

Swiss warning: Just 4 years to act to avert a global economic crisis: as a 3°C rise will trigger massive climate changes

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Global economic chaos lies ahead if CO₂ is not leveled to 400 part per million (ppm). According to new data from the Swiss Federal Institute of Technology, if global CO₂ levels rise past 400ppm the world faces a 68-99pc chance of a 7 meter sea-level rise. (see chart inside) Each ppm rise creates a temperature rise. At 2.7°C the

Greenland ice sheet melts, permafrost melts and submarine hydrates may rise from the ocean floor. These events would then massively raise world CO₂ levels and speed temperature rises and radically impact ecosystems, food production, water and socio-economic systems.

Who says so: In a paper for presentation at the Scientific Symposium *Avoiding Dangerous Climate Change*, UK MetOffice, Exeter, 1-3 February 2005, World planners will hear why they need to set a global CO₂ target at 400 parts per million (ppm).

The 2004 level: The mid-2004 level was 380ppm and rising 3pc a year, and may hit 400 by 2010.

The warning: "Only for a stabilization level of 400ppm CO₂eq and below can warming below 2C be roughly classified as likely (risk of overshooting between 2 per cent and 57 per cent with mean 27 per cent)". (See more inside)

For CO₂ levels: See <http://cdiac.esd.ornl.gov/trends/co2/sio-mlo.htm> For CO₂ impact models: "On the Risk of overshooting 2°C" "Relationship between increases in global mean temperature and impacts on ecosystems, food production, water and socio-economic systems" and "How much warming are we committed to and how much can be avoided?" <http://www.simcap.org>

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Round Up

GLOBAL

February 16, 2005: The Kyoto Protocol will come into force. The signatory countries will be subject to their objective to reduce greenhouse gas ("GHG") emissions such as CO₂. For Canada, as an example, to reach its objective of 6 per cent below 1990 levels, it will need to decrease its actual emissions by 25 to 30 per cent.

EU

January 1st 2005: The European Union Emissions Trading Scheme (EU ETS) officially began on January 1st 2005, amid threats of legal action from the UK over its watered-down final draft allocation plan, and allegations that the World Bank is using its size to crowd out private sector players on projects to reduce emissions in the developing world. Legal action could be taken against the European Commission if it fails to approve raising the limit on the UK's industrial emissions of carbon dioxide.

CDM RULES

Second CDM project registered: It's a wave of the future - the second CDM project was registered - a Honduran small-scale hydro project at Rio Blanco - this historic second project was registered for Clean Development Mechanism (CDM) trades.

Cowboys in CDM land: The UNFCCC Secretariat estimates 70 methodologies for Clean Development Mechanism (CDM) projects will be approved in 2005.

CDM registry boom: A long line of Clean Development Mechanism (CDM) projects has gone through the public comment stage of the validation period. Most of these projects should be ready for CDM registry submission in the near future.

Gas CDM in limbo: The CDM Executive Board decided to ask its Meth Panel for a recommendation on the methodology for so-called avoided fuel switch projects. This methodology has been in limbo for more than a year.

CDM Executive Board tightens HFC23 rule:

The CDM Executive Board decided to revise the HFC23 methodology to make it substantially more restrictive. Involved project developers were thoroughly unenthusiastic. The CDM Executive Board decided to put the Ulsan and Gujarat HFC23 projects under review.

Dutch ERUPT tender attracts 21.9mt CO₂e:

The fifth Dutch ERUPT tender for Joint Implementation (JI) projects recently closed; 23 companies from eight countries have been selected to submit a proposal.

Honduran hydro CDM bids blocked: Three members of the CDM Executive Board (EB) requested a review of the Honduran small-scale hydroelectric project, Cuyamapa, which has been submitted for registration as a CDM project, hence blocking its registration as a CDM project - funded by the World Bank Community Development Carbon Fund.

CDM TRADES AND FUNDS

EcoSecurities buys CVERs from CDMs: On 29 November EcoSecurities and Kommunalkredit Public Consulting (KPC) set up a facility to purchase certified emissions reductions (CERs) generated from small-scale Clean Development Mechanism (CDM) projects on behalf of the Austrian Government.

Peru sells hydro CDMs: Peru stepped into the CDM market on 2 December when the World Bank signed an emissions reduction purchase agreement with CDM hydro project, Poechos.

Pacific Hydro sells CDMs: Melbourne-based Pacific Hydro may generate as many as three million carbon credits from Clean Development Mechanism (CDM) projects by 2010, and Japanese companies are lining up to purchase.

Tepeco buys into Japan Carbon Fund: Japan's Tokyo Electric Power Co Ltd (Tepeco) said it had invested US\$10 million in the Japan Carbon Fund, the first carbon fund established in Asia.

