for a living planet®

Bioenergy sustainability with focus on the EU policy developments.

László Máthé
WWF International / WWF Scotland
lmathe@wwfscotland.org.uk

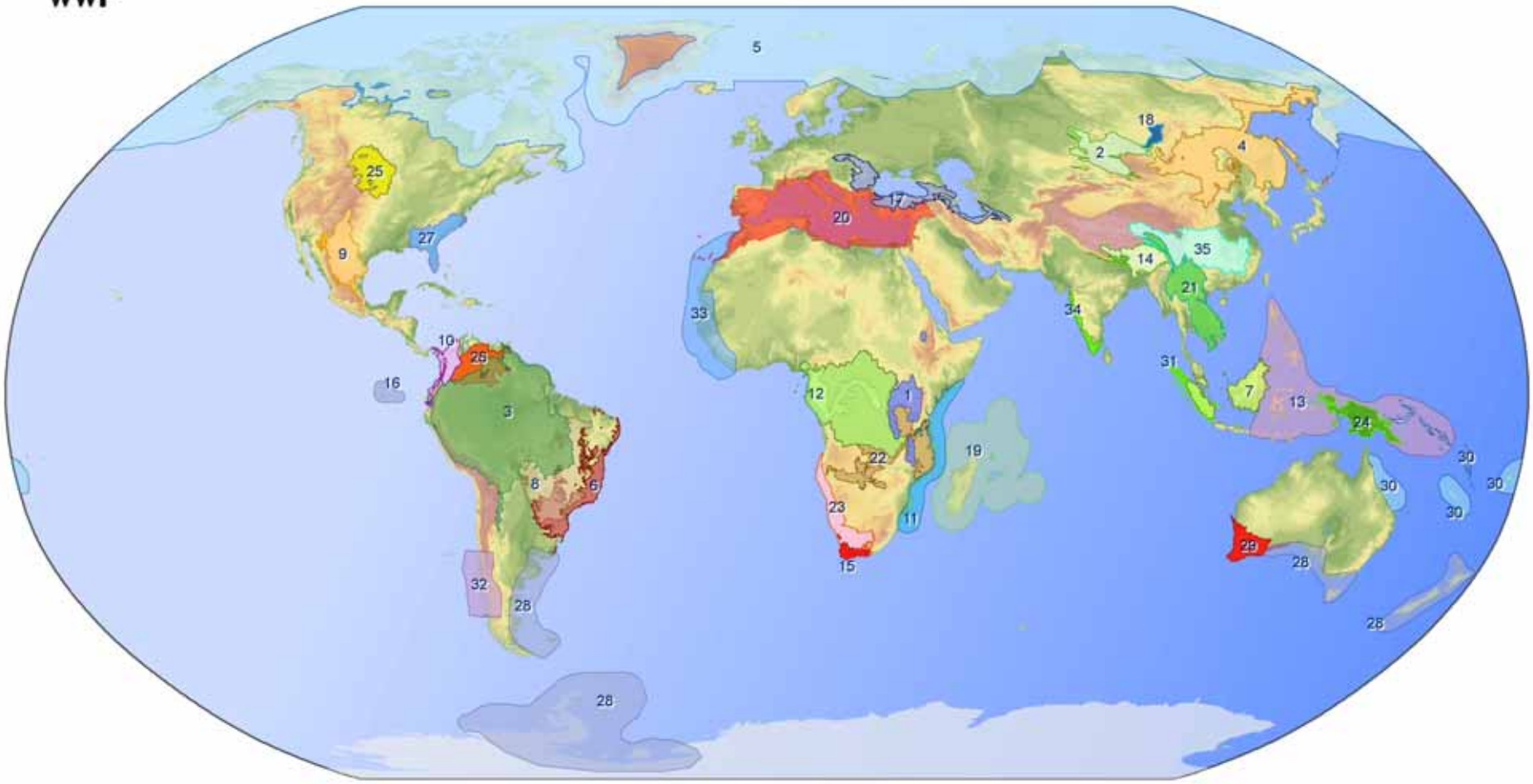
Content

- Introduction
- Tools to promote a responsible/sustainable bioenergy sector
- Conclusions

