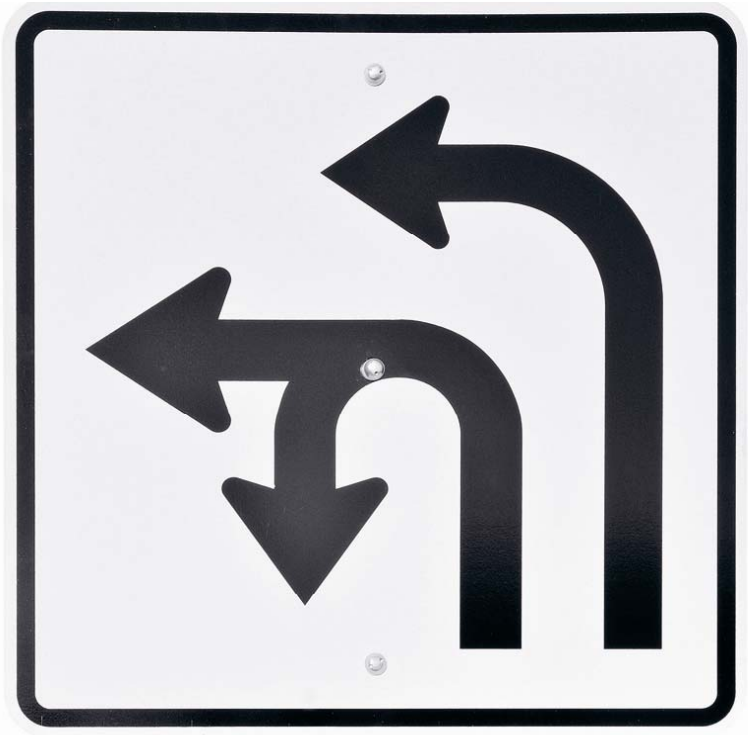
Impact Assessment as a Tool for evaluating sustainability aspects of EU Policy -

Theory and Practice in the case of Biofuels



EPOS – Working Group 5
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Brief introduction to IÖW and project FairFuels

- **Institute for Ecological Economy Research (non-profit)**
  - conference co-organiser
  - Responsible unit: sustainable energy & climate protection
  - Main fields of work: renewable energies, in particular biomass
- **Presently starting large-scale, joint research project on biofuels: FairFuels?**
  - A social-ecological multi-level analysis of transnational policy on biofuels and their potential to transform current energy systems
  - Projection duration: 2009–2013, funded by the German Federal Ministry of Education and Research (BMBF), partners: German Development Institute, Freie Universität Berlin
- **The following aspects are preliminary results of a work package**
  - dealing with *possibilities and limitations of political instruments in the containment of social-ecological problems in biofuels policy*

