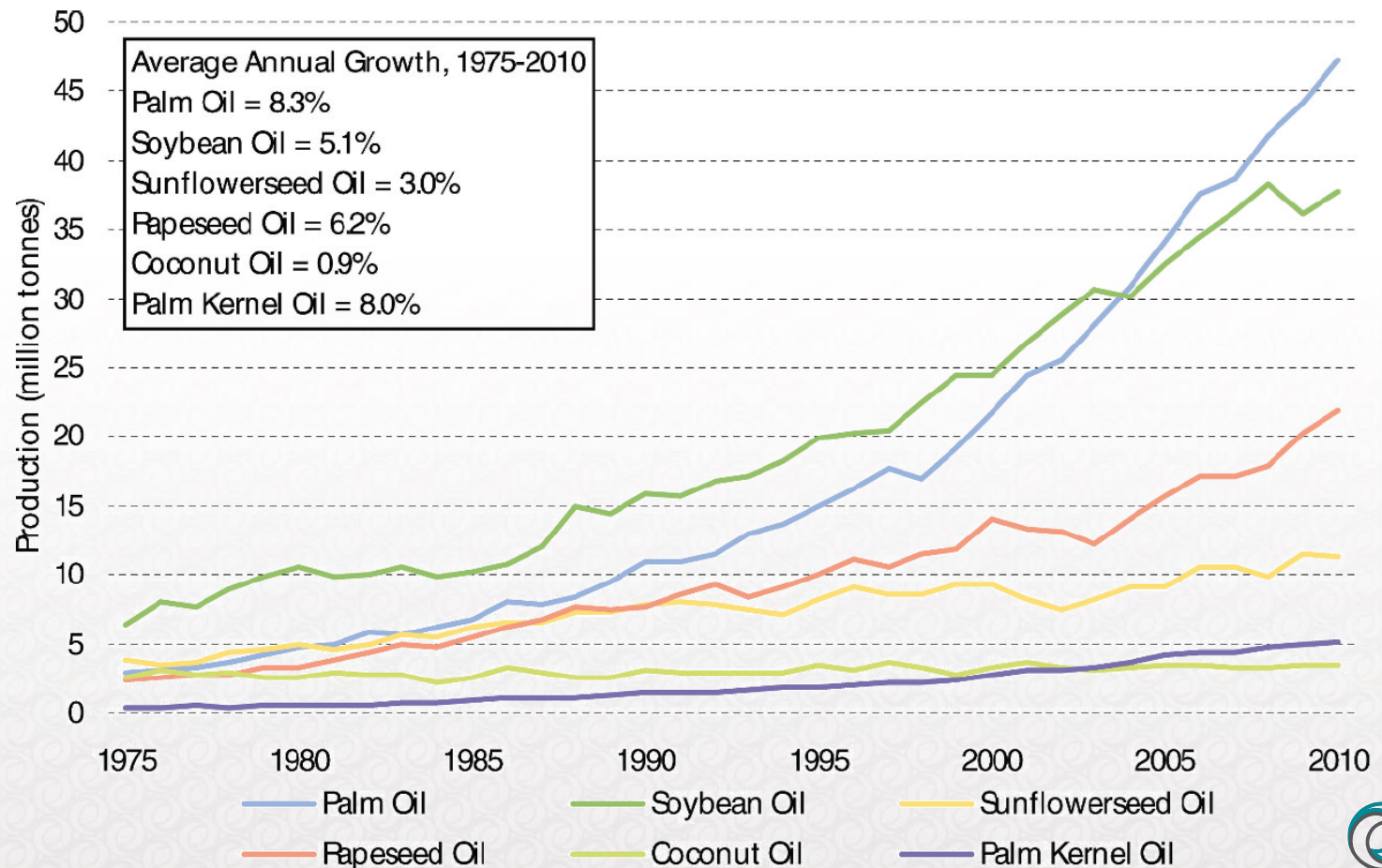


Global Wood pellet trade (2010)



From: Lamers, P., M. Junginger, C. Hamelinck and A. Faaij (2012). "Developments in international solid biofuel trade—An analysis of volumes, policies, and market factors." *Renewable and Sustainable Energy Reviews* **16(5)**: 3176-3199.

Production of vegetable oils

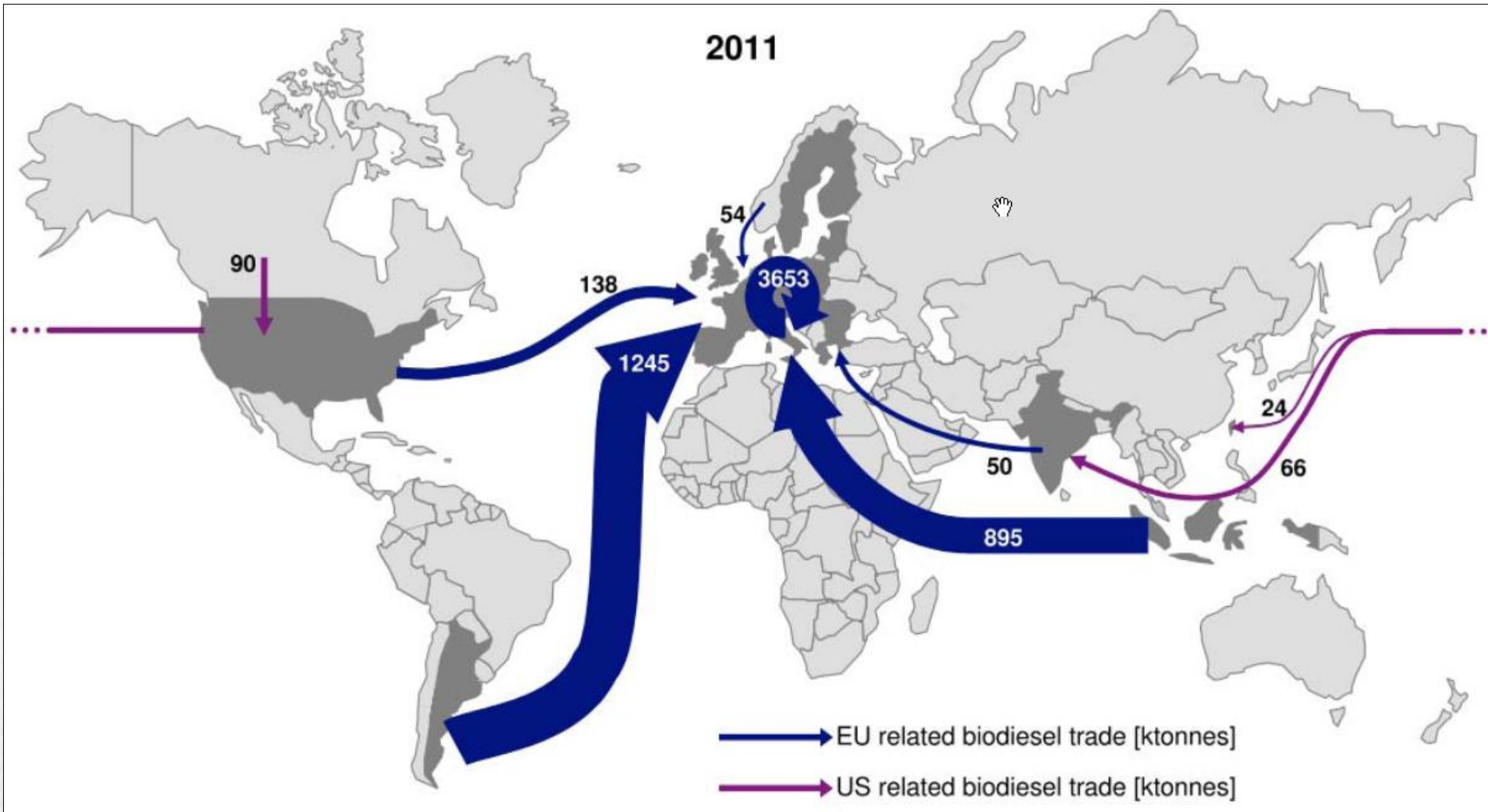


Palmoil – Malaysia





Global biodiesel trade



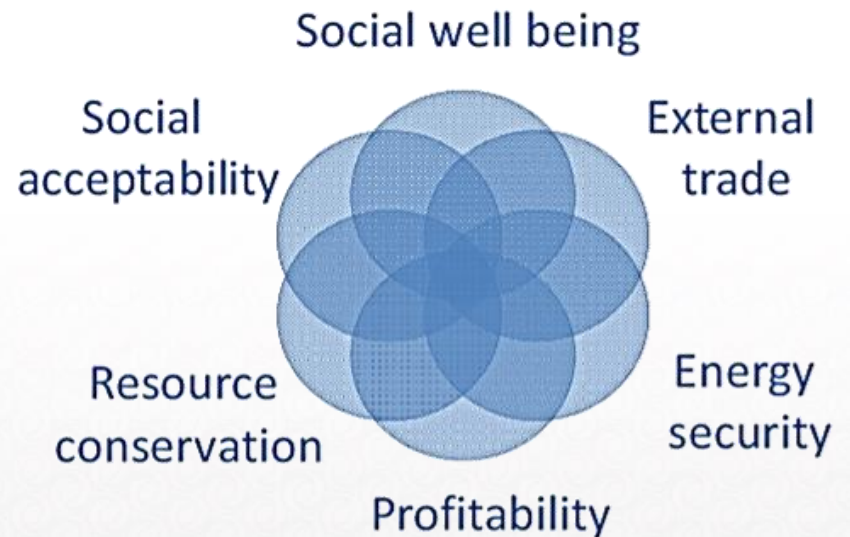
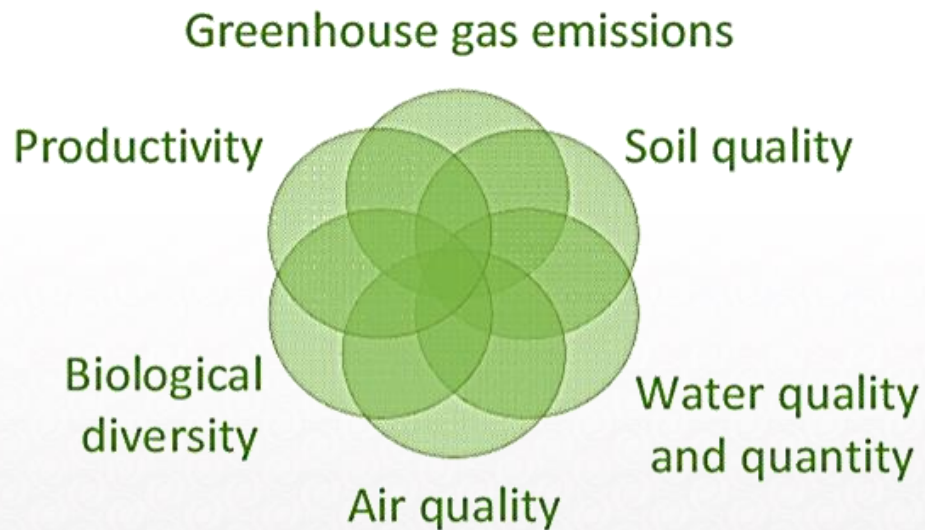
Why an international standard?

- ➔ To facilitate the sustainable production, use and trade of bioenergy
- ➔ To guide economic operators to identify areas for continual improvement in the sustainability of bioenergy
- ➔ To enhance BtB communication establishing a common language for business to describe sustainability aspects of bioenergy

What the standard includes

- ➔ P – principles (the ambition)
- ➔ C – criteria (operationalisation of the ambition)
- ➔ I – Indicator (variable that can be verified linked to the criteria)

Categories for sustainability indicators



Categories for sustainability indicators

- Greenhouse gas emissions
- Air
- Water
- Soil
- Biodiversity
- Resource use (energy efficiency)
- Waste

Some starting points

- ➔ No thresholds – possibly very complicated to assess
- ➔ ...as a consequence the information provided will not define if a process is sustainable or not
- ➔ Provide information for someone else to assess
- ➔ Disclosure of information up to the Economic operator
- ➔ Direct effects are measurable environmental, social and economic effects under the direct control of the economic operator and caused by the process