WWF

- Established in 1961
- 5 million supporters
- Offices (NOs, POs, Assoc.) in 91 countries
- 4400 staff
- Thematic focus: Climate/Energy, Forests, Freshwater, Marine, Species, Sustainability
- Regional Priorities

WWF Network Priority Places

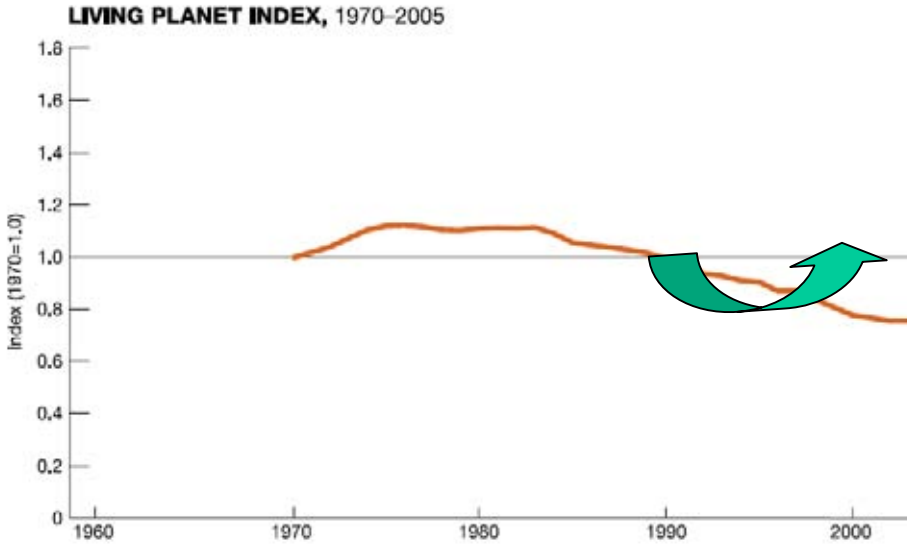


WWF Network Priority Places

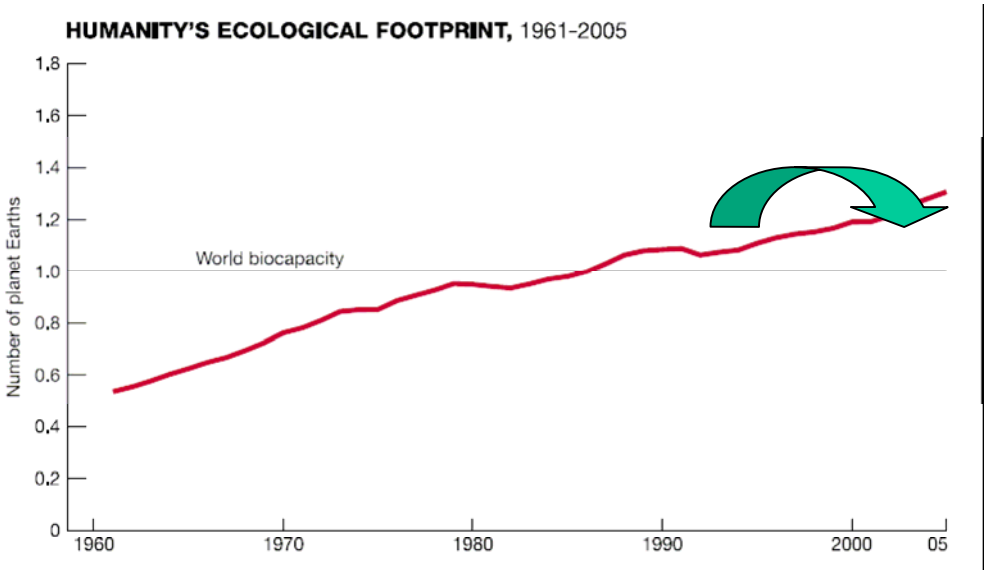
1, African Rift Lakes Region
2, Altai-Sayan Montane Forests
3, Amazon Guianas
4, Amur-Heilong
5, Arctic Seas and Associated Boreal/Tundra
6, Atlantic Forests
7, Borneo
8, Cerrado-Pantanal
9, Chihuahuan Deserts and Freshwater
10, Choco-Darien
11, Coastal East Africa
12, Congo Basin
13, Coral Triangle
14, Eastern Himalayas
15, Fynbos
16, Galapagos
17, Greater Black Sea Basin
18, Lake Baikal
19, Madagascar
20, Mediterranean
21, Mekong Complex
22, Miombo Woodlands
23, Namib-Karoo-Kaokoveld
24, New Guinea and Offshore Islands
25, Northern Great Plains
26, Orinoco River and Flooded Forests
27, Southeastern Rivers and Streams
28, Southern Ocean
29, Southwest Australia
30, Southwest Pacific
31, Sumatra
32, Valdivia
33, West Africa Marine
34, Western Ghats
35, Yangtze Basin

