

Ecological impacts of large scale biomass production systems and  
securing sustainability of biomass production.

# Risk assessment of biomass systems



UNEP

Marie Holmlund ([marie.holmlund@unep.fr](mailto:marie.holmlund@unep.fr))

United Nations Environment Programme

Division of Technology, Industry and Economics (DTIE), Energy Branch, Paris

# Promoting Renewable Energy

## 1) Getting the policies right

- CD4CDM ([www.cd4cdm.org](http://www.cd4cdm.org))
- Global Network on Energy for Sustainable Development, GNESD ([www.gnesd.org](http://www.gnesd.org))



# Promoting Renewable Energy

## 2) Mobilising Investment

- Biofuel Oil Promotion and Credit Facility
- Sustainable Energy Finance Initiative, SEFI  
([www.sefi.unep.org](http://www.sefi.unep.org))
- Rural Energy Enterprise  
Development, REED  
([www.ared.org](http://www.ared.org),  
[www.b-reed.org](http://www.b-reed.org),  
[www.c-reed.org](http://www.c-reed.org))



# Partnerships

At the Environmental Forum in Magdeburg, Germany, DaimlerChrysler and UNEP agreed to:

- Promote the establishment of standards for biofuel blends and their promotion through appropriate incentives
- Explore the development of a “sustainability seal” or criteria for the cultivation of biomass for biofuels

# UNEP's strengths in the bioenergy sector

- Environmental sustainability
- Developing countries' possibilities
- Financing tools
- Global perspective

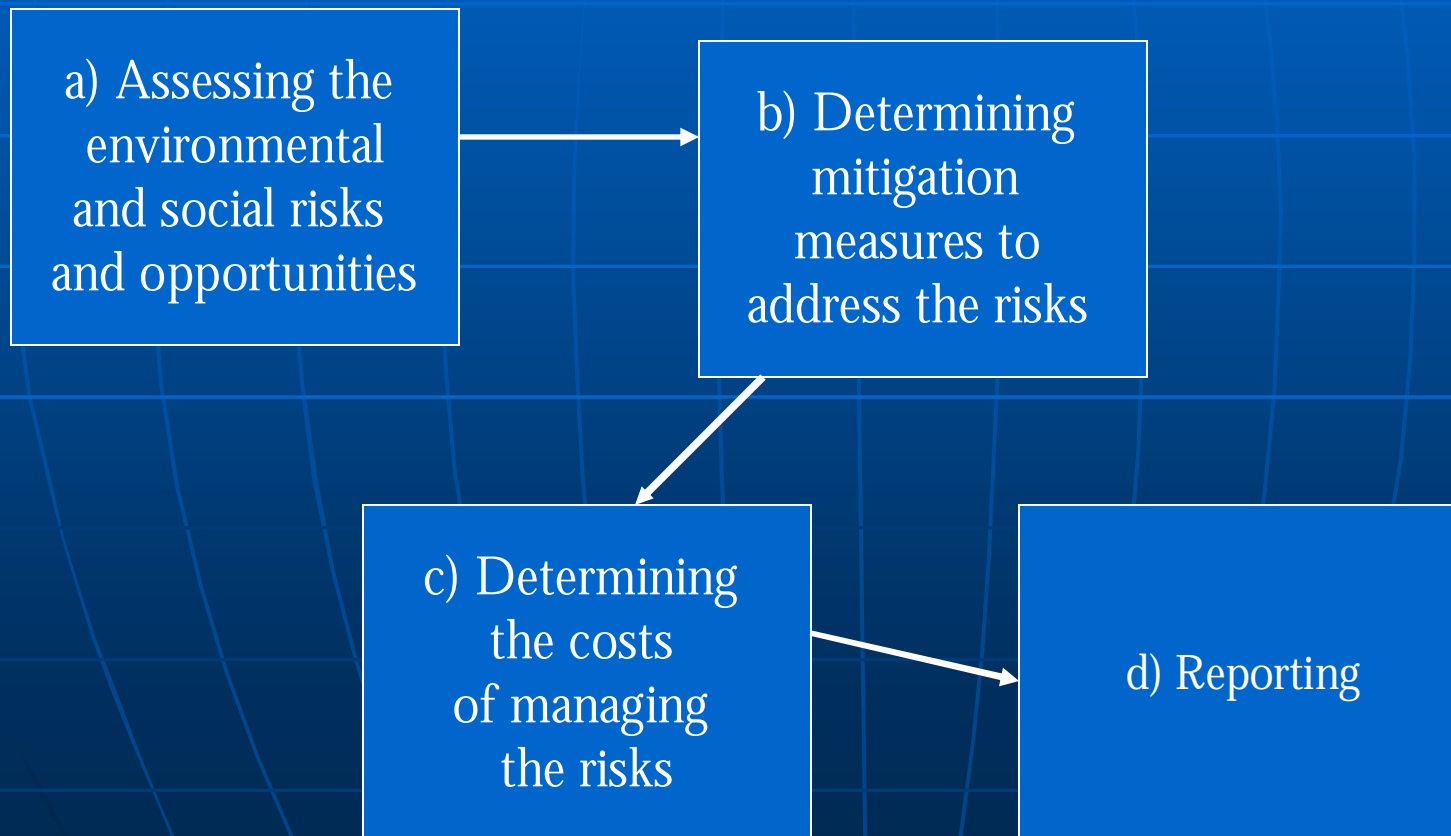
# Production potential in developing countries

- Good conditions regarding soil, climate
- CDM possibilities
- Large job creation potential
- Effective utilization of wasteland areas
- Increase the tree cover and help control soil erosion

# Possible risks involved in large scale bioenergy production

- Soil degradation and water scarcity
- Threat to biodiversity
- Threat that the needs of local populations will be put aside
- Child/underpaid labour
- Increased food prices

# The Environmental Due Diligence – Risk assessment of biomass system based on energy crops





# The Environmental Due Diligence – Risk assessment of biomass system based on energy crops

## 1. Effluent emissions, on-site contamination and hazardous materials issues

- Use of pesticides
- Use of chemical fertilisers
- Brownfield location
- Emissions of NO<sub>x</sub>, SO<sub>2</sub>, CO, particulates, VOC, GHG
- Solid waste

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## 2. Biodiversity protection issues

- introduction of non-native species
- use of GMOs

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## 3. Workers health and safety issues

- Pesticide application
- Risk of accidents from crop cultivation and harvesting (poisoning, fires etc)
- Risk of accidents from generation activities

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## 4. Environmental issues sensitive to public opinion

- significant land use
- soil erosion or compaction
- water depletion
- loss of biodiversity
- visual impact
- noise from generation activities

[www.sefi.unep.org](http://www.sefi.unep.org)

# Final remarks

Need for:

- Assured sustainable large scale production
- The right policies and regulations
- Infrastructure in place
- Knowledge transfer including a learning network among developing countries
- Environmental 'foresight'

# Not a local issue



This little planet = our home