Globalisation Informed by Sustainable Development

Final Report Summary - GLOBIS (Globalisation Informed by Sustainable Development)

Executive Summary:
1.1 Executive summary
Sustainable development has partly emerged as a policy focus-area as a result of processes of globalization. The GLOBIS project investigates this connection, by looking at globalization-sustainability relationships. The aim is to identify the ways in which globalization processes might be made more compatible and connected with the normative goals of development and sustainability. The main activities of the GLOBIS project involved: analysis of the various conceptualizations of globalization, ensuring interactive dialogue and cooperation between researchers, and providing the empirical background for key sustainability policy contexts in relation to globalization. The project is instrumental in stimulating further cooperation in global climate change policies and throughout Europe, by reducing fragmentation through the identification of synergies and conflicts, between research areas as well as policies.

The GLOBIS project was carried out under 6 work-packages. Work-packages WP1-WP4 were those under which original research was carried out, with WP0 being dedicated to management activities and WP 5 being dedicated to dissemination activities.
WP1: Set the conceptual foundation for the project by synthesizing the academic discourses on globalisation, finding that more attention needed to be paid to broader socio-cultural, as well as economic and political, aspects of globalisation to better understand the phenomenon.

WP2: Continued the development of the conceptual foundations of the project through the development of a typology of sustainable development; outlining, weak, strong, critical and human development approaches. Then it went on to show that in a combined top-down and bottom-up fashion: the overall need is to achieve radical change in the global social-ecological system through an orderly and evolutionary change process based on incremental steps that gradually weaken the structures and mechanisms that contribute to unsustainability and replace these with more sustainable structures and mechanisms.

WP3: Delivered a suite of case studies with important findings for the energy, transport, food and agriculture, and eco-innovation sectors in the light of both globalisation and sustainable development processes. These were published along with further GLOBIS work from WP1 and 2 in a special issue of the Journal of Environment and Development.

WP4: Delivered an international conference with the participation of members of the scientific and policy making communities, private actors and civil society representatives. The participants were engaged in integrative dialogues concerning their expertise and the GLOBIS work with which they were presented to develop inputs to EU policy and the EU's approach to the upcoming Sustainable Development Goals (SDGs).

WP5: Concerned the dissemination of GLOBIS work through publications, conference presentations, panel discussions, seminars and workshops and particularly through the web based interface which houses a policy assessment tool, open to the public, and drawing on the entirety of work carried out during the project. Finally, policy briefs were published and distributed to target more specific sectors. These combined efforts help towards building comprehensive expertise in Europe with experience and capacity to assess how conflicts between globalisation and sustainability can be reconciled. This is particularly important in the light of the EU’s ambition to become a leader in important fields of environmental concern in general and climate change in particular.

Project Context and Objectives:
Description of project context and objectives
Globalization and sustainable development have broad implications, as these processes require us to extend our scientific analysis and policy concerns beyond the present. In the case of globalization, social, economic and environmental processes have implications and determinants beyond the local spatial scale. Similarly, sustainable development requires a temporal perspective and wider attention to the intergenerational implications of current trends. In this respect, both concepts require an awareness of current processes and their implications, by expanding our temporal and spatial understanding, both in scientific analysis and policy-making.

Sustainable development has partly emerged as a policy focus-area as a result of processes of globalization. The GLOBIS project investigates this connection, by looking at globalization-sustainability relationships. The aim is to identify the ways in which globalization processes might be made more compatible and connected with the normative goals of development and sustainability, as set out in international agreements such as the World Summits on Environment and Development, the Millennium Development Goals (MDGs) and the emerging Sustainable Development Goals (SDGs). The strong linkage between globalization and sustainable development has become explicit in the formulation of the emerging Sustainable Development Goals (SDGs). The EU and its member states consider the SDGs a foundation for their international cooperation and the GLOBIS project is designed to provide a comprehensive framework for analysis and policy-making.
The main activities of the GLOBIS project involved: analysis of the various conceptualizations of globalization, ensuring interactive dialogue and cooperation between researchers, and providing the empirical background for key sustainability policy contexts in relation to globalization. The project is instrumental in stimulating further cooperation in global climate change policies and throughout Europe, by reducing fragmentation through the identification of synergies and conflicts, between research areas as well as policies.

GLOBIS has been implemented over a four-year and a half year period by a consortium comprised of, LUCSUS – Lund University Centre for Sustainability Studies, Sweden in collaboration with CIRED/SMASH – Centre International de Recherche sur l’Environnement et le Développement / Société de Mathématiques et de Sciences Humaines in France and ISI – Fraunhofer Institute for Systems and Innovation Research in Germany.

The overall objective of the GLOBIS project is to examine the theoretical foundations of three global processes, globalization, development and sustainable development, and to apply this understanding to current sustainability related challenges emphasized in European Union policies. The project is instrumental in stimulating further cooperation in global climate change policies and throughout Europe by reducing fragmentation, through the identification of synergies and conflicts between research areas and policies. GLOBIS was initiated in 2009 and the project has been ongoing for four and a half year.

The main tasks of the GLOBIS project have been:
- To identify the existing tensions in globalisation and point to possible areas of reform and re-imagination in current policy practices and global institutions, by addressing the trade-offs involved. Specific focus is on food, agriculture and land use, international transport, energy, eco-innovation and migration. A special issue of the Journal of Environment and Development has been published reporting these results.
- To create a theoretical foundation for as far possible reconciling globalisation, development and sustainable development.
- To assist in shaping a long-term European strategy for reconciling globalisation and sustainable development. By doing so, the project aims to contribute to the EU vision of taking a leading role in sustainability. Thus, the results of the project may serve as inspiration for the emerging Sustainable Development Goals (SDGs).
- To create a dialogue between science and policy through workshops that facilitates a well-informed discussion about national and EU-level policies relating to globalisation and sustainable development.

Project Results:
Main science and technology results
The GLOBIS project was carried out under 6 work-packages. Work-packages WP1-WP4 were those under which original research was carried out, with WP0 being dedicated to management activities and WP 5 being dedicated to dissemination activities. In this section will be detailed the main scientific findings from each of the work-packages that delivered original research. Each WP was concerned with a particular theme or area with the project, Globalisation Informed by Sustainable Development (GLOBIS), which built on each-other partially in a chronological fashion with results from earlier WPs feeding into later ones and partially in a reciprocal fashion where there was an overlap in times when the work in different WPs was being carried out at the same time. Where available findings will be accompanied by reference
to relevant publications, conferences and project deliverables through which they were, or will be, communicated to a wider audience. A complete list of publications will follow in subsequent sections.

1.3.1 WP1: Conceptualisation of Globalisation

1.3.1a Background

Starting to expand in the early 1990s and accelerating during the decade and up to the present, the academic as well as the popular debate on globalisation has grown rapidly to become broad and intense (Cooper 2005). In order to bring out the main strands of reasoning in the academic debate attempts have been made by sociologists (Held 2005) and political scientists (Scholte 2005) to structure it into typologies. One common structuring principle for such a typology is to start classifying perspectives and arguments according to the potential perils and opportunities that globalisation in its contemporary form is thought to bring about for various regions, countries, social groups and stakeholders. Such a classification is outcome oriented and largely brings out two main categories here labelled pro-globalisation and anti-globalisation referring to the impact of globalisation. A finer classification within those categories will bring out a more nuanced typology including transformalist views. It can be assumed that authors who weigh the pros and cons of globalisation recognise that the world is actually experiencing globalisation. This can be contrasted with observers who argue that what we see today is neither a new process nor more encompassing than previous processes counted in the size of flows of capital and people. Whereas the early globalisation debate was dominated by economists more critical perspectives have entered from sociology, political science, geography and feminism to mention a few. The project proceeded from the viewpoint that it was highly relevant to relate much of this theoretical reasoning and empirical work to the expanding field of sustainability research. In doing so, it was necessary to rethink much of the very interesting literature on globalisation.

1.3.1b Objectives

In the light of the above, the objectives for this work package were as follows, to:

1. Synthesize our understanding of the academic literature on globalisation in order to locate its usefulness for a transition to sustainability
2. Synthesize the views on global governance and its role for sustainability
3. Locate the climate regime in the institutions of global governance
4. Analyse the role of the diffusion of new ideas and new technologies in globalization and their potential role for sustainability.

1.3.1c Deliverables

In order to conduct the scientific research to reach these objectives and deliver them in a communicable form beyond the project team the following was the sole deliverable associated with this work-package:

D3: Synthesis of the scholarly discourse on globalisation.

The final report on globalisation informed by sustainability (D8), though associated with WP2 is also highly reliant on the work in this WP (results given in section 1.3.2d).

1.3.1d Major findings

From the synthesis of the scholarly discourse on globalisation (D3), carried out by Jens Barthelson at Lund University it was found that:

1. Most research has focused on economic aspects of globalisation, and while there has been a certain amount of attention to political globalisation, the broad area of socio-cultural globalisation has received less attention.
2. There has been no agreement on the impact of economic globalisation. Some argue that increased
globalisation will lead to increased environmental efficiency via environmental Kuznets curve behaviour
while others argue that it will bring increased emissions and other pollution.

3. To understand the environmental impacts of the phenomenon better, integration between studies of
different aspects, economic, political and socio-cultural, of globalisation is required. This will require an as
yet lacking overarching framework. Steps towards the provision of this can be a valuable contribution of
the GLOBIS project.

These findings, in their more elaborated form provided in the report, amount to a very satisfactory fulfilment
of objectives 1 and 2 (1.3.1b) for this work-package, together with D8, The final report on globalisation
informed by sustainability (findings presented in 1.3.2d) and the book by Jönsson, Jerneck and Arvidson
(2012, listed in 1.3.1e). The two articles with Bierman as the main author in the next section represent
fulfilment of objective 3 (1.3.1b) for this work-package. Objective 4 is dealt with by much of this work but
more specifically in later work particularly the case studies D9-14 (findings presented in 1.3.3d) and the
resultant articles, which drew on the theoretical base laid under the remit of this work package.

1.3.1e Most relevant publications
A comprehensive list of further publications directly associated with this work package are listed in a later
section (see Table A1 of the full report) but some of the most closely tied to the GLOBIS project are listed
here.