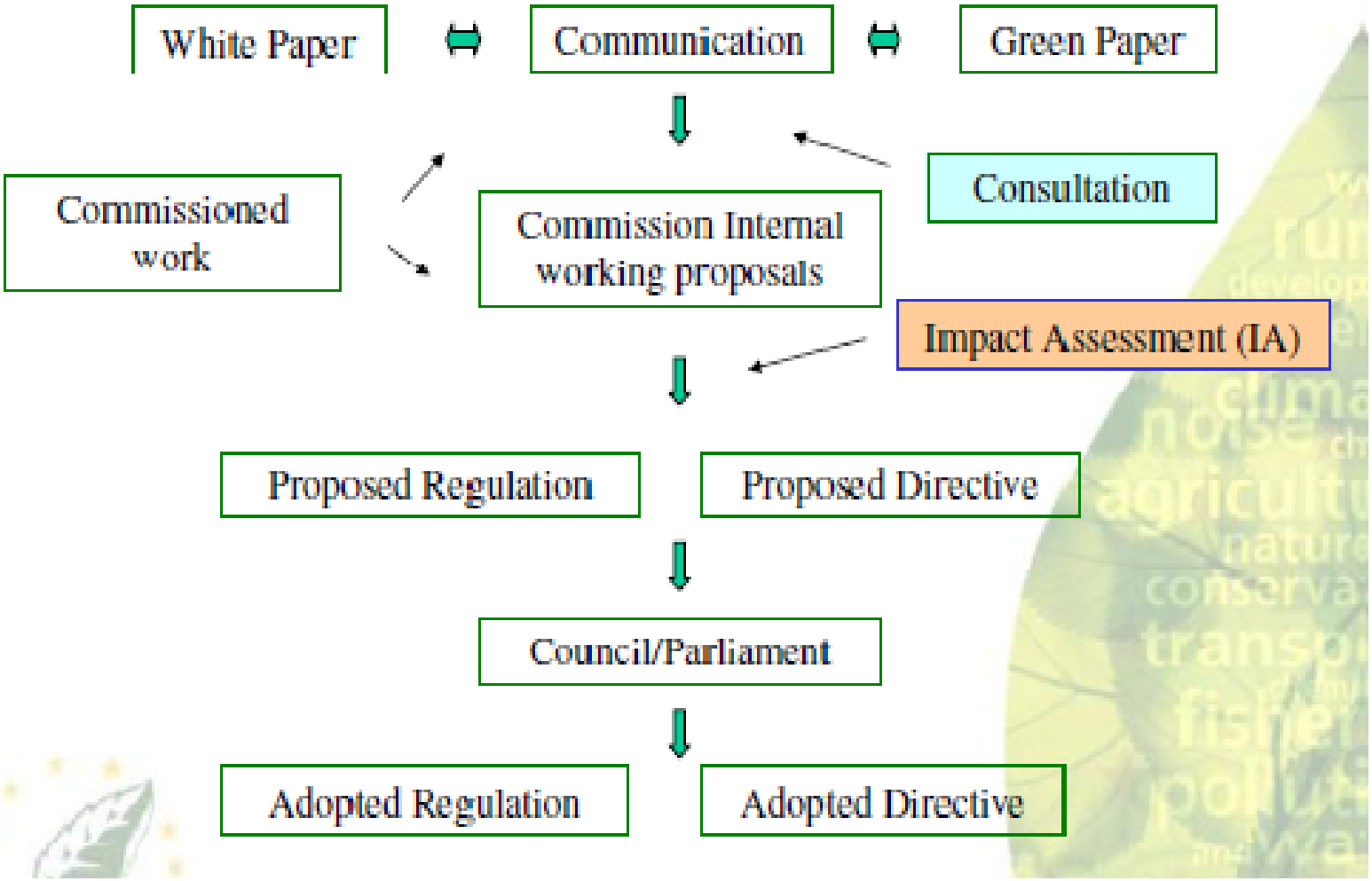
Contribution to workshop topics and questions

- ***Workshop objectives:***
  - *"to take a closer look at integrated approaches to sustainability evaluation, including methods, problems and premises"*
  - *"addressing the question of how policy-makers can include integrated results in policy-making"*
- **Key questions addressed in presentation**
  - Overriding issue: **theory vs. practice** (assertions vs. reality) of impact assessments, based on the example of EU biofuels policy
  - **Methodology**: Did impact assessments carried out in the context of biofuels policy truly constitute "**integrated approaches** to evaluations of sustainability"?
  - What **impact** did they have on policy?
  - In light of the recent "food or fuel" debates: have the IAs taken on the function of early warning system? ((Why) did they fail?)

Fundamentals/ “Theory”: IA as an instrument for evaluating sustainability aspects of policy options

- **In 2002 the Commission committed itself to the implementation of an impact assessment (IA) for “all major initiatives” (COM(2002) 276)**
  - All initiatives proposed in the Annual Policy Strategy (APS) or Legislative and Work Programme (CLWP)
    - For example, legislative initiatives, proposals for white papers, expenditure-generating programmes, etc.
- **Scientific basis for the development of Commission proposals**
  - The impact assessment may serve as an aid in decision-making, but may not replace policy appraisal, evaluation, and integration processes
  - Implementation to be carried out by the Commission’s own directorates-general
- **Guidelines (from 2002, 2005, 2009) as aid in the implementation of the impact assessment**
- **Integrated approach, to consider economic, social, and environmental aspects of various strategy options; stakeholder participation**

Fundamentals/ “Theory”: Embodiment of the IA in the EU legislative process



Ex ante,

Parallel

or

ex post?!

