

## **TASK 40**

# **Sustainable International Bio Energy Trade: securing supply and demand**

**Progress Report**

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## **INTRODUCTION**

This is the fifth progress report of Task 40 under the Bio-energy Agreement of the IEA: “Sustainable international bioenergy trade; securing supply and demand”, prepared for ExCo meeting 57, 17-19 May 2006 held in Paris, France. The proposal for this task was prepared in 2003 and formally submitted and presented to ExCo 52, held in November 2003 in Campinas, Brazil, where it was accepted as a new task under the Bioenergy Agreement.

The kick-off meeting of this new task was held on 19-20 January in Deventer, the Netherlands, where the work programme was discussed with the new team and various activities started-up. During the first open event of Task 40 in October 2004 in Rome, a more final work programme was agreed upon with concrete deliverables a time schedule and allocated partners per deliverable. After that, the membership still expanded. Belgium, Italy, and the UK became full members in 2006. At present, the participating countries in Task 40 are the Netherlands, Sweden, Norway, Brazil, Finland, Canada, Italy, the United Kingdom. In addition two international institutions, FAO and the World Bank are affiliated to the task and participate in the activities as if they are members.

In October 2005 Martijn Wagener had to withdraw from task leadership due to job changes within the company, and Peter-Paul Schouwenberg took over his work within Task 40. The joint task coordination of Utrecht University and Essent remains unchanged.

## **OBJECTIVE**

The future vision on global bio energy trade is that it develops over time into a real “commodity market” which will secure supply and demand in a sustainable way; sustainability brings a key factor for long-term security. Task 40 investigates what is needed to create a “commodity market” for bio-energy. By means of this platform in which industrial parties, governmental bodies and NGO’s participate, this task will contribute to the development of sustainable bio-energy markets on short and on long term and on different scale levels (from regional to global). In its intended activities, the task programme will take the several stages of development of biomass markets in different regions of the world into account. Furthermore, the ambition is that this platform can set the agenda and initiate a host of new activities relevant for developing biomass potentials worldwide.

Below, the generic objectives of the task are given, divided in short term and medium term objectives. Further prioritisation of activities is discussed under the header ‘deliverables for this triennium’.

### Short term objectives

1. Agreement on the emphasis on specific objectives and deliverables to be fixed together with participating countries and their stakeholders (especially interested industrial parties).
2. Overview of available information, work, insights, modelling tools and their possibilities and limitations for evaluating biomass markets (resources and utilisation) on different scale levels (global, national, regional).
3. Improvement on insights in influencing factors on the supply and demand of biomass for the short, medium and long term
4. Overview of development of biomass markets in various parts of the world and generic lessons to be deducted
5. Synthesis of existing trade experiences (i.e. Sweden, Finland, Brazil, the Netherlands) and survey on the possible effects towards existing markets (e.g. pulp wood, forestry and agricultural products and residues) on bio energy trade
6. Synthesis of existing barriers, hampering development of a (global) commodity market (policy framework, ecology, economics)
7. Identification of strategies to overcome “barriers”
8. Identification of sustainability criteria and their local influence on the biomass market (e.g. development of best practice guidelines)

9. Increasing public awareness of international bio energy trade (i.e. within IEA and other international organisations)
10. Exchange of information on bio energy experiences between parties with a different stage of market development

#### Medium term objectives

1. International platform (representatives from all kind of relevant stakeholders) for bio energy trade (e.g. supply and demand, sustainability, financial products etc.), required for the necessary dialogue.
2. Dynamic demand and supply models of bio energy, that takes influencing factors (pricing, actual demand, stocks, energy use for long distance transport) into account
3. Identification and analysis of options for integrating the production of biomass for energy and subsequent export into agricultural and agro-forestry systems especially in developing countries and countries in transition.
4. Evaluation of the political, social, economic and ecological impact of biomass production and trade in these systems for the local people, for food production; also in relation to specific sustainability criteria.

All activities of the task aim at generating and disseminating information on technical and on barriers and solutions for developing biomass markets. Task 40 is closely related to other IEA Bioenergy activities, most notably Tasks 30 and 31 (on Short Rotation Crops for Bio-energy Systems and Biomass production for Energy from sustainable forestry), Task 38 (Greenhouse gas Balances of biomass and bioenergy systems) and Task 29 (Socio-economic drivers in implementing bio-energy projects).