EXCHANGE PRICES

New markets EU6/tonne: European Union CO₂ allowances for delivery in 2005 were shedding value with prices heading towards record lows of near EU6/t. The European Commission strongly defended the principles behind its emission trading scheme (ETS) following criticism that national allocation plans (NAPs) are overgenerous in issuing allowances and could cause prices for the certificates to plummet. Carbon allowances lost approximately 18 per cent of their value amid relatively stable fuel prices.

EU ETS hits 1 million tonnes: For the first time (since trading with CO₂ emissions allowances began in February 2003), the European market saw more than one million tonnes trade last week.

Euronext to launch emissions exchange: Euronext, the pan-European exchange operator, announced it would launch an exchange for trading carbon dioxide emissions in March.

No EU spot market by 1 March? Companies offering trading platforms are pessimistic that a spot market can develop on 1 March as expected because the registries are not on target.

Million Tonne Combined EUA/CER Deal Reported: A trade including 500,000 EU 2006 allowances and 500,000 certified emissions reductions (CERs) was reported to the market. CO₂e.com brokered the deal.

Russia key to EU carbon price: The latest climate emission trading simulation from Europe's electricity industry underlines the pivotal importance of Russia in deciding how much it will cost the world's industrialised economies to implement their Kyoto Protocol targets.

New values to launch EU ETS Platform: Dutch firm New Values is to launch a new trading platform for the EU emissions trading scheme, the firm said on 10 January.

UK ETS gets legs: Six direct participants in the UK emissions trading scheme (ETS) have taken on additional reduction targets of totally 8.9 million tonnes of CO₂ (MtCO₂) in the 2002-2006 period in an attempt to breathe some life into the UK ETS.

UK plan to link EU-ETS with UK-ETS: The UK government would use its presidency of the EU next year to look into the possibility of linking the EU emissions trading scheme with new greenhouse gas markets in the US, according to Environment Minister Elliott Morley.

NATIONAL POLICIES

German firms big CDM buyers: During the German allocation process, companies have applied for 42 million tonnes of CO₂ (MtCO₂) more than the Government can allocate. The German definition of new installation could leave some 550 installations severely short.

Germany extends exceptions to polluters: The installations-level German national allocation plan (NAP) will include about 350 plants less than anticipated. The NAP will be published within the next three weeks, "definitely before Christmas", officials of the German Emissions Trading Agency (DEHSt) said.

French to cut 4.5 MtCO₂ 2005 to 2007: France last week closed the public consultation on its national allocation plan (NAP), and expects to publish the final version on 10 December. It is still uncertain if France will comply with the European Commission's demand to cut 4.5 MtCO₂ over the 2005 to 2007 period.

German rail cuts CO₂: The German railway group Die Bahn has significantly reduced its CO₂ emissions. By the end of the year a reduction by 27 per cent will be reached, the group announced.

World Bank runs Spanish Carbon Fund:

The Spanish Government has given the go ahead for the creation of a Spanish Carbon Fund that will be managed by the World Bank. The Fund will purchase some 40 per cent of the total amount of credits Spain aims to purchase from Clean Development Mechanism (CDM) and Joint Implementation (JI) projects.

Austria gets registry: After weeks of uncertainty about who will carry out the operational registration process in Austria the industrial consortium Emission Certificate Registry GmbH (ECRA) received its official concession as registry for operational tasks.

EU governments cut back efficiency rules: EU governments want to significantly dilute legislative proposals to boost energy efficiency in Europe, it emerged from a meeting of energy ministers in Brussels.

Kyoto trigger gets EU hopping: Slovakia could resubmit NAP if UK revision is approved. Austria published its final installation-level NAP and Greece made the EC's legal action list.

Belgian region of Flanders sets cuts: The Belgian region of Flanders has implemented the 520,000 tonnes CO2 cut from its national allocation plan (NAP) demanded by the European Commission, and has subsequently reshuffled some of the allocated allowances in favour of the energy sector.

Swedish emissions up: Sweden's greenhouse gas emissions increased by 2.7 million tonnes of carbon dioxide equivalents (MtCO2e) from 2002 to 2003, taking the country's emissions back up to 1990 levels.

Coal plant pain in Spanish NAP: Coal plants were allocated less than expected when the Spanish installation-level national allocation plan (NAP) under the EU emissions trading scheme (ETS) was published today, leaving Endesa exposed to the cap on CO2 emissions.

New Hungarian law: The Hungarian Government on 26 November approved its draft law on emissions trading, thus finalising the necessary legislation to see Hungary take part in the EU emissions trading scheