



# **Palm oil and Peatlands**

## ***An industry perspective***

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## A few words about BioX...

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- BioX is a renewable energy company, specialised in energy from liquid biomass
- Dutch company, with main offices in Vlissingen (NL) and Kuala Lumpur (MY)
- Two main areas of business:
  - Development (and operation) of palm oil fired power plants in a number of European countries
  - Implementation of biogas projects for treatment of POME wastewater at palm oil mills (CDM-type projects)



## BioX and Sustainability

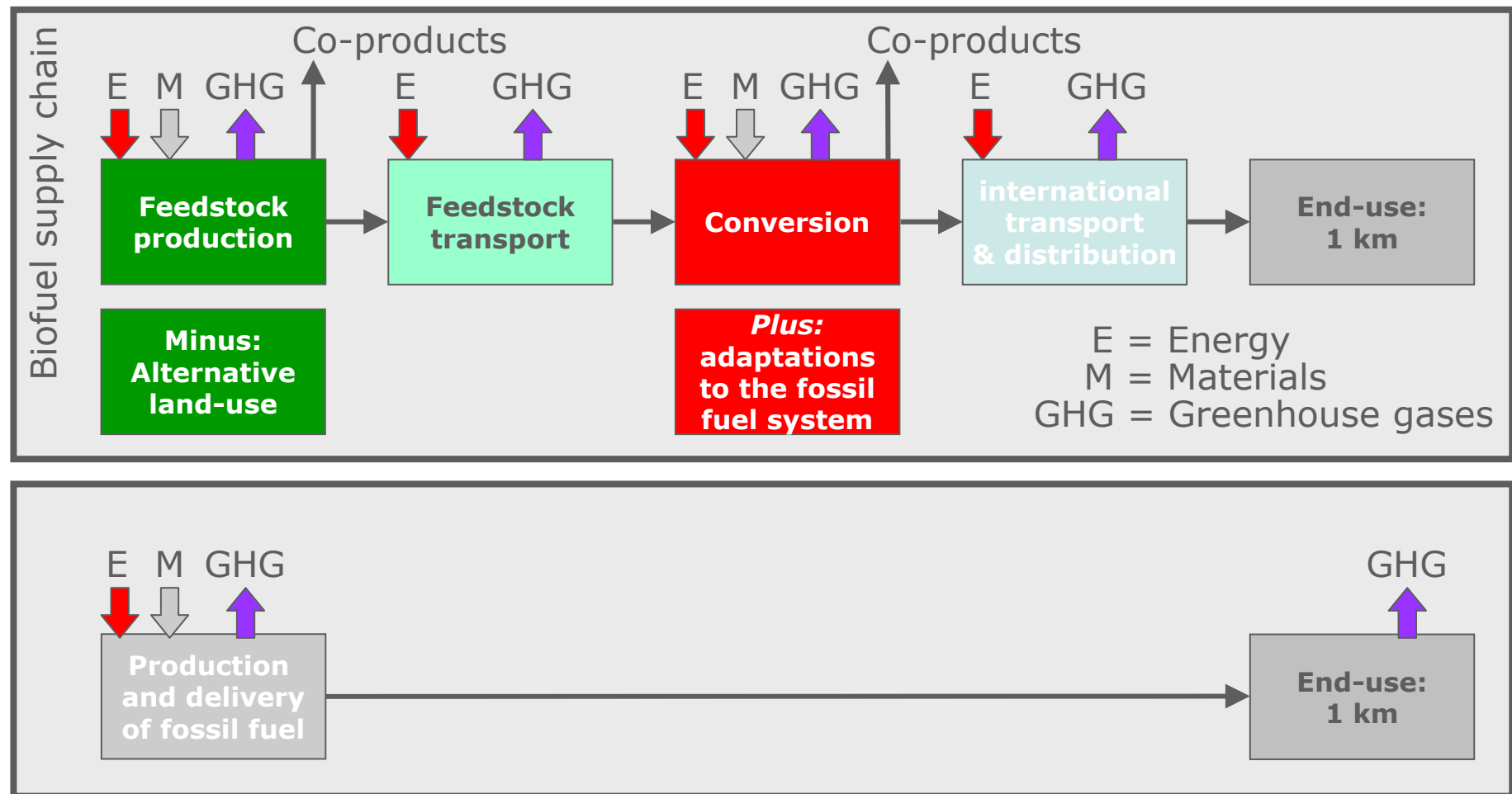
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Sustainability is an integrated element of BioX business strategy → we believe that we can only be successful in business in the long run if we can prove sustainability of the biomass we use to generate energy.

This means that in our power plants we will only use palm oil which has been certified against RSPO Principles & Criteria.

In addition, we will have to prove that the greenhouse gas balance of the palm oil we use is positive, i.e. it leads to a significant emission reduction as compared to fossil fuels. This will become a government requirement in EU countries.

## Comparison of biomass chain and fossil fuel reference



## European CO2 Calculation Tool - background

- Many LCA-type of studies exist on the greenhouse gas emissions of biomass-to-energy chains, including palm oil. However, these studies show a wide range in results, based on chain definitions, parameters and methodologies applied
- The Netherlands and UK government are finalising a joint *official* Greenhouse Gas Balance Methodology & Calculation Tool. Other countries including the European Commission are likely to follow this methodology.
- Companies using biomass as transport biofuel or for generation of bio-electricity will have to report on the basis of this official Calculation Tool.

## European CO2 calculation tool – results for palm oil

- For the palm oil to energy chain, three emission factors are dominant in the overall result:
  - Land use change (conversion of forest and peatland, or not)
  - Fertiliser usage at the plantation
  - Treatment of POME wastewater (with or without methane capturing)

## European CO2 calculation tool – results for palm oil

- Results:
    - Without land use change, the CO2-reduction is 60-70% as compared to fossil fuels
    - This figure can increase to approx. 80% if methane capturing of POME wastewater is applied (CDM-project)
    - However, if conversion of forest and peatland has taken place, CO2-emissions are > 100% higher than fossil fuel emissions
- (N.B. Cut off date for land use change is November 2005, in accordance with RSPO Principles & Criteria)

## European CO2 calculation tool – how does it impact on peatland degradation?

- Plantations which have been newly developed on peat after November 2005 will have a negative CO2-balance:
  - Palm oil from this plantations will not go to European biofuel and bio-energy applications, as governments require positive balance
  - However, other applications of this palm oil, for which no CO2-balance reporting is required, are still possible (e.g. food)
- To minimise new developments on peat, CO2-balance reporting shall also be applied to other sectors of industry



## European CO<sub>2</sub> calculation tool – how does it impact on peatland degradation?

- The CO<sub>2</sub> effects of existing (i.e. prior November 2005) plantations on peat can be reduced by rewarding best water management practice through a CO<sub>2</sub>-bonus in the calculation tool.

## Conclusions and recommendations

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- The European CO<sub>2</sub> Calculation Tool is a potentially powerful instrument to make CO<sub>2</sub>-effects of palm plantations on peat accountable. However, in order to maximise its effects:
  - Other sectors of industry, e.g. food sector, shall be obliged or stimulated to report on the CO<sub>2</sub>-effects of the biomass they use
  - There shall be an incentive in the tool to apply best water management practices at existing plantations on peat (i.e. before November 2005)

## Conclusions and recommendations

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- RSPO shall include greenhouse gas emissions of palm oil production as one of its key Principles or Criteria. Emissions from land use change and Peatland degradation shall be considered as an integrated element (requested by the involved stakeholders to establish a GHG Working Group on RSPO, which can review current P&C to incorporate GHG).
- In order to halt the destruction of peatlands, financing mechanisms are required which combine peatland conservation and restoration, with alternative socio-economic development → The Global Peatland Fund is such a mechanism



## The Global Peatland Fund

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- The Global Peatland Fund is a joint initiative of Wetlands International and BioX
- The Fund will invest in peatland restoration and conservation projects. These projects will generate large volumes of Voluntary Emission Reductions and emission removals (“VERs”) by avoiding carbon emissions. The sale of VERs will generate a good return for the investors while the remaining profits of the Fund’s operations, in line with the broader goals of the Fund, will be invested into community development projects.

## The Global Peatland Fund

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- The geographical focus of the Global Peatland Fund will initially be on Kalimantan (the Indonesian part of Borneo) and Sumatra, where Wetlands International has successfully carried out community-based peatland conservation and restoration projects in cooperation with local governments.
- The Fund will officially be launched on 11 December

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