WWF – 2 global goals

Biodiversity



Ecological Footprint



…reverse global trends

WWF's climate solutions

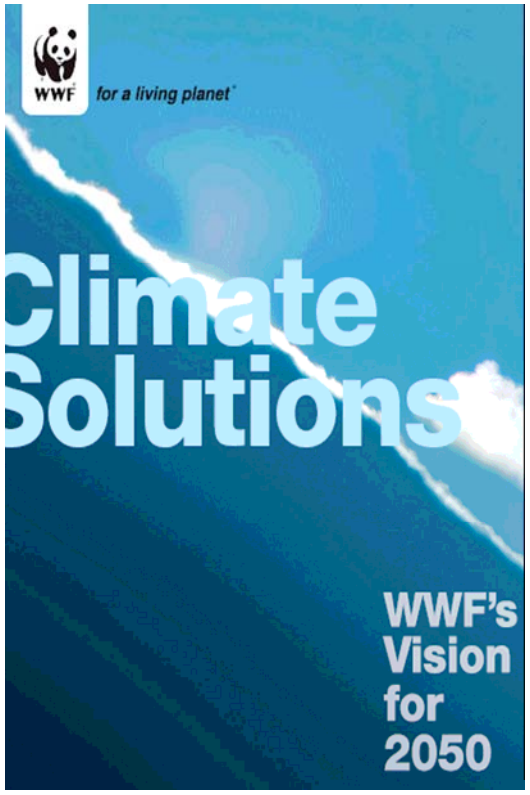
Main conclusions:

- WWF sees climate change as a major threat to biodiversity that will potentially overshadow any other human-induced threat.

-High degree of probability that known forms of sustainable energy sources using known technologies can be harnessed to meet doubling energy demands by 2050.

- Achieve 60-80% reduction of climate dangerous emissions

- Long term stabilization of 400 ppm, which will hopefully avoid dangerous climate change and keep warming under 2 C^0



- **6 solutions, one of them is the wide use of renewable sources of energy**

- **Bioenergy for heat and transport holds vast potential but could go terribly wrong if implemented unsustainably – *e.g.*, by clearing biodiverse habitats to plant energy crops.**

- **By 2050, the scenario includes the equivalent range of 110-250EJ per year from sustainable biomass, with a best estimate at 180EJ/yr. Together, this and other low emission technologies can provide 513EJ energy per year by 2050, or about 70% of the supply after efficiencies have been applieds.**

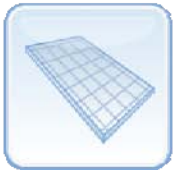
WWF Grouping of Climate Solutions Technologies

Industrial Energy Efficency and Conservation
Efficient Buildings
Efficient Vehicles
Aviation and Shipping Efficency
Repowering Hydro

BENEFITS >> DISBENEFITS

Sustainable Biomass
Wind Power
Solar PV
Solar Thermal Power
Solar Thermal Heat
Small Hydro
Geothermal (heat and power)
Tidal, Wave and Ocean Technologies
Hydrogen from Renewables
Large Hydro (existing plus sustainable)
Carbon Capture and Storage
Natural Gas displacing Coal

BENEFITS > DISBENEFITS



Unsustainable Biomass
Unsustainable Hydro
Nuclear

BENEFITS < DISBENEFITS

How to address sustainbility?