Collaboration with those tasks has already been implemented with Task 29 in March 2005, Task 30 and 31 in December 2005 and Task 38 in April 2006. Program preparations for a joint workshop in Finland with EUBIONET are ongoing (see below).

#### **OPERATING AGENT / TASK LEADER**

The Operating Agent for the Task is the Ministry of Economic Affairs, represented by Erik Wissema. Alternate Operating Agent is the Netherlands agency for energy and the environment (*SenterNovem*), represented by Kees Kwant. The Task Leadership is shared between Andre Faaij of the Copernicus Institute for Sustainable Development (Department of Science, Technology & Society) of the Utrecht University in the Netherlands and Peter-Paul Schouwenberg from the Dutch Utility Essent Sustainable Energy in the Netherlands. Martin Junginger (Copernicus Institute) is giving structural support.

#### **PARTICIPATION**

At present, the participating countries in Task 40 are Belgium, Brazil, Canada, Finland, Italy, the Netherlands, Norway, Sweden and the UK. In addition two international institutions, FAO and the World Bank are affiliated to the task and participate in the activities as if they are members.

Membership of the Task has thus risen to nine full member countries and two affiliated international bodies. Up-to-date information is given under 'contact information'.

## **BUDGET**

With the positive developments in (formal) membership of Task 40 over 2004 and 2005, it became feasible to appoint staff capacity at Utrecht University starting 1<sup>st</sup> of April 2005. André Faaij and Peter-Paul Schouwenberg are structurally supported by Martin Junginger. He is responsible for several deliverables (e.g. the strategic advice and, the Task 40 information leaflet and the organization of the several joint workshops) and support task management and dissemination activities.

Funds received for 2005 amounted to 75.000 US\$ with some member only paying in 2006 for their 2005 membership. When including these late payments with , in total a balance of US\$ 75,000 was carried forward from 2005 to 2006. With this positive result, and the increased amount of paying members for 2006, it was possible to formulate several new smaller activities under deliverables 3 (modelling markets) and 8 (evaluation of markets), see also below.

Unchanged is the ambition to secure other funds to support task activities. EU funding, World Bank support to carry out relevant research in the context of the work programme of Task 40 and various national funds are considered. As the ExCo has recently adapted the Implementing Agreement to allow sponsorship of non-country institutions, the World Bank has recently been asked to consider sponsorship of the Bioenergy Implementing Agreement.

## **ACTIVITY MEETINGS**

Two major components of the task meetings are the discussion of the progress in task activities and developments in individual member countries. Meeting reports are (and will be) prepared and can be downloaded after each meeting from the Task's internet site: [www.bioenergytrade.org](http://www.bioenergytrade.org).

After the workshop with Task 29, preparations started for the combined Task 30, 31 and 40 event in Campinas, Brazil in November-December 2005. The joint workshop consisted of three days. The first day included presentations from Task 30 on e.g. the development of sustainable SRC systems to date, presentations from Task 31 on e.g. sustainable forestry management and industrial scale production of biomass for energy, and presentations from various international bodies such as UNCTAD, UNEP and FAO. On day two, Task 40 illustrated the experience of international biotrade on e.g. company perspectives on developing international bio-energy markets. In addition on day two and three a business forum on sustainable international bio-energy trade was organized specifically focused on Brazilian industry, with major representatives from the Brazilian forestry and bio-ethanol sectors, as well as selected international players. Topics that were discussed during the workshop covered amongst others the Brazilian experiences with sugarcane and eucalyptus, and the future Brazilian alcohol and biodiesel programs, barriers for trade from both exporting and importing countries, necessity and development of sustainability criteria for biomass, and existing certification systems and their applicability to biomass trade. Finally, on Saturday an excursion to a Eucalyptus plantation and research centre was organized. In total, about 70 participants from different countries and global organisations contributed to a very successful event.

At the end of January 2006, a "Future Visions of Biomass Trade" -workshop was jointly arranged in Utrecht, the Netherlands by Task 40 and EUBIONET II for an invited group of experts. The workshop was a part of a research project carried out by the Lappeenranta University of Technology within a framework of Task 40 (deliverable 3). The workshop was focused on collecting and preliminary refining experts' knowledge, experiences and tacit information towards the future scenarios of biomass trade and markets. Totally 14 experts were attended the workshop. After the workshop, the research will continue and scenario drafts will be further developed together with the participants. The results of the study will be presented at the 3rd IEEE International Conference on Management of Innovation and Technology, 21-23 June 2006 in Singapore.