Studentlitteratur Publisher, ISBN: 9789144081649

2. Biermann, F., Abbott, K., Andresen, S., Bäckstrand, K., Bernstein, S., Betsill, M.M. Bulkeley, H.,
Cashore, B., Clapp, J., Folke, C., Gupta, A., Gupta, J., Haas, P.M. Jordan, A., Kanie, N., Kluvánková-
Oravská, T., Lebel, L., Liveman, D., Meadowcroft, J., Mitchell, R.B. Newell, P., Oberthür, S., Olsson, L.,
Pattberg, P., Sánchez-Rodríguez, R., Schroeder, H., Underdal, A., Camargo Vieira, S., Vogel, C., Young,

3. Biermann, F., Abbott, K., Andresen, S., Bäckstrand, K., Bernstein, S., Betsill, M.M. Bulkeley, H.,
Cashore, B., Clapp, J., Folke, C., Gupta, A., Gupta, J., Haas, P.M. Jordan, A., Kanie, N., Kluvánková-
Oravská, T., Lebel, L., Liveman, D., Meadowcroft, J., Mitchell, R.B. Newell, P., Oberthür, S., Olsson, L.,
Pattberg, P., Sánchez-Rodríguez, R., Schroeder, H., Underdal, A., Camargo Vieira, S., Vogel, C., Young,
O.R., Brock A., Zondervan, R., 2012: Transforming Governance and Institutions for Global Sustainability -
Key Insights from the Earth System Governance Project. Current Opinion in Environmental Sustainability
4:51-60

presented at the Special Session on Globalization and Sustainable Development, 2nd International

1.3.2 WP2: Conceptualisation of development and sustainable development

1.3.2a Background
With the Brundtland Report in 1987, produced by the World Commission on Development and
Environment and presented in the book Our Common Future, the concept of sustainability acquired its first
widely spread and accepted definition. Since then the debate on sustainability has expanded rapidly in
scope. Starting in late 2006 with the advent of a series of ground breaking research reports like The Stern
Report and The Economics of Ecosystems and Biodiversity (TEEB) the debate has received a new
impetus.
Review the debate took off mainly under the label of climate change and climate change impacts. Before and around that time a series of events, meetings, conferences, debates and scientific reports boosted the discussion on development and sustainable development. To name a few there was the G8 meeting in Gleneagles in 2005, Al Gore’s film An inconvenient Truth from 2006, The IPCC Reports in Spring 2007 and the Rio + 20 conference in 2012. Over the last decade or so the planning of the Olympics in Beijing in 2008 has caused, and still causes, an intense debate on climate change impacts and in fact on the whole range of sustainability issues including economics as well as social, ethical and environmental aspects. The debate on sustainability can thereby be said to have expanded much in parallel to the globalisation debate which experienced an earlier spurt.

There are several distinct approaches within the field of Sustainable Development (SD). The celebrated definition of the Brundtland Report of SD, "(meeting) the needs of the present without compromising the ability of future generations to meet their own needs", should best be understood as articulating the challenge rather than formulating the solution. Different approaches to (or paradigms of) SD differ in their assumption not only about whose needs SD is supposed to meet, but also about what constitute the needs. The environmental challenges, particularly the challenge of Climate Change, rule out any simple identification of needs with revealed consumer preference on the market.

1.3.2b Objectives
1. Assess the usefulness of the main contributions of academic literature on sustainability for a deeper understanding of sustainability issues and sustainable policy formulation.
2. Apply these analytical frames and concepts to formulate policy framework in the transition to sustainability
3. Explore the advantages and the drawbacks of the existing global economic order for sustainable development in developing countries
4. Explore the relationship between main environmental challenges, in particular climate change, and main short-term development concerns:
   o poverty alleviation
   o equity
   o energy constraints
   o land-use and food security
5. Explore the possible adverse impacts on development issues in developing countries (e.g. food security) of the policies and measures in developed countries to mitigate climate change or adapt to it, and how these could be rectified
6. Explore the role of eco-innovation for sustainable development; especially the process of diffusion of eco-innovation and the absorptive capacity of a country and a culture can innovate locally to adopt an existing product to local conditions.

1.3.2c Deliverables

Deliverables associated with this WP were as follows:
D4 Synthesis of the discourse on development and sustainable development
D8 Final report on globalisation informed by sustainability
D16 Special issue in a peer reviewed journal
Major findings from the synthesis of the discourse on development and sustainable development carried out by Turaj Faran at Lund University were as follows:

The author elaborates a typology of sustainable development, describing four distinct types, synthesized from the literature, based on the organizing principle of what is to be sustained in each. By drawing out the assumptions of these positions the typology allows assessment of academic literature, policy and the various approaches deployed in the current world order. The types are:

1. Weak sustainability: Human well-being, GDP and stock of capital. In this type sustained human welfare, understood as consistent levels of GDP over times, is what is focused on. It is maintained that under certain situations natural capital is substitutable for manufactured and financial capital. It relies on economic choice, with the market as the institution that can deliver sustainability by applying tools such as cost benefit analysis.