Source: IEEP 2007: Knowledge-Based Policy Making – Experiences from Impact Assessment

Fundamentals/ “Theory”: Key analytical steps in a Commission’s IA

- **Identify the problem**
  - Complexity vs. focus
- **Define the objectives**
  - Who defines what objectives?
- **Develop main policy options**
  - Plural! (not only the one in discussion)
- **Analyze the impacts of the options**
  - Range of (sustainability) impacts?
  - Methods?! Standards?!
- **Compare the options**
- **Outline policy monitoring and evaluation**

Source (for the steps):
European Commission 2009: Impact Assessment Guidelines

Fundamentals/ “Theory”: Possible economic, environmental, and social impacts

Source: IA Guidelines 2009

Economic Impacts

- Functioning of the internal market and competition
- Competitiveness, trade and investment flows
- Operating costs and conduct of business / small and medium-size enterprises
- Administrative burdens on businesses
- Public authorities
- Property rights
- Innovation and research
- Consumers and households
- Specific regions or sectors
- Third countries and international relations
- Macroeconomic environment

Social Impacts

- Employment and labour markets
- Standards and rights related to job quality
- Social inclusion and protection of particular groups
- Gender equality, equality treatment and opportunities, non-discrimination
- Individuals, private and family life, personal data
- Governance, participation, good administration, access to justice, media and ethics
- Public health and safety
- Crime, Terrorism and Security
- Access to and effects on social protection, health and educational systems
- Culture (new)
- Social impacts in third countries (new)

Environmental Impacts

- The climate
- Transport, the use of energy
- Air quality
- Biodiversity, flora, fauna and landscapes
- Water quality and resources
- Soil quality or resources
- Land use
- Renewable or non-renewable resources
- Environmental consequences of firms and consumers
- Waste production / generation / recycling
- The likelihood or scale of environmental risks
- Animal welfare
- International environmental impacts (new)

Results of the analysis I
Scope and focus of biofuel-related IAs

- Number and focus of selected criteria as well as respective level of detail **vary greatly** among the various IAs
- The **environmental** focus in IAs is mainly on **GHG** emissions
  - Example: IA of Biomass Action Plan 2005
  - Other environmental impacts, if mentioned at all, are only vaguely and qualitatively characterised (e.g. EU strategy for biofuels)
- An analysis of **social impacts rarely** occurs – they had been ignored mainly
- General criticism (outcome of several other IA-analyses): there is a tendency to neglect long-term perspectives and “soft”, qualitative aspects as opposed to cost-benefit analyses, etc.

Results of the analysis II
Scope and focus of biofuel-related IAs

- (negative) social and environmental **impacts in developing (or "third") countries** (international dimension) played no / a minor role
  - Although mentioned in the IAs of the EU strategy for biofuels (2006) and the energy and climate package (2008), no detailed / elaborated analysis had taken place
  - the necessity of further, specific investigations / country-specific case studies was stated
  - Reason for the underestimation of the international social and environmental problems could be
    - incorrect estimates of the impact on imports of the EU biofuels policy
    - lack of an explicit depiction of international environmental and social impacts in earlier IA guidelines (integrated in 2009)

Results of the analysis III
"Practise vs. Theory" of biofuel-related IAs

- Problem of **timing/sequence**: Most of the IAs had been executed more parallel (ex post?) to the policy formulation process than ex ante
  - Therefore the analysis often concentrated on the policy in discussion – and not on different/ alternative policy options
  - Function is then more "explaining a policy" than "advising political actors"
- **Insufficient capacity** for the preparation: time, resources, and skills
- **Participation**: NGOs and environmental experts often less involved than business partners
  - (weak) empirical evidence is consistent with other research results

Results of the analysis IV
"Practise vs. Theory" of biofuel-related IAs

- **Inadequate quality assurance** due to insufficient separation of work:
  - Limitations in scope of investigation, prioritisation of impacts, disregarding alternative options etc. could have to do with the fact that often the same staff persons in the same DG are responsible for IAs and for the proposed regulation
  - (weak) empirical evidence is consistent with other research results

Sources (other research results concerning IA-analyses):

- EEAC [European Environment and Sustainable Development Advisory Councils] 2006: Impact Assessment of European Commission policies: Achievements and Prospects
- The Evaluation Partnership 2007: Evaluation of the Commission's Impact Assessment System
- Bäcklund 2008: Doing policy with the help of impact assessment – the role of scientific knowledge production in policy formulation

Final Conclusions I

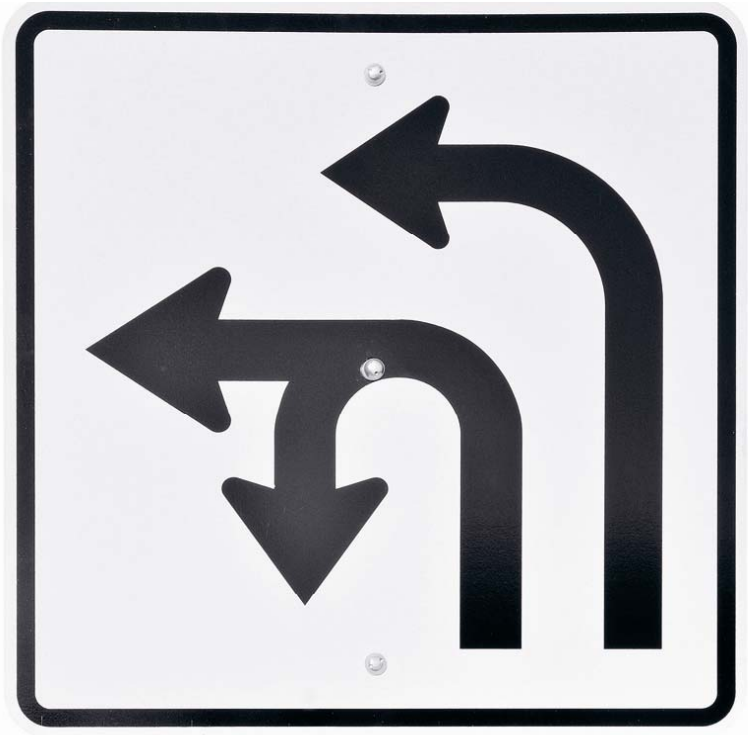
- In the case of biofuels policy a lot of IAs had been executed, and their findings are often cited and utilized in proposed directives and Commission communications
- But: most of them did not investigate a broader range of sustainability impacts
- On the whole, ecological and social criteria are clearly underemphasized – as a rule the focus was on economic impacts and GHG emissions

Final Conclusions II

- The IAs failed to foresee the possible negative impacts of biofuels and to provide alternative solutions to overcome these problems at an early stage
  - the revision of the IA Guidelines 2009 is a belated effort to take account of the current debate
- Therefore the instrument has in this case failed in its role of serving as an early warning system

- As a consequence the actual regulation to control sustainability problems (mainly on the basis of certification schemes to be developed) has the same limitations and restrictions (focus on GHG, no social criteria)

Thank you for listening.



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Key steps and IAs of EU biofuels policy (1)

	Key Steps in EU Biofuels Policy		Impact Assessments
1993	Council Decision concerning the promotion of renewable energy sources in the Community (ALTENER programme)		
1996/ 1997	Green Paper/White Paper: Energy for the future - renewable sources of energy		
		1997	TERES II Study
2000	Green Paper: Towards a European strategy for the security of energy supply		
2003	Directive 2003/30/EC on the promotion of the use of biofuels or other renewable fuels for transport	**2001**	Assessment in the Communication from the Commission on alternative fuels for road transportation and a set of measures to promote the use of biofuels
		2003	Study: “Renewable Fuels for Cross-Border Transportation for the European Commission”

Key steps and IAs of EU biofuels policy (2)

2005	Communication from the Commission: Biomass action plan	**2005**	Impact Assessment: “Biomass action plan”
2006	Communication from the Commission: An EU Strategy for biofuels	**2006**	Impact Assessment: “An EU Strategy for Biofuels”
		2007	Biofuels progress report
2007	Communication from the Commission: Renewable Energy Road Map	**2007**	Impact Assessment: “Renewable Energy Road Map”
		2007	Note to the IA of the Renewable Energy Road Map: The impact of a minimum 10% obligation for biofuel use in the EU-27 in 2020 on agricultural markets
2008	Climate and energy package: Directive on the promotion of the use of energy from renewable sources, amendment to Directive 98/70/EC on environmental quality standards for fuel	**2008**	Impact Assessment: “Package of implementation measures for the EU’s objectives on climate change and renewable energy for 2020” and annex to the Impact Assessment

Digression: Sustainability standards for biofuels: Principles and criteria of the RSB

Roundtable on Sustainable Biofuels: Global Principles and Criteria for Sustainable Biofuels Production - Version Zero (EPFL 2008)

- Legality
  - 1. Biofuel production shall follow all applicable laws of the country in which it occurs, and shall endeavour to follow all international treaties relevant to biofuel production to which the relevant country is a party.
    - *Key guidance: Includes laws and treaties relating to air quality, water resources, soil conservation, protected areas, biodiversity, labour conditions, agricultural practices, and land rights, including for instance ILO, CBD, UNFCCC, and the Universal Declaration of Human Rights. This standard can go beyond national law, but cannot contradict or contravene national law.*
- Consultation, Planning and Monitoring
  - 2. Biofuels projects shall be designed and operated under appropriate, comprehensive, transparent, consultative, and participatory processes that involve all relevant stakeholders.
- Climate Change and Greenhouse Gas
  - 3. Biofuels shall contribute to climate change mitigation by significantly reducing GHG emissions as compared to fossil fuels.
- Human and Labour Rights
  - 4. Biofuel production shall not violate human rights or labour rights, and shall ensure decent work and the well-being of workers.
- Rural and Social Development
  - 5. Biofuel production shall contribute to the social and economic development of local, rural and indigenous peoples and communities.