The second major workshop held so far in 2006 was the joint T38 & T40 in Trondheim, Norway.

The main objective addressed and discussed in this joint workshop were the advantages of the various trading possibilities, the necessary accounting rules and criteria to select the most efficient mechanisms under varying circumstances. It provided a forum for government, business and academic representatives to exchange and gain information on the status of the various biomass- carbon trading and certificate trading markets. Presentations included amongst others examples of actual biomass imports currently in several EU countries, methodological frameworks to compare the advantages of physical trading and carbon trading, certification of biomass, and an overview of developments within the clean development mechanism (CDM). In total, about 50 participants joined the workshop

The presentations given at these workshops and meeting reports can be downloaded from the Task 40 website [www.bioenergytrade.org](http://www.bioenergytrade.org).

An overview of task meetings/events organised and scheduled is provided below:

<b>Date</b>	<b>Location</b>	<b>Status</b>	<b>Note</b>
January 19-20, 2004	Deventer, the Netherlands	Completed	Kick-off meeting; overview of expertise, discussion and finalisation of work programme and deliverables.
May 13, 2004	Rome, Italy	Completed	Informal task meeting, discuss progress on planning and participation.
October 26-28, 2004	Rome, Italy (FAO)	Completed	Business Forum on bio-energy trade; open meeting of two days hosted by FAO + internal T40 meeting
March 16-18, 2005	Washington DC (World Bank).	Completed	Socio-economic impacts and benefits of international bio-energy trade. Combined event with IEA task 29 and the Energy Unit of the World Bank. Organized as a side event during the Energy Week of the World Bank. + internal T40 meeting.
October 2005	Paris, France	Completed	Oral contributions to the 14 <sup>th</sup> European Biomass Conference (with ETA-Florence), presentation of the strategic advice paper, distribution of the Task 40 information leaflet
November 28-December 2, 2005	Campinas, Brazil	Completed	Combined effort with Tasks 30 and 31, Business Forum on biotrade with Brazilian industry and covering sustainable biomass production systems for export and certification. 2 day internal task meeting to discuss progress of several key deliverables of the work programme
January 31, 2006	Utrecht, the Netherlands	Completed	Workshop "Future Visions of Biomass Trade" in cooperation with EUBIONET
April 3-7 2006	Trondheim, Norway	Completed	Joint event of Task 38 and Task 40 on bio-energy trade, GHG accounting and emission trading. 2 day internal task meeting to finalize several key deliverables of the work programme
Oktober 2006 (week 43)	Lappeenranta, Finland	Under preparation Lappeenranta University.	End of task meeting. 1,5 day internal meeting to finalize all deliverables of the 2004-2006 triennium and plan the 2007-2009 triennium. To be organised jointly with EUBIONET and combined with a business forum on biotrade aimed for Eastern Europe and in particular Russia.

## **PROGRESS**

See other sections (e.g. deliverables and activity meetings)

## **DELIVERABLES FOR THIS TRIENNIUM AND PROGRESS ACHIEVED**

The list below summarizes the deliverables/work packages covered by the Task. This list is based on both the discussions and written input from various parties. Each ‘‘deliverable leader’’ provided a (draft) work plan + proposal for contents, type of deliverable (report, case studies, etc.). The list covers the key objective, the type of inputs required or available, the actual products and crude time planning, and the progress achieved so far.

As mentioned in the budget section, the surplus for 2006 allowed the formulation of three new small-scale projects, which are described below.

An overview of progress achieved and planned activities for the various deliverables is presented in a Gantt-diagram at the end of this section. **Overall it can be stated that progress is being achieved for all main deliverables and that Task 40 is well on track.**

## 1. Market experience

Obtain an overview of current trading experiences and markets as well as potential future markets.

Responsible partners: coordination by **Sweden**, support from all T40 members

### Deliverables:

- a. Country reports (all members); various reports are available on the website [www.bioenergytrade.org](http://www.bioenergytrade.org).
- b. Business Forum Rome (expanded with other business fora during this triennium).
- c. Edited final synthesis report based on the country reports; coordination and integration work is taken up by Sweden. Task management (Junginger and Faaij) will support drafting of a final report over the summer of 2006.