2. Strong sustainability: Human well-being, non-substitutability and steady state growth. Also focuses on human welfare, however, natural and manufactured or financial capital are not seen as substitutable. In its strongest interpretation this implies that there are natural limits to growth and so a steady state economy is desirable. It relies on political choice and can sometimes employ CBAs with stringent pricing on natural capital but otherwise tools related to strong sustainability do not form part of the typology.

3. Critical sustainability: Sustaining human well-being, limited substitutability of natural and manufactured capital. Again human well-being is to be sustained, however contrary to both 1 and 2 natural and manufactured capital are seen as substitutable only when doing so does not interfere with natural processes that are essential i.e. there are boundaries that cannot be crossed. The strategy is then to identify the critical boundaries and then allow economic choice to operate only outside of these.

4. Human development: Freedom, human capability and SD. This is based on Amartya Sen’s approach to development. Where what is to be developed are what humans consider freedoms in themselves rather than financial capital as a measure of freedom. Therefore, health, education etc. become the targets of development. Social choice allows that alleviation of poverty, gender equality can be taken as universally accepted (rather than relying on economic or political force). Gains for environmental sustainability can be seen as important for human freedom and intergenerational equity, economic growth is less important. Tools such as broader sets of indicators than GDP can be employed as targets.

To characterise in broad strokes the findings from the final report on globalisation informed by sustainability, as carried out by Hannes Stephan, Paul Weaver, Jens Bartleson and Turaj Faran at Lund University, an extensive report of some 100+ pages, the following passage will come closest to sufficing: “The overall need is to achieve radical change in the global social-ecological system through an orderly and evolutionary change process based on incremental steps that gradually weaken the structures and mechanisms that contribute to unsustainability and replace these with more sustainable structures and mechanisms. This calls for new kinds of multi-level change processes that involve a dynamic interplay and modulation between gradually-introduced top-down conditions in framing conditions, which increase local autonomy and strategic steer, and set’s off context-specific innovations that are developed bottom-up and in patchwork fashion, which are enabled in part by such top-down innovations. Bottom up solutions developed in this way should contribute to improving local sustainability and also reinforce the initial top-down changes and support their further extension.”

Objectives 1-3 were largely fulfilled in the production of D4 and D8, the major findings of which were
summarised just above, building on the theoretical work of these, objectives 4-6 were more fully explored by D9-13 and the case study articles in the special issue i.e. Brunelle et al. 2014, Köhler 2014, Waisman et al. 2013, Köhler et al. 2014 and Bettini and Andersson 2014 (listed below, findings in 1.3.3d).

1.3.2e Most relevant publications
A comprehensive list of further publications, some of which are directly associated with this work package, is given in the full report (see section 2, table A1) but some of the most relevant are listed here:


1.3.3 WP3: Thematic studies of policy
1.3.3a Background
In the light of the comprehensive theoretical understandings from WP1 and WP2 the objectives in this work package are were to analyse concrete policies where globalisation, development and sustainable development are important components. More specifically the objectives were to analyse the following policy areas, with a particular emphasis on climate change and development:
• Agriculture and food
• Energy security
• Technology and innovation
• Transport
The case studies provide “arenas” or meeting places, where globalisation trends and sustainable development concerns and ambitions meet. The selected case studies concern exchange of financial capital, goods, people and ideas, which are influenced by international, EU and national regulation. They have strong connection with globalization and sustainability issues such as climate change and are connected to EU policy arenas and discernible stakeholder groups. The analysis of various areas have two major foci: development in the world and Europe, and EU policy. Based on these analyses different “contrasting” scenarios based on differing assumptions on global development as well as EU policy are
explored. The methodology was to demonstrate how various views about sustainable development “inform” globalization and how various conceptions of world governance can harness current development trends.

Agriculture and food
The case study around food and agriculture took place in the context of debates over the positive and negative effects of trade liberalisation and the impact of such related phenomena as agricultural subsidies, import barriers and export subsidies. These dynamics are further complicated by the development of food safety and environmental policy in EU and the push for bio-energy arising out of concerns climate change mitigation. Scenarios were to be based on alternative assumptions for the development of food production and food trade, particularly in the context of projected changes in diet, and to be developed and used for analysis and discussion.

Energy security
Energy provision is a core issue in relation to climate change mitigation. This case study was to investigate what type of issue linkages may lead both EU and other OECD countries, and developing countries to show a significant will to act. For the former, key questions included to what extent they considered, the political impact of CC on developing countries, climate politics as a component of geopolitical strategies and the climate regime as a component of world governance and the liberalization of world markets. For developing countries the bottom-line is to link sustainability to reforms of the ‘international economic order’ in exchange for their contribution. Irrespective of their degree of concern about global warming the key determinant of their position will be to search for a leverage effect between short term development issues (including poverty alleviation, energy constraints, land-use and food) and climate policies. These were the major considerations in construction of the scenarios.