International processes

- **EU** biofuel directive, criteria for biomass (liquids, no go areas, minimum GHG savings), biomass directive (MCPFE, CEN, credible certification)
- **CBD** regional processes, assessing impacts
- **REDD/CDM** (land use planning, reducing deforestation)
- **FLEGT** (legal, but not necessarily sustainable)
- **MCPFE** bioenergy criteria, afforestation/reforestation guidelines
- **RSB** (draft standard, HCV, GHG balance, it's a meta standard)
- **Reporting on biofuel sustainability in the UK (RTFO):** sustainability criteria are not legally binding, reporting is.

Socio-environmental safeguards for bioenergy

- Significant **GHG balances** over fossil fuels

- Bioenergy production should not be established through the conversion of natural ecosystems that have **high conservation values** and/or critical **carbon storage** functions

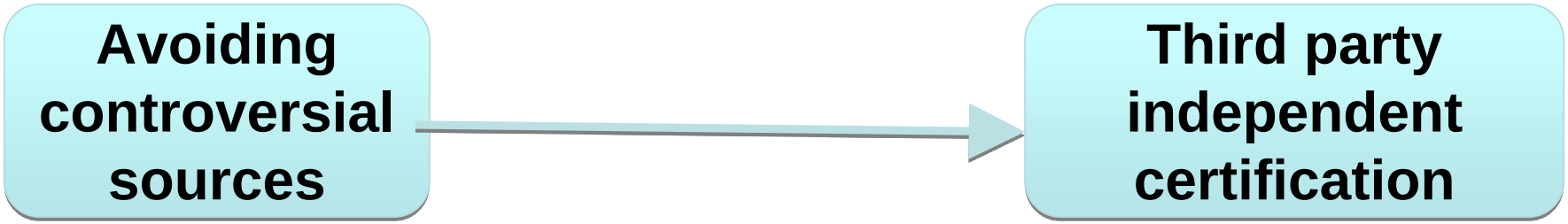
- Bioenergy feedstocks must be produced using **better management practices** (BMPs)

Socio-environmental safeguards for bioenergy

- Governments must take measures to ensure an equitable playing field for the **small producers**
- Implementation of bioenergy policies must take into account **food security** and must not threaten the realisation of the right to food
- Policies and programmes must address **displacement effects** that influence GHG balance, poverty and the environment
- Social considerations and **indigenous people's rights** must be considered as a priority in bioenergy development

What tools to use to achieve sustainable or responsible management?