### Progress:

In regard to the **market experience** (deliverable 1), a number of country reports of the Task members have either been finished or are in an advanced stage. These reports have been disseminated via the Task 40 website, and are downloaded frequently. Data has been collected from all Task members, and a draft synthesis report was presented at the Trondheim meeting by Sweden. However, over the course of the current triennium, several new member states have joined the task (Belgium, Italy and the UK in 2005/2006), which have not yet prepared a country report. Also, some data of the older country reports could be updated. Therefore, it was decided to finalize the synthesis report over the summer of 2006, and to include data from the new member countries. The Netherlands will be mainly responsible for the finalization of this deliverable.

## 2. Strategic advice on barriers, opportunities and strategy

Compile a strategic document that covers:

- Inventory of barriers (technical, logistic, economic, organisation, regulatory) and opportunities for developing working biomass and bio-energy markets and (international) trade.
- A distinction should be made between direct biomass imports for energy and indirect imports (e.g. biomaterials)
- Linkages to (emerging) carbon markets should be incorporated (such as the European Emission Trading System).
- Formulate strategies to cope with those barriers.

Responsible partner: **Netherlands** (supported by all partners).

### Deliverables:

- A Strategic review document, which also serves as input for strategic advice to IEA Bio-energy (and other bodies). A conference paper will be presented during the biomass conference in October 2005.
- Strategic advice on how to develop and support bio-energy trade, e.g. for the IEA bioenergy Exco. Largely a compilation of the results from various deliverables; to be delivered in 2006.

Progress:

The strategic advice will be written in several iterative phases. A first draft was set up by the Dutch partners, and distributed amongst the Task members. All task members have the opportunity to comment and edit this draft in a first round until the end of September. Then, a conference paper was written on basis of all the input, which will be presented in Paris in October 2005. Based on further input from the conference, the strategic advice was then further elaborated, and presented at the internal task meeting in Brazil at the end of 2005. Based on a second round of comments the final Strategic advice was presented and approved at the Trondheim meeting, and will be sent to the 57th ExCo meeting.

**3: Modelling markets:**

This activity should provide insight in the development of biomass resources and supplies in relation to market demand; e.g. by applying various (modelling) tools. The analyses should evaluate the importance of different developments for international bio-energy trade. The key of such an analysis could consist of a combination of modelling approaches and compile an integrated model that could do the job on different levels of detail.

Responsible partners: Norway (Risnes, Solberg a.o.), Netherlands (Faaij) and Finland (Ranta, Heinimo) pursue funding possibilities (national) for research activities.

Deliverables:

One or more project proposals (EU, combined national funds) coordinated by T40 members (and, if approved, the results of such a study). For the EC, one of the coming calls will be considered.

Progress:

So far, no suitable calls was identified to submit a proposal to for modelling biomass markets. However, other outputs for this deliverable outputs will be:

- The results of the “Future Visions on biomass trade” workshop held in Utrecht in January 2006, organised by Jussi Heinimö. A conference paper will be available. See also under “activity meetings” above.
- The results from Torjus Bolkesjo on modelling the Norwegian biomass market.
- A review of modelling efforts. This work will be funded by the extra budget available in 2006, and will be the main responsibility of Norway, supported by the Netherlands.

**4: Supply chain analysis (including forestry chains).**

This work covers performance evaluations (techno-economic) and further development/optimization of long distance bio-energy supply chains, in particular sea transport. This could especially be approached by doing concrete case studies of chains and transport systems. Following suggestions and considerations are raised:

Responsible partners: coordinating group by Canada, Finland, Norway; (supported by Sweden, Netherlands).

Deliverables:

- Case studies; being carried out in 2004-2005
- Different report of the various case studies.

### Progress:

Studies are being carried out in the summer and fall of 2005, in Norway, Finland and Canada. In **Canada**, data is being collected on bio-oils, pellets and ethanol from woody biomass. Also, efforts are made to obtain cost data on woody biomass from Russia and ethanol from Brazil. An overview will be presented at the internal task meeting in Brazil end of November. From **Finland**, a study on the Transportation Options and Profitability for Logging Residues in Finland has already been carried out and presented at the biomass conference in Rome 2004. Other studies on regional balance of wood fuel demand and supply in Finland and a GIS based availability analysis and marine transportation possibilities of biomass from the lake Saimaa region in Finland will be presented at the conferences in Paris and Trondheim in 2005. When these papers have been published, they will also be made available on the website. More papers are planned for 2006. In **Norway**, Enova established in April 2005 a new project called "Bioenergy – logistics chain cost structure and development potential". The project has a budget of about EURO 125.000 and was concluded in October 2005. The project kick-off was arranged as a mini-seminar / work shop. The project is conducted by a consortia of consultants, one from the Netherlands (KEMA) and two Norwegian (Inst. of transport economics and Energidata). In addition to these a reference group has been established. The reference group represents interlinked businesses that are all significant stakeholders within the regional bioenergy market. This includes Norway's largest cooperative of forest owners, Europe's fourth largest producer of sawn timber, Norway's largest district heating utility, Norway's leading developer of new biomass based district heating systems, the Norwegian Agricultural Purchasing and Marketing Co-operation (FK) and one biomass trader. The project was finished according to schedule. The main report is available at the Task 40 website. Core results are to be published and disseminated through national and international seminars/conferences and journals. They will also be presented at one of the IEA Bioenergy Task 40 events (e.g. at the workshop in Finland in October 2006).

Finally, from the first of August, 2005, **Jussi Heinimö is visiting the Copernicus Institute**, Utrecht University. Jussi will spend one year of his PhD research at Utrecht University, before returning to Lappeenranta University (Finland). Next to his work for the supply chain analyses, Jussi will also contribute to various other Task 40 deliverables, e.g. the Strategic Advice and the Finnish country report.

Final deliverables will be:

- A report on pellet supply chains in Canada
- A report on (supply chains for) co-firing of biomass in coal power plants in the UK
- A Norwegian supply chain study
- (conference) papers on several Finnish supply chain studies
- Depending on quality and available funding, one or several of these studies will be published in articles of the special issue of Biomass and Bioenergy

### **5: Certification systems:**

Certification, standardization and terminology for sustainable bio-energy trade.

Responsible partner: **Netherlands**, with FAO, UK (EC is expected to participate when membership would be secured).

### Deliverables:

- The Campians workshop in noovember/December 2005 on sustainable biomass productions systems. in Brazil in combination with IEA task 30 and 31 (short rotation coppice and sustainable forestry)
- Synthesis report from Task 40 and input for strategic advice to IEA. Report will be drafted over the summer of 2006, coordinated by Utrecht University.

### Progress:

One report by Lewandowski et al. has been published on the possible criteria and indicators for biomass certification systems based on a comparison of other certification systems. The possible social and environmental impacts of biomass production depending on different certification/sustainability criteria have been evaluated for Brazil and the Ukraine by Utrecht University (Smeets et al., to be published shortly on the website). Furthermore, the issues around certification have been discussed at the program for the Brazil workshop, including planned contributions from FAO, UNCTAD and WTO. A summary of the results is available on the Task 40 website. They will also be used as input for the final result of this deliverable, a scientific paper for Biomass & Bioenergy; though it can also be published in leaflet form to reach a broader audience. The article will cover biomass certification systems, related certification systems in agriculture and forestry, policy developments within the T40 member countries on certification, and advice on how to further introduce biomass certification. This work is in progress, cooperation is sought with FAO (Gustavo Best and Ingmar Jürgens), the UK (Jeremy Woods and Frank Rosillo-Calle) and possibly Jim Richardson (Task 31, work on sustainable forestry management). The final article will be finished by November 2006, a first draft for comments in the 2nd half of July.

## **6: Pilot projects:**

Identify possibilities for pilot- and demonstration projects and aim for supporting their development; especially in developing countries (e.g. Africa). Key output for the shorter term should be a work plan, which describes how pilot projects are set-up in an international setting and what is needed from organisational and financial point of view. The World Bank and FAO have prime experience in this field.