Technology and innovation
Diffusion of know-how, technology and innovation is central for creating positive change, particularly in fields such as energy, transport and climate change. This case study focuses on innovation for sustainable development. The major focus here was to assess how eco-innovation occurs, as a particular aspect of innovation in general. Using production cycle theory, when can technologies be successfully transferred to countries with low technological 'absorptive capacity'? Furthermore the case analysed a single technology as an example: renewable energy, or more specifically 2nd and 3rd generation bio-fuels in connection with mobility or more specifically autos. An indicator based study was to be performed at a global level, to determine the impact of policy on innovation activity. As a second step the absorptive capacities for technology diffusion of Brazil, India and China were to be compared. These analyses were to form the basis for the policy workshop that focused particularly on policy tools for stimulating eco-innovation in international context.

Transport
The increasing road and air traffic is in most European countries the major obstacle of reaching goals of limiting greenhouse gas emissions. The increasing economic integration within the EU has brought increasing transports. For increasing the credibility of EU climate change mitigation, transport policy and development seem to be the most important challenge for the union. If the present development of air transport is continuing, it seems likely that aviation will be responsible for a major part of greenhouse
gases in Europe within a few decades. Therefore, development or regulation of air transport emissions through taxation seems likely. While regulations and taxation of car and road traffic only have regional effects, introduction of new taxation of air traffic will have effects outside Europe. Therefore aviation and long haul shipping form the objects of analysis in this case study.

1.3.3b Objectives
The objective of this work package was to deliver case studies in these areas as to undertake a study integrating some of the case studies. A major part of this work, second only to the conducting of the case studies themselves, was in the dissemination of the results of the work. This was largely handled through the special issue under WP2 and through other dissemination activities in WP5 (see section 1.4).

1.3.3c Deliverables
Deliverables associated with this WP were as follows:
- D10 Case study on European energy and climate change scenarios
- D11 Case study on European and global food and agriculture scenarios
- D12 Case study on international transport scenarios
- D13 Case study on eco-innovation
- D14 First prototype of the web-based assessment framework
- D30 Final report on integrated scenarios

1.3.3d Major findings
The specific approach taken in the case studies, having narrowed down the problem field when compared with the backgrounds provided above, as well as a summary of the most important findings can best be represented by the abstracts from the articles that were published in the special issue of The Journal of Environment and Development, volume 23. Additions will be made where necessary to provide important detail.

Agriculture and food
Abstract from, Brunelle et al. (2014) “The impact of globalization on food and agriculture: The case of diet convergence”:

“Globalization drives a process of diet convergence among developing and developed countries that challenges the predictions about future patterns of food consumption. To address this issue, the objective of this article is to map the range of the possible future diet changes and to explore their impact on agriculture using the Nexus Land-Use model. This model computes agricultural intensification in the crop and livestock sectors at the global scale, based on an architecture accounting for the different types of food calories. By considering four scenarios built on distinct assumptions regarding diet convergence, this article sheds light on the pivotal role of diet changes as drivers of tensions on agriculture and land use and shows the uncertainty associated with processes of diet convergence for foresight exercises on food and agriculture. Finally, the interactions between food production and the other land-use patterns are explored by testing the sensitivity of our results to assumptions regarding biofuel production, deforestation, potential crop yields, and nutrient-use efficiency.”

A large possible range for potential cropland area, yield gap, the intensification of agriculture, and the consumption of fertiliser were predicted under the various scenarios, with the largest impact on ecosystems associated with the strongest convergence on the Western diet. Elsewhere, it was found that “the impacts of biofuel development and policies reducing deforestation on agriculture increase more than proportionally when diets become more land intensive”.
Energy security
Abstract from, Waisman et al. (2014) “Sustainability, globalization, and the energy sector: Europe in a global perspective”:
“In this article, we analyse the socioeconomic effects of energy sustainability challenges raised by oil depletion and climate change at the European and global levels. We assess macroeconomic impacts at different period markers from 2010 to 2100 and under different visions of the future of globalization. Fragmented capital markets affect the pace and direction of change and induce additional economic losses in the long term. Regionalized good markets have a positive effect in the long term because less intense international trade moderates the effects of fossil fuel constraints. A sustainable energy future will require implementing policies and measures that are able to (a) provide correct incentives for long-term investments by resorting to other signals than current market prices, (b) incorporate sectoral measures that act complementarily to pricing scheme measures for sectors confronted with biased agents’ behaviours or strong inertias, and (c) foster globalization patterns that are consistent with energy sustainability objectives. The challenge consists in articulating the objectives and the instruments of these different policy and measures triggering the transition toward a sustainable future.”

Technology and innovation
Abstract from, Köhler et al. (2014) “Eco-innovation in NICs: Conditions for export success with an application to biofuels in transport”:
“This article looks at sustainable development and globalization from the perspective of the eco-innovation literature for the case of biofuels in transport. It assesses the potential for newly industrialized countries (NICs) to develop technology and hence export markets in biofuel equipment. An analysis of innovation indicators suggests those countries that have strong capacities in eco-innovation in general. The analysis considers demand and regulatory factors in addition to technological capabilities in biofuels and complementary sectors. A very large global market in biofuels for transport could develop. The case of biofuels in Brazil shows that demand-oriented innovation policy coordinated with supply-oriented research and development policies can be successful in NICs for developing markets in new technologies for sustainability. Brazil, China, Malaysia, Mexico, and South Africa, as well as Indonesia, Thailand, and possibly India, have the favourable combination of high biofuel production potential and the requisite technological capability to develop internationally competitive second-generation biofuel production technologies.”