Digression: Sustainability standards for biofuels: Principles and criteria of RSB

- Food Security
  - 6. Biofuel production shall not impair the security of the food supply.
- Conservation and Biodiversity
  - 7. Biofuel production shall avoid negative impacts on biodiversity, ecosystems, and high conservation value (HCV) areas.
- Soil
  - 8. Biofuel production shall promote practices that seek to improve soil health and minimize degradation.
- Water
  - 9. Biofuel production shall optimize surface and groundwater resource use, including minimizing contamination or depletion of these resources, and shall not violate existing formal and customary water rights.
- Air
  - 10. Air pollution from biofuel production and processing shall be minimized throughout the supply chain.
- Economic efficiency, technology, and continuous improvement
  - 11. Biofuels shall be produced in the most cost-effective way. The use of technology must improve production efficiency and social and environmental performance in all stages of the biofuel value chain.
- Land Rights
  - 12. Biofuel production shall not violate land rights.

Overview

- **Part 1: Fundamentals**
  - The impact assessment (IA) as an instrument for rating sustainability aspects of policy options: principles, basis, key steps, sustainability aspects to be considered
- **Part 2: Biofuels policy case study**
  - Overview of the history of biofuels policy and important impact assessments
  - Analysis of selected biofuels-related impact assessments and their impact on policy decisions
- **Part 3: Conclusions**
  - Biofuels-related IAs, their influence on policy decisions, certification, recommendations, and need for further research
- **Digression: Sustainability standards for biofuels – RSB principles and criteria**

Part 2: Biofuels policy case study
Comparison of selected IA–policy relationships – ganzen teil 2 rausnehmen ?

- **Methods / Procedure**
  - Analysis of impact spectrum (which impacts considered, which not)
  - Focus on those indicators related to more recent conflicts and problems in the funding and promotion of biofuels, e.g. at the international level
  - Comparison of results of impact assessment with implemented policy measures
- **Selection of IA–policy relationships analysed:**
  - Only policies for which an official impact assessment was conducted
  - An example each of impact assessments with a comparably high level of policy influence, a narrow, and a broad impact spectrum

Biomass Action Plan: Impact assessment and Communications from the Commission

- **Main results: Minimal number of impacts investigated**
  - Focus on economic aspects
    - The largest share of the ascertained additional annual costs attributed to biofuels (€6 billion from a total of €9 billion, 2010)
  - With respect to environmental impacts, focus was entirely on GHG emissions
  - No consideration given to international impacts, particularly on developing countries – although an import share of 30% assumed

Part 2: Biofuels policy case study
IA–policy relationship: Biomass Action Plan

- **Main elements of the Biomass Action Plan and impact assessment influences**
  - Increase in deployment of biomass to 150 mtoe in 2010 (of this 18.6 mtoe in the transport sector) to attain a renewable energy share of 12% of energy consumption
  - Biomass potentials and additional costs incorporated per IA; additional note that benefits in the areas of secure energy supply, GHG emissions, and employment effects can be offset
  - Increase of biomass utilisation can be achieved “in all likelihood without additional pollution or other forms of environmental damage”
    - Does not draw on the impact assessment, but rather on a very brief representation of possible environmental impacts in Annex 4 of the action plan. Is quite incomplete; reference is made, however, to necessity for observation of specific local environmental requirements in biomass production (e.g. in biofuels progress report).
  - Evaluation of various import scenarios likewise found not in the impact assessment, but rather in separate evaluation (in Annex 11)

Part 2: Biofuels policy case study
IA–policy relationship: An EU Strategy for Biofuels

An EU Strategy for Biofuels: Impact Assessment and Communication from the Commission