Responsible partner: World Bank / FAO; Netherlands, UK, Canada

### Deliverables:

- Plan of action/work programme on setting up pilot projects.
- Selection of potential projects.
- First feasibility studie(s) to be developed over 2005 by World Bank.
- Subject for March 2005 event hosted by Worldbank in Washington during the Energy Week in combination with IEA task 29 on socio-economic aspects of bio-energy trade and potential contribution to (rural) development

### Progress:

The possibilities for pilot- and demonstration projects and aim for supporting their development have been discussed in detail during the Washington meeting. The meeting report and the powerpoint presentations are available on the Task 40 website. So far, activities by the World Bank to set up pilot projects have been ongoing but slow.

## **7: Case studies; impact analysis:**

Provide insight (e.g. through case studies and best practice examples) in the socio-economic and ecological impacts of biomass production and trading schemes and demonstrate how bio-energy trade can contribute to general (sustainable) development targets.

Responsible partners: FAO, Netherlands, UK, World Bank

### Deliverables:

- Concrete case studies, in particular in developing countries. More material is made available from studies in the Netherlands, the UK and Sweden.
- Event during the Energy Week of Worldbank in Washington in combination with IEA task 29 on socio-economic aspects of bio-energy trade and potential contribution to (rural) development.

- Subject for fall 2005 event possibly in Brazil in possible combination with IEA task 30 and 31 (forestry and short rotation coppice).

Progress:

As case studies, the possible social and environmental impacts of biomass production have been evaluated for Brazil and the Ukraine by Utrecht University (Smeets et al., to be published shortly on the website). The socio-economic and ecological impacts of biomass production and trading schemes have been discussed in detail during the Washington meeting. The meeting report and the power point presentations are available on the fair biotrade website. Furthermore, articles for a Special Issue of the Journal Energy for Sustainable Development on international bio-energy trade and sustainable development are currently being written, which are largely based on contributions made during the World Bank event. The special issue has been published in March 2006. Also the joint workshop with task 30 and 31 at the end of 2005 in Brazil dealt with these topics.

**8: Evaluation of markets (Ethanol and other commodities):**

This work should evaluate major emerging markets for bio-energy trade focusing on specific commodities. Focus will first lay on ethanol. When the approach is successful, the Task can continue with assessing other commodities like pellets, vegetal oils, bio-oil or electricity at a later stage.

Responsible partners: **Brazil**; UK, Canada (others when other commodities are going to be addressed).

Deliverables:

Report; final draft on bio-ethanol to be discussed during the T40 meeting in Brazil end 2005.

Progress:

The focus of the research is on evaluating markets for fuel ethanol trade and, more specifically, on the Brazilian experience on large-scale fuel ethanol production and exports. As long as this evaluation is successful, Task 40 can continue with assessing other commodities, like pellets, vegetal oils, bio-oil or electricity.

The ethanol market research has been conducted in the context of an M.Sc. dissertation that was presented by February 2006 at State University of Campinas. The research has been structured in five parts, besides the final conclusions that aim at the critical analysis recommendations. Parts 1 to 3 are almost ready; research has been conducted and the text is in the review process. These parts correspond to historic analysis of ethanol production in Brazil (part 1), the prospective analysis of the domestic fuel ethanol market up to 2015 (part 2), and a prospective analysis of the international market, including (i) identification of driving forces for growing fuel ethanol consumption; (ii) perspectives for Brazilian producers; and (iii) identification of barriers. The final ethanol study was presented by Arnaldo Walter in April 2006. The final result will be an English report about 50-60 pages long, available at the end of May. A more compact version of the report, to be submitted to the special issue of Biomass and Bioenergy.

As funds were available for the remainder for 2006, it was decided at the Trondheim task meeting to carry out two additional market studies:

1. Doug Bradley (Canada) has already sent a proposal on (pyrolysis) bio-oil to all members. The supply side would cover an analysis of Canadian production locations & major locations offshore (e.g. South Africa, Brasil & Europe itself). The analysis will include the own domestic demand and the potential for export. The demand side analysis will focus on Europe. Possible end-use applications are on the short term: co-firing in coal power plants or industrial boilers. It is still to be decided whether the study will also include a comparison with torrefaction.

2. The second market study will be on pellets and sawdust. The proposal for this study is currently being written, and will be available at the end of April.