Transport
Abstract from, Köhler (2014). “Globalization and sustainable development: Case study on international transport and sustainable development”:
“This article assesses the potential contribution for international shipping and long-haul aviation to contribute to sustainable development (SD). The trade literature shows that newly industrializing countries are benefitting from international trade for export-led growth. However, the least developed countries with limited access to international trade networks do not participate in the new global production networks. The World Trade Organization/General Agreement on Tariffs and Trade and Intergovernmental Panel on Climate Change regimes do not have the development of more sustainable transport systems as a priority. In this sense, international transport remains on the fringes of the environment and development policy fields. Three transition pathways to SD have been developed: (a) information and telecommunications
technologies leading to participation of least developed countries in global production networks, (b) changes in social preferences toward a high priority for the environment, leading to an extensive growth in fair-trade networks and sustainable production and consumption, and (c) SD from economic growth in newly industrializing countries, with an increased priority placed on solving environmental problems.”

Integrated scenarios
This research integrated the models used in the energy and agriculture case study scenarios and drew on all the case studies to develop more integrated approaches for a transition to a low-carbon society. The major findings can be summarised as follow
- Lower capital availability hinders technical change and the penetration of low energy and carbon technologies.
- A lower intensity of trade in a context of fragmented globalization, by reducing the intensity of international freight transport, limits the impacts of rising oil prices after the peak oil.
- Alternative consumption pathways can alleviate or worsen these impacts.
- The globalization of capital and goods markets mainly determines the pace and the direction of the transition towards a low carbon economy.
- Consumption pathways influence the intensity of changes.
- The transport sector will play a decisive role, green logistics and sustainable supply change management facilitated by the IT revolution may provide pathways forward.
- Biofuels can have significant impacts on land-use dynamics, competition with food and indirect land use change may hinder development, and 2nd generation might provide the answer but will require support for eco-innovation.

The results from D14 will be dealt with under the results from D32 i.e. the final version of the assessment framework under WP5 (see section 1.4).

1.3.3e Most relevant publications

1.3.4 WP4: Integrative dialogues
1.3.4a Background
This work package consists of delivering a major international conference with thematic sessions, organized and conducted by GLOBIS and connected to the different case studies, where about 20 researchers, policy makers and stakeholders participated. The objective of the workshops conference
were to provide a well-informed discussion about EU policy in relation to globalisation and sustainable development and contribute to EU policy development and integration, with particular focus on on-going policy discourses within the EU, such as the creation of the Sustainable Development Goals (SDGs), and the EU green economy agenda. The conference participants consisted of representatives from EU institutions, government agencies, relevant industries and NGOs, and academics that have an interest in issues of development, sustainable development or climate change. Participants were provided with tailor made, policy-oriented background materials as a means to support their active participation in the conference and contributions to the conference outcomes and policy recommendations. The conference plays a central role for the project’s over-all integration of both the case-studies and policy recommendations.

1.3.4b Objectives

1. The planning and holding of the international conference and subsequent reporting and dissemination.

1.3.4c Deliverables

All of the deliverables under this work-package are associated with the international conference.
D18 Stakeholder mapping
D19 Background papers for international conference (compilation)
D24 Conference summary for policy makers
D25 Report on international conference
D26 Policy-briefs compilation
D31 Edited volume based on the projects results

1.3.4d Major findings

Recommendations from the D26 policy briefs:
Transitions to low-carbon international transport: Identified two possible pathways: Growth in demand for sustainable production and consumption, and eco-innovation. A number of recommendations based on these are made 1) Support for greater emphasis in society in general on environmental issues through climate policy, consumer labelling etc. 2) Support for practical methods for calculating emissions of goods along the whole supply chain. 3) Direct support for eco-innovation in international transport. 4) Support for the development of carbon-neutral biofuels supply chains.
Eco-innovation and green competitiveness: Recommendations made 1) The EU should increase its positive specialisation in eco-innovation by investing heavily in the knowledge base. 2) The creation of domestic demand for eco-innovation is essential. 3) It is important to set targets for the diffusion of eco-innovations. 4) Depending on the indigenous capabilities of the country, countries should either aim to strengthen the complete value chain, or concentrate on their strengths in particular areas whilst also cooperating with countries with strengths in other parts of the value chain. 5) To establish European actors as coordinators of international value chains.
The informal, alternative and ‘zero-marginal-cost’ economies: "In developing the SDG Framework a balanced and diversified approach placing stronger emphasis on supporting bottom-up approaches to poverty relief being developed beyond the state and outside the formal capitalist economy could therefore be an appropriate complement to approaches that, facing decline in the role of the state, predominantly seek to integrate people and places into the global capitalist market system, which is also at risk of systemic failure.
Such bottom-up approaches include the informal economy, the non-money economy of social innovation,
and the emerging ‘zero marginal cost’ economy, all of which illustrate scope to relieve poverty and deliver wellbeing outside the formal economy in ways that are cushioned from the vagaries and arbitrariness of dependence on global markets and are potentially better able to provide shelter from the shocks and crises likely to afflict global markets and global capitalism in the period ahead.”

Synthesis report on the conference:
The conference was recorded by rapporteurs and the proceedings synthesised under a number of categories and sub-categories. Themes for consideration in policy and research and governance for the sustainable development goals (SDG) were the two major categories, the main points under each will be reported here:

Themes for consideration in policy and research:

i) Actors, inclusion and inequality, the democratic inclusion of a variety of relevant actors in both policy making and research balanced by the need to engage strategically with actors of leverage. ii) Multiple scales, the phenomena of sustainable development and globalisation require scalar analysis to understand problems of social and spatial differentiation and uneven distribution. Temporally, the need to act quickly for lasting change and tackle institutional path dependency. iii) Reconsidering north-south dynamics, though the division of the world into north and south is becoming less useful, and perhaps urban/rural divides or political blocs are more relevant, some dynamics have an intransigent nature that must equally be dealt with. iv) Fragmentation and coherence, policy and research ought to aim towards interconnectedness and universality to combat the fragmentation that was perceived as characterising the millennium development goals.

Governance for the SDGs:

Approach: 1) Reconcile competing paradigms and approaches, the boundaries between competing paradigms in governance and development, cannot be removed and so must be negotiated and reconciled where possible. 2) Problematize goals, though goals can be useful, they can be imagined in various ways, focusing on particular environmental or social impacts, sectors or types of instruments, and in some situations alternatives might be more appropriate, for example programs, principles or protocols. 3) Develop a systemic approach, by, for example, considering more thoroughly the interplay between different policies and goals. 4) Consider institutional reform, the question of institutional reform in the long term must be dealt with, while incorporating the need to act early and developing institutions that will facilitate this. 5) Tackle the distribution of resources, to tackle inequality in the context of the changing geopolitical context resources could be directed to grass-roots movements to allow them to reap the potential positive impacts of globalisation.

Organisation: 1) Diversity, the organisation of governance for sustainability will have to deal with diversity along multiple spectra. Efforts to implement new approaches or policies under the SDGs will require different constellations of actors. 2) Integration, the corollary of this is that governance organisation will also have to deal with integration. This suggests the need to recognise the importance of other kinds of agreement and negotiations when considering the development of SDGs.

Instruments: 1) Finance and capital, it will be important to leverage financial markets towards a low-carbon society as a price on carbon will not be sufficient. 2) Market niches, it will be important to leverage market niches for sustainable transport and support practical measures such as the calculation of emissions for innovation. 3) Intellectual property, deal with both the positive and negative aspects of intellectual property balancing the stimulation of innovation and the diffusion of technology. 4) The role of science, education and other actors, particularly in formulation of the SDGs. 5) Goals for distribution, set specific goals for the
redistribution of wealth. 6) Practical measures, such as a preamble that outline the principles that guide the SDGs, perhaps including scenarios, a clearly defined process of measurement, evaluation and updating of the goals.

1.3.4e Most relevant publications
Edited volume:

Policy briefs

Potential Impact:
The potential impact of GLOBIS
The goals for the GLOBIS project in terms of impact were twofold. First, was to build a comprehensive expertise in Europe with experience and capacity to assess how conflicts between globalisation and sustainability can be reconciled. This is particularly important in the light of EU’s ambition to become the world leader in important fields such as environmental concern in general and climate change in particular;

In this sense the primary impacts are expected through the scientific and policy making communities with subsequent indirect effects through the market and civil society. The cross-sectoral nature of the work in GLOBIS and wide variety of issues dealt with mean that the impact in science and policy circles can be extensive. Work in GLOBIS has already started to shape scientific discussion on the issues concerned particularly through the special issue which has experienced high readership and is already starting to accrue citations, some articles are the most read/downloaded from the journal even a number of issues after their publication. Similarly the Biermann et al. paper in Science published earlier in the course of the project is now highly cited. It is as yet difficult to assess the influence the project will have in policy circles as the targeting of that community has been most intense in the last period of the project. However, due to the extent and nature of the dissemination activities that have been, and are yet to be, undertaken it is reasonable to expect that the GLOBIS work will inform future policy making in this area. How the findings are considered and whether they are carried forward is beyond the influence of the consortium but given the enthusiastic participation of policy makers in conferences and workshops expectations can be high. This is particularly the case with the SDGs where the findings of the project can be represented by key individuals that have been involved in both projects.

The second main potential impact areas as described in the description of work involved creating a web-based interface for accessing the comprehensive knowledge and information developed in the GLOBIS project. The web-based interface contains a number of resources important for other researchers and other stakeholders, such as negotiators of trade and climate policy, and policy makers at different levels. The web-based interface contains the following resources:

Qualitative assessment framework.
The GLOBIS project has systematically collected information on and assessed several policy fields. A qualitative assessment tool has been developed by which the various policies and their relationships with globalisation and sustainable development can be assessed. The information is made accessible to others through a web-based interface. This will be an important resource for scientists as well as policy makers who will get an easy access to information and qualified assessments.