- **Main results**
  - Greatest negative environmental impacts (e.g. water and pesticide application) due to additional land use
  - Economic consequences: Competitiveness of biofuels with crude oil prices between €60 (ethanol) and €90/barrel (biodiesel), additional costs between €1.13 billion and €5.54 billion in 2010 (depending on policy approach and oil prices),
  - Consideration of international aspects
    - Estimate of import quotas between 50% and 73%
    - Many positive and negative impacts in developing countries, however most only vaguely described.
- **With respect to developing sustainability problems:**
  - For the first time, a comprehensive description of possible negative impacts in developing countries, including deforestation of rain forests, higher prices for food, and pressure on local communities to leave their land.
  - No specific, quantifiable findings, rather references to the need for specific case studies.
  - International assistance (e.g. technology transfer and policy development) deemed necessary.
- **Main elements of the Biofuels Strategy and influences of the impact assessment**
  - The Commission recommended the regulated, market-based approach to funding biofuels that was investigated in the impact assessment

Part 2: Biofuels policy case study
IA–policy relationship: An EU Strategy for Biofuels

- Seven policy priorities:
  - Promotion of biofuels demand (e.g. revision of the biofuels directive)
  - Deployment of environmental advantages (e.g. minimum environmental standards)
  - Development of biofuels production and distribution (e.g. integration in rural development policy
  - Expansion of raw materials production (e.g. production of sugar cane on set-aside land, observation of impacts on food prices)
  - Greater possibilities for trade (e.g. conformation of standards)
  - Support of developing countries (e.g. cohesive package of support measures)
  - R&D funding (e.g. biorefineries, 2nd generation biofuels)
- Potential negative impacts on developing countries, in accordance with the impact assessment, briefly stated, should be quantified and, “if necessary, addressed through strong regulatory frameworks”
  - Nonetheless, two of the seven priorities – promotion of biofuels demand and expansion of raw materials production – will have a direct impact on the increased production of raw materials in third countries.
  - In order to nevertheless avoid negative impacts, the Commission will also “strive” for the sustainable cultivation of raw materials for biofuels production in third countries; minimum sustainability standards as well as the observation of impacts on food supply will be proposed. Additionally the support of developing countries is one of the priorities of the strategy proposal.
- Other information, such as biofuels competitiveness, was also drawn from the impact assessment

Part 2: Biofuels policy case study
IA–policy relationship: Climate and energy package

Climate and energy package: Impact assessment and adopted directives

- **Impacts dealt with within the scope of the impact assessment:**
  - No investigation of the impacts of an expansion of biofuels utilisation (but reference to earlier assessments, e.g. the Biofuels Progress Report), rather findings to determine an optimal legislative proposal in order to reach the 10% goal.
- **Main results:**
  - The linking of social criteria/impacts to individual consignments of biofuel (quantification) is not a straightforward matter, therefore the restriction to environmental sustainability criteria
  - Only the reduction of GHG emissions can be reliably measured – other environmental impacts only to a limited extent or not at all
  - Minimum standards for biofuels: 30–40% reduction in GHG emissions; no conversion of land areas classified at the beginning of 2008 as marshland, forest, grassland, or protected; application of “cross-compliance criteria” for all raw materials produced and processed in the EU
  - Biofuels not meeting the minimum standard should not be eligible for financial subsidies, nor should they count toward fulfilment of national Renewable Energy Directive commitments
  - Mandatory use of the mass balancing method by fuel distributors for compliance verification
  - Biofuels that contribute to the diversification of the raw materials utilised, including biofuels from lignocellulosic materials and residues (e.g. 2nd generation biofuels), should be double weighted.
  - A 10% admixture of bio-ethanol and petrol is presumed possible in the impact assessment; a 10% admixture of biodiesel and diesel also appears technically feasible, necessary, and desirable. This objective should therefore be incorporated into the proposed changes to Directive 98/70/EC.

Part 2: Biofuels policy case study
IA–policy relationship: Climate and energy package

- **With respect to developing sustainability problems:**
  - References to risks to biodiversity when unsuitable land is employed, to a possible reduction in reliability of food supply, etc.
  - No recommendation of social criteria, only proposal of observation in the course of regular Commission reports on biofuels policy and reference to joint development projects (e.g. support in the formulation and implementation of agricultural reforms).
  - For the first time, specific, measurable proposals for minimum environmental standards
- **Main elements of the adopted directives and impact assessment influence**
  - Impact assessment recommendations were incorporated into the regulations adopted by the Council
  - Some elements formulated in part in greater detail:
    - Information on land areas not suitable for the cultivation of raw materials
    - Information to be contained in Commission reports (beginning in 2012) on the impact of EU policy on food supply availability, compliance with ILO conventions (e.g. forced labour), etc.
    - Information for the calculation of the GHG emission contribution of biomass and biofuels (e.g. reference values)