## 9: Improved communication, raising awareness, networking and information exchange on the fields covered by the Task.

Responsible: **Netherlands** (task leader), supported by all T40 members

### Deliverables:

- Website distribution; the website [www.bioenergytrade.org](http://www.bioenergytrade.org) is developed further over the reporting period and visiting number are growing considerably (see below)
- Active distribution of results to dedicated audiences, etc. Compact written reports/papers on appropriate level (non-technical, policy oriented character). Task 40 could determine who should receive such advice (with particular focus on industry as well as government level). Such documents should be actively distributed. Starting from autumn 2005 such reports could be released on an annual basis.

### Progress:

The **website** is continuously developed further and will be expanded further over 2005. The most important change was the change of the Task 40 websites URL. After comments of the ExCo on the URL [www.fairbiotrade.org](http://www.fairbiotrade.org), the URL was changed to [www.bioenergytrade.org](http://www.bioenergytrade.org). Main additions to the website in winter of 2006 were the addition of a members-only section, and a database through which all documents can be searched and retrieved.

The average number of visitors is about 1500 visitors per month. The information dissemination is also well underway. However, the number of documents downloaded each month is still increasing – in March 2006 more than 4 GB of data was downloaded from the site in form of presentations, meeting reports, country reports etc. In general the top ten documents are downloaded each over one hundred times per month. For an overview of the publications available on the website, see the end of this section.

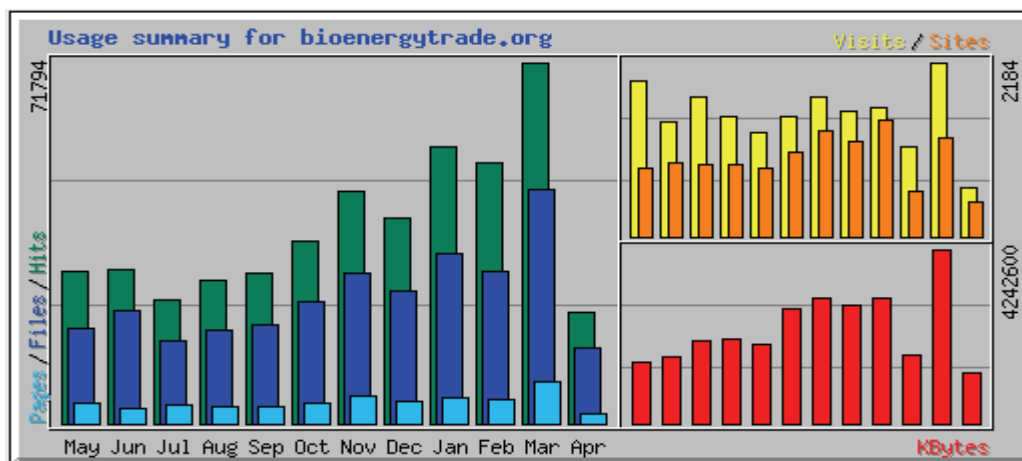


Figure 1. Statistics of the Task 40 website May 2005 – March 2006. Data for April 2006 is not complete.

A key output of the Task so far is the **Special Issue of the Journal Energy for Sustainable Development** on international bio-energy trade and sustainable development that has been published in march 2006. The articles are largely based on contributions made during the World Bank event.

Furthermore, it was decided that a number of key deliverables of Task 40 will be published in a special issue of Biomass and Bioenergy. The targeted publication date is the first quarter of 2007. It will include the major outputs of Task 40, e.g. several country reports and the synthesis report, articles on supply chains and biomass certification systems.

The Task 40 leaflet has been finished in October, and has since then been distributed at numerous occasions such as the Task 40 activities, biomass conferences etc. Finally, Task 40 and task 38 jointly contributed the coloured section of the IEA Bioenergy annual report.

Reports from Task 40 published in 2004-2006 and made available via the website:

- André Faaij, Rob Remmers, Martijn Wagener, Kees Kwant, Proposal for a new Task within the IEA Bioenergy Agreement on Sustainable International Bio Energy Trade: securing supply and demand. Working period 2004 – 2006, September 2003.
- Minutes of the kick-off Meeting of Task 40 under the Bio-energy Agreement of the International Energy Agency. Sustainable International Bio Energy Trade: securing supply and demand Working period 2004 – 2006, Deventer, the Netherlands, 19 - 20 January 2004.
- Andre Faaij & Rob Remmers Progress Report, TASK 40 - Sustainable International Bio Energy Trade: securing supply and demand, ExCo53b Doc 06.11, Prepared for ExCo 53 Luzern, Switzerland, 6-7 May 2004
- Andre Faaij, Rob Remmers & Martijn Wagener, Task Leaders, Progress Report, TASK 40 - Sustainable International Bio Energy Trade: securing supply and demand, 2<sup>nd</sup> Progress Report, ExCo 54, Ottawa, Canada, 6-7 October 2004
- H. Risnes, Bioenergy in Norway - status 2004 and measures to secure future fuel supply and demand, Country report for the IEA Bioenergy Task 40, Enova, October 2004
- Tapio Ranta, Jussi Heinimö, International Bioenergy Trade: Experience in Finland, Lappeenranta University of Technology, Finland, October 2004
- Faaij, G. Best, R. Remmers, etc. *Report on a Business Forum on International Bio-energy Trade*. Organized by IEA Task 40 and the Food and Agriculture Organisation of the UN (FAO), Copernicus Institute - Utrecht University, December 2004
- G. Volpi, A. Faaij, *Energieexperten debattieren über den Handel Mit Bioenergie*. In: Rundbrief Forum Umwelt & Entwicklung von Deutscher Naturschutzring und Verband Entwicklungspolitik Deutscher Nichtregierungsorganisationen, 4/2004. Pp. 12-13.
- Faaij, A., *International Bio-energy Trade; background, opportunities and IEA Task 40*. In: Proceedings of the 2<sup>nd</sup> Int. Ukrainian Conference on Biomass for Energy. September 20-22, 2004, Kiev, Ukraine
- Faaij, A., *A Green OPEC: Large Scale International Bio-energy Trade*, In: Proceedings of the GHGT-7 - 7th International Conference on Greenhouse Gas Control Technologies, September 5-9, 2004, Vancouver, Canada.
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**Overview of progress achieved and planned activities for the various deliverables (The table is continued on the next page for 2006)**

Gantt diagram (Green = Progress achieved, yellow = in progress / planned activities, blue= partially delayed activities, red = delayed activities)

	1 <sup>st</sup> Q 04	2 <sup>nd</sup> Q04	3 <sup>rd</sup> Q04	4 <sup>th</sup> Q04	1 <sup>st</sup> Q05	2 <sup>nd</sup> Q05	3 <sup>rd</sup> Q05	4 <sup>th</sup> Q 05
Meetings	Kick-off meeting Deventer			Business Forum Rome	Workshop in Washington			<ul style="list-style-type: none"> <li>Biomass conference Paris &amp; Norway</li> <li>T30, 31 &amp; 40 Workshop Brazil</li> <li>Business Forum Brazil</li> <li>Task 40 meeting Brazil</li> </ul>
1. Market experience	Writing of country reports							
2. Strategic Advice	Writing draft SA							
3. Modelling markets	Project proposals to be written							
4. Supply chain analysis					Completion of several projects in Canada, Finland and Norway			
5. Certification systems	Report Lewandowski et al.				Completion of several projects in Canada, Finland and Norway Presentation cases in Brazil and publication on the T40 website Event in Brazil			
6. Pilot projects	Feasibility studies in the course of 2005							
7. Case studies					Draft report Smeets et al.			
8. Evaluation of markets					Preparation part 1-5			
9. Dissemination	Website up and running				Website fully operational			
					Preparation of the study at the Campinas workshop, Brazil			
					Distribution of the of Leaflet			

	1 <sup>st</sup> q 06	2 <sup>nd</sup> Q 06	3 <sup>rd</sup> Q 06	4 <sup>th</sup> Q 06
Meetings	<ul style="list-style-type: none"> <li>Task 40 meeting Norway</li> <li>T38 &amp; 40 Workshop Norway</li> </ul>			End of task meeting (Lappeenranta, Finland)
1. Market experience	Finishing SA		Publication of synthesis report	
2. Strategic Advice	Future Visions on biomass trade” workshop		Review study of biomass market models	
3. Modelling markets			Publication of certification paper	
4. Supply chain analysis			Project proposals to be written	
5. Certification systems			Feasibility studies in the course of 2005	
6. Pilot projects			• Publication of ethanol market study	
7. Case studies			• Market study on pyrolysis oil	
8. Evaluation of markets			• Market study on pellets and saw dust	
9. Dissemination	Publication of ESD special issue			Publication of Biomass & bioenergy special issue (spring 2007)

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