Socio-economic impact:
Though impacts of the project on the economy and civil society will largely occur indirectly through policy and science, a certain amount of direct impact has already been achieved through the final conference in Brussels which included that participation of both private actors and people from civil society organisations. Given the nature of the work in GLOBIS covering various sectors and exploring interlinkages between them, the project targets energy, transportation, food and agriculture, and eco-innovation sectors of the economy and society. Furthermore, general economic development, climate change policy and responses to globalisation from policy and market actors can be coloured by the work of GLOBIS made available through the dissemination activities listed below.

Dissemination activities:
The GLOBIS project seeks to engage scientific and societal actors and policy makers across a number of sectors at multiple institutional levels, from the national to the European and above. The transmission of knowledge produced within the project, herein outlined, must be pitched in such a way as to reach the diversity of individuals and organisations in a form that is most meaningful to them. In line with creating a community approach to knowledge management for innovation we realise that it is necessary not only to passively disseminate data and information but to engage networks in the reciprocal construction of knowledge that is useful in multiple domains of use. To accomplish this, the plan includes synthetic discursive products delivered through open channels and presented in amenable language as well as targeted interactions with detailed, specific and actionable findings. Where possible we have endeavoured to create situations where target audiences can be engaged in meaningful processes of knowledge construction so that the products of the project can be transformed into action across multiple sectors.

The GLOBIS conference which took place on the 14th of May 2014 at the Crowne Plaza hotel in Brussels is perhaps the most important dissemination activity for the project as it provides a chance to directly deliver the findings of the project to actors in the scientific and policy domains and engage in reciprocal dialogue. The format of the conference was designed such that participants had the opportunity to engage with the GLOBIS research in a constructive manner, towards generating input to the upcoming sustainable development goals (SDGs).

The conference was titled Integrating Agendas for Sustainability: EU Policy in a Globalising World. It began with delivering the results of the GLOBIS projects through short presentations, based on the peer-review publications, to a group of approximately 30 invited guests from policy making and scientific backgrounds, selected for greatest impact. This was followed by facilitated discussions in smaller groups with the aim of distilling input to the SDGs. The GLOBIS products thus went through a creative peer-review process in order to uncover how best they can contribute to the SDGs and EU policy while also encouraging deeper engagement of the invitees.
The project also produced a number of conference related materials. A report on the international conference that provides a summary and synthesis of the conference proceedings, background papers for the international conference based largely on the articles in the special issue (see below), and a summary of the conference for policy makers which capture the input of the conference attendees for how the GLOBIS project can best contribute to the SDGs.

In order to reach out to a broader group of policy makers and target that sector more directly the project produced a number of policy briefs, one for each of the sectors dealt with in the case studies. Findings from the case studies, themselves conducted with a high degree of awareness of the existent policy environment, were presented in a format and language that suit the specifics of their target sector. In particular these briefs use the findings of the GLOBIS project to generate guidance for national and EU policy and recommendations for the upcoming SDGs. They were delivered directly to individuals and will be made available in publicly accessible websites including the GLOBIS platform.

Just as it is important to reach out more directly to policy makers, likewise is it necessary to target the scientific community more directly. The publication of a special issue in a peer reviewed journal was the major vehicle for achieving this. A seven article special issue was published in March 2014 in the Journal of Environment and Development using the products of the GLOBIS project. The special issue contains summarised versions of the case studies, refined into the format of a peer reviewed articles, an editorial summarising the synthesis of the discourses on development, sustainable development and globalisation and introducing the other articles, an article developing a mobilising narrative to address climate change and one addressing the emergence of various discourses around climate change and migration, another of the GLOBIS areas of interest. The special issue is intended largely for the academic community, to deliver the results of the GLOBIS project and stimulate development, debate, response and further research in the nexus of development, sustainable development and globalisation, as well as in the specific areas treated by the case studies and other articles. The journal of environment and development was seen as an ideal choice for this because of its relatively wide readership as seen in its impact factor as well as its treatment of a variety of different topics in areas relevant to the GLOBIS project.

In order to give greater depth to both the special issue the project produced an edited volume. This drew connections between the work produced by the project while situating them and their interconnections in the broader context of globalisation and sustainable development. The intention being that this will make some of the more scientific work more accessible to a wider audience.

In order to disseminate policy specific results of the project in a way that is more useable for specific policies and policy makers the project delivered a policy assessment framework, which was launched online. This will ensure that present and future policy can be directly influenced by the knowledge generated by the project. The inter-sectoral and cross-cutting nature of the subject matter being discussed present challenges for linear methods of representation associated with written frameworks. For this reason an online version of the framework using interactive presentation technology that allows the user to browse through the various facets and many interconnections between sectors, will be designed to deliver the most useable presentation of the work done by GLOBIS. Users from the public, academia and decision makers can have a more nuanced interaction with the complexity of the policy environment and sectoral regimes, as they exist.
While the dissemination achieved through the particular deliverables focuses more broadly on the various sectors of society, policy and science, further dissemination activities, unspecified in the description of work were undertaken to target particular groups within these communities particularly specialist scientists. These are listed in the table A2 of the full report or in the dissemination plan D17.

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