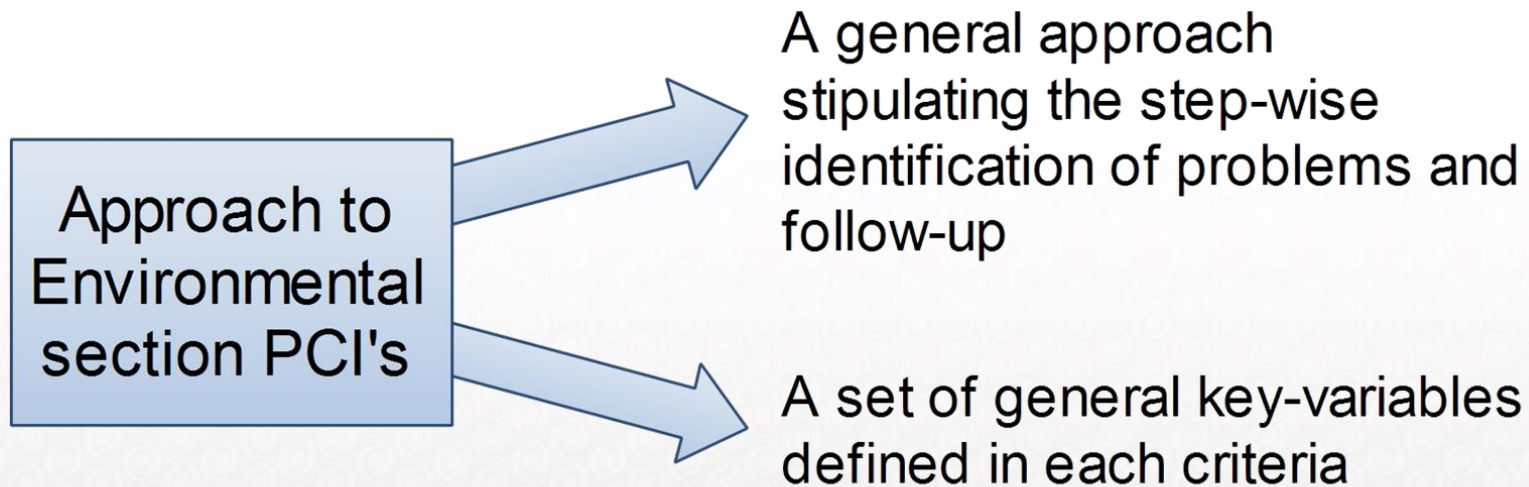
Climate

- ➔ Principle: Reduce GHG emissions from anthropogenic sources.
- ➔ Criterion: The economic operator provides information regarding life cycle GHG emissions and GHG removals.

Climate cont

- LCA approach
- No indirect Land Use Change (iLUC)
- Biobased carbon considered neutral - unless land use change (LUC)

Approach environmental PCIs



Approach environmental PCIs

- ➔ Indicator 1: Describe procedures undertaken to identify potential impacts
- ➔ Indicator 2: List impacts identified using procedures from indicator 1.
- ➔ Indicator 3: List the measures taken to address the identified impacts.
- ➔ Indicator 4: Report values and trends of key parameters

Air

- Principle: Promote good air quality.
- Criterion: The economic operator provides information on how air emissions are addressed.
- Air emissions can include air pollutants, odour and noise – GHG is treated in climate PCI.



Biodiversity – in area of operation

- ➔ Principle: Promote the positive and reduce the negative impacts on biodiversity.
- ➔ Criterion: The economic operator provides information on how biodiversity values are addressed within the area of operation for the process being assessed and the environment directly influenced by the economic operator.

Biodiversity – in area of operation

- ➔ PCIs are linked to two different areas:
 - Non-protected areas
 - Protected areas (defined through categories IUCN)



Resource efficiency

- ➔ Provide information of the energy required to produce the bioenergy alt. or provide information that enables a calculation
- ➔ Information on the total energy input including renewables and non-renewables,

Waste

- ➔ Principle: Promote responsible management of waste.
- ➔ Criterion: The economic operator provides information on how wastes are addressed.

Informative annexes

- ➔ Informative annexes giving information on what *can* be included in the information collected
- ➔ The approach:
 - creates flexibility
 - reduce simplification
 - makes comparisons possible but less easy

Conclusions

- ➔ Application of biomass certification schemes is a young 'science'
- ➔ NGO community have long experience and are important stakeholders
- ➔ The PCIs are ambitious but what will be reported will only be seen when the standard is applied in reality

Thank you!

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