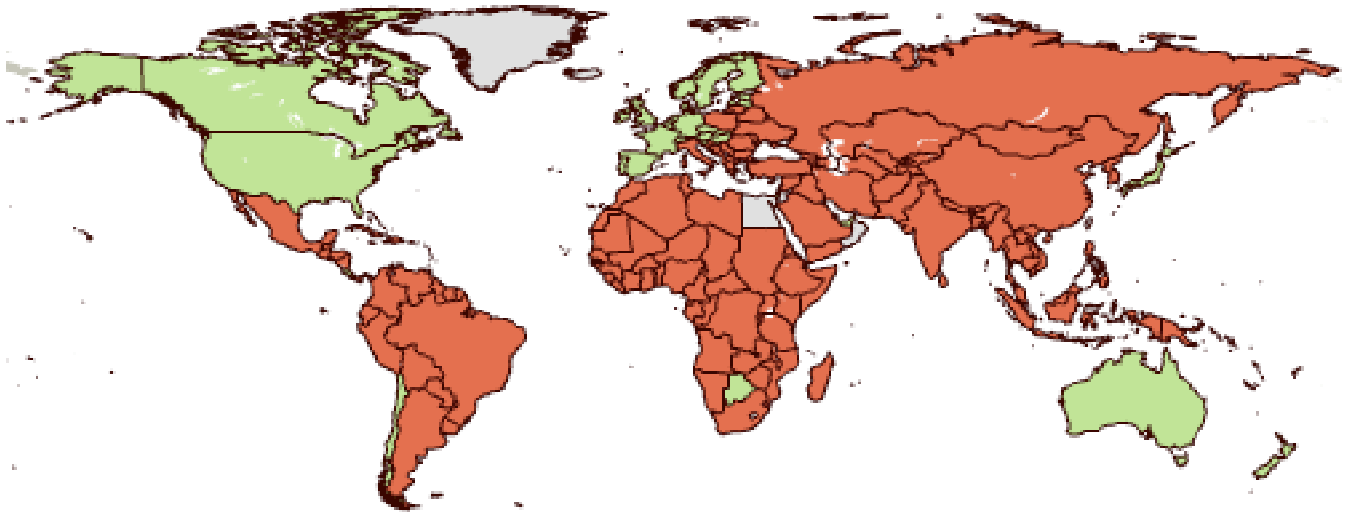
- Depends on:
  - The associated risks
  - The associated costs
  - The producers
  - The claims made on the feedstocks (independently verifiable)
  - ….



- Legally binding (EIA, procurement policies, legality)
- Voluntary (certification, verification, scorecard system)
- Step-wise approach

Avoiding controversial sources

- Tools are already available

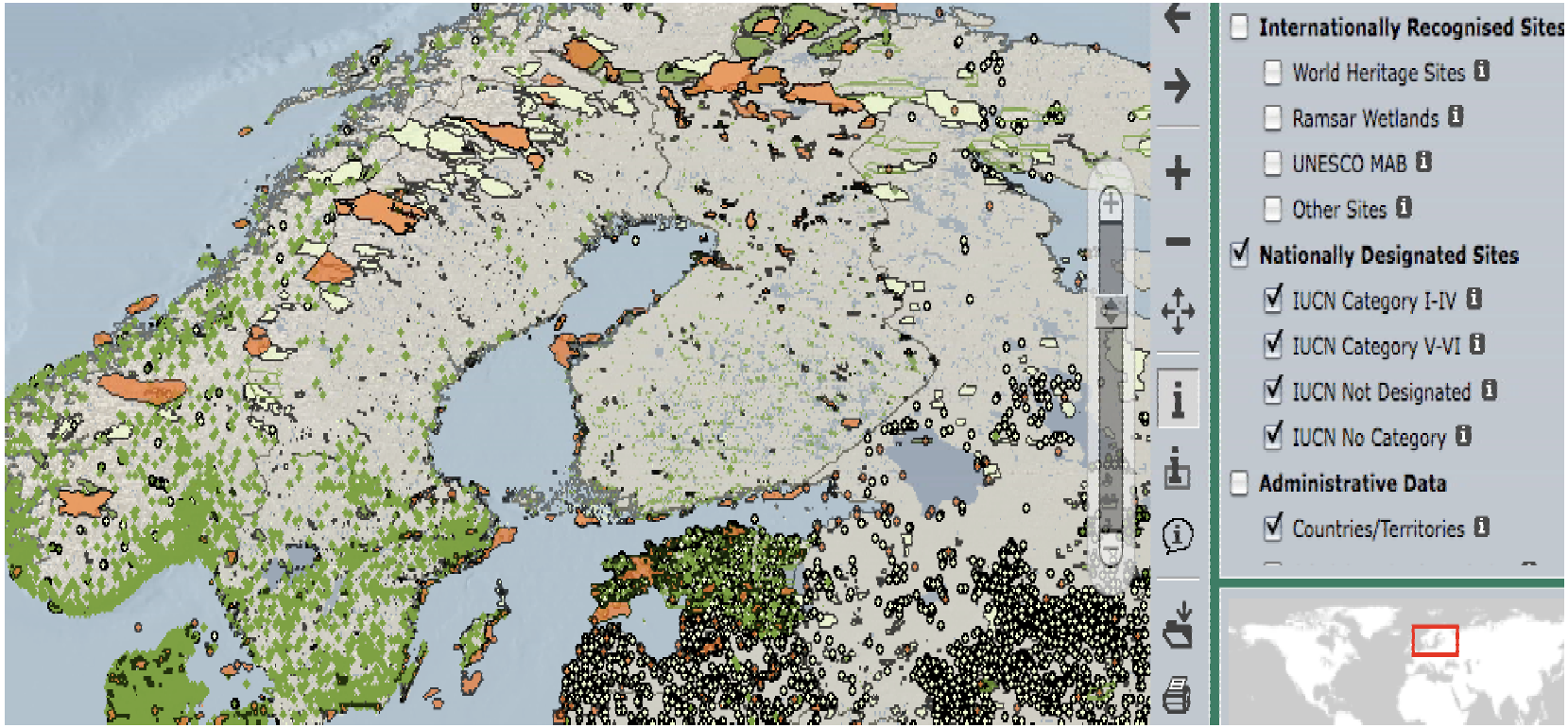


Risks with regards to legality (source NEPcon)

Risks with regards to HCVF (source NEPcon)

New tools…

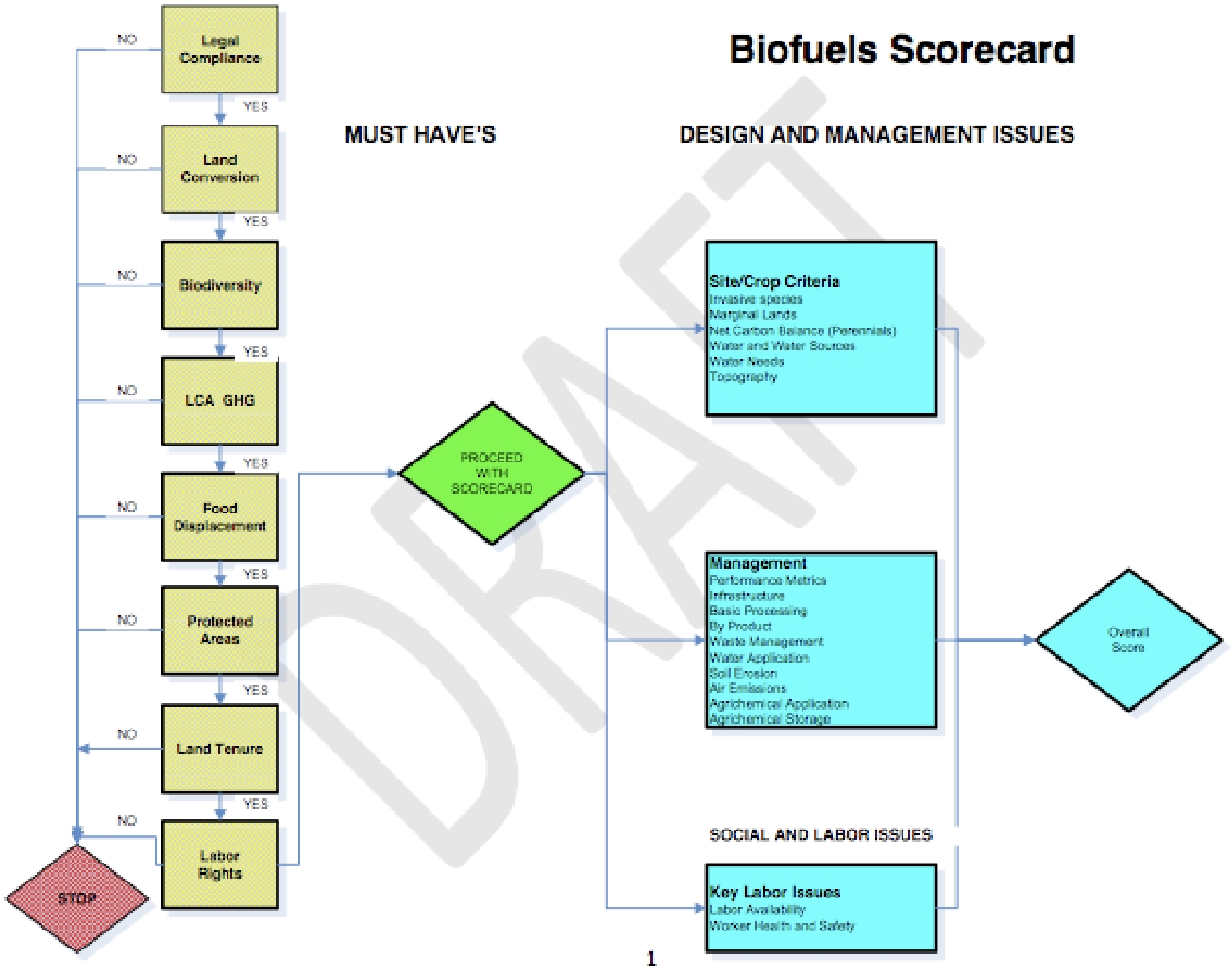
- IBAT for business provides integrated information at the site scale – at the level of individual parks, concessions or other fine-scale management units.


Internationally Recognised Sites
World Heritage Sites
Ramsar Wetlands
UNESCO MAB
Other Sites
Nationally Designated Sites
IUCN Category I-IV
IUCN Category V-VI
IUCN Not Designated
IUCN No Category
Administrative Data
Countries/Territories

Scorecard concept

- Used in the paper and biofuel sector
- Not an alternative to certification
- Could be interesting to explore in the European context in case of local supply chains

WWF/WB biofuel scorecard



WWF/WB biofuel scorecard

- to provide a reasonable first cut at indicating whether a proposed biofuel project is likely to have a net positive or a net negative impact on the environment
  - (i) compare different biofuels and different biofuel production systems across key criteria in terms of environmental sustainability;
  - (ii) understand what kinds of changes to production systems would result in more sustainable production; and
  - (iii) track progress in improving sustainability over time.

Certification

- Using credible standards
- Third party independent verification
- Grievance procedure in place
- Using logos, claims on management practices
- Etc.

International Meta-Standard Strategy

- There is a need for an internationally agreed production standard covering all kind of crops

- The standard should not be used for protectionist purposes and should not disadvantage small producers.

- Should ensure legality and environmental and social sustainability

- Should comply with ISEAL standards

How would it work? (examples)

Meta-standard criteria (process and content)	FSC	PEFC	CEN
Legal compliance	Yes	Yes	Yes
Identification and maintenance of High Conservation Values	Yes	NO	?
Maintenance or enhancement of environmental services (watershed, soil protection)	Yes	Yes	?
Balanced stakeholder involvement	Yes	No	?
GHG balance	No	No	?
Third party independent verification	Yes	Yes	?

The Meta-Standard Approach

Summarised results of a benchmark of the draft Dutch Meta-Standard criteria against the criteria of a selection of existing standards.

CRAMER CRITERIA	SAN/RA	RSPO	Basel	EUREPGAP	FSC	SA 8000	IFOAM
1 Greenhouse gas balance							
1a Net emission reduction compared with fossil reference, inclusive of application, is at least 30%.	N	N	N	N	N	N	N
2. Competition with food, local power supply, medicines and building materials							
2a Insight into the availability of biomass for food, local energy supply, building materials or medicines.	N	N	N	N	N	N	N
3.1 Biodiversity The installation of biomass production units will not be at the expense of protected or vulnerable biodiversity							
3a No deterioration due to biomass production of biodiversity in protected areas.	Y	Y	Y	N	Y	N	Y
3b No deterioration of biodiversity by biomass production in other areas with high biodiversity value or vulnerability.	Y	Y	Y	N	Y	N	N
3c No installation of biomass production units in regions where biodiversity has recently been decreased due to conversion.	N	Y	Y	N	Y	N	P
3.2 Biodiversity: The management of biomass production units will contribute towards the conservation or strengthening of biodiversity							
3.2a Concrete contribution towards the maintenance or recovery of biodiversity at or around biomass production units in natural or cultural landscapes.	P	N	P	P	Y	N	P
4. Prosperity							
4A Insight into possible negative effects on the regional and national economy.	P	P	P	N	P	N	N
5 Social well-being No negative effects on the well-being of the employees and local population, taking into account							
5a Working conditions of employees	Y	P	Y	P	P	Y	P
5b Human Rights	Y	P	P	N	P	Y	P
5c Property rights and rights of use	P	Y	Y	N	Y	N	P
5d Insight into the social circumstances of local population	Y	Y	Y	N	Y	P	N
5e Integrity	N	N	N	N	N	N	N
6.1 Environment: In the production and processing of biomass, the soil, and the soil quality must be retained or even improved							
6.1 a In the production and processing of biomass best practices must be applied to retain or improve the soil and soil quality.	Y	Y	Y	P	P	N	Y
6.1 b In the production of biomass crop residues are used for multiple purposes	P	P	N	N	N	N	P
6.2 Environment: In the production and processing of biomass ground and surface water are not depleted and water quality is maintained or improved							
6.2 a In the production and processing of biomass best practices must be applied to restrict the use of water and to retain or improve ground and surface water quality.	Y	Y	Y	P	P	N	P
6.2.b In the production and processing of biomass no use must be made of water from non-renewable sources.	Y	Y	Y	P	N	N	Y
7. Legislation: Biomass production will take place in accordance with relevant national laws and regulations and international treaties							
7a No violation of national laws and regulations that are applicable to biomass production and the production area.	Y	Y	Y	Y	Y	Y	N
7b No infringement of relevant international treaties	Y	Y	P	N	Y	Y	P

- Benchmarking of existing schemes has been carried out by other processes: for example in the UK in the frame of public procurement requirements.

- Sometimes difficulties with interpretation: RSB – *protection of HCV areas* - , FSC – *maintenance or enhancement of HCVs* –

- Cost-effective way of developing standards in the bioenergy sector, does not create extra burden on the producers.

The EU biofuel policy

- **Renewable Energy Directive: 10% RES (biofuels, electricity) in the transport sector by 2020.**
  - **Defines „no-go" areas (wetlands, grasslands, forests), based on biodiversity and carbon criteria**
  - **Promotes production on idle/degraded lands or waste products**
  - **Promotes better management farming practices**
  - **Defines minimum GHG savings (45% by 2013, 60% by 2015)**
  - **Requires extensive reporting on soil, water, air and social issues.**
- **Only certified products will count against the renewable targets**

Further work is required

- **Indirect impacts not being dealt with**
- **Definitions and geographic range of “no-go” areas will have improved/developed**
- **Reporting requirements on wider sustainability criteria established**

Other relevant processes: CEN

Sustainably produced biomass for energy application (more than in RES-D)

-covers all biomass from EU and outside which is produced for energy application.

-CEN standard will go beyond EU Directive esp. in context with social P& C.

-6 working groups: cross-cutting issues, GHG, biodiversity, social-eocnomic aspects, verification and indirect landuse change.

-First draft of the standard has to be presented by January 2010.

-CEN will develop a framework standard, not a metastandard.

Other relevant processes

- Governmental standard setting: D, NL
- ISO: will start soon
- ....

Conclusions

- The adopted system should not disadvantage small producers and should not discourage the development of local supply chains

- A harmonized system is needed regardless of the end-use

- Should build on existing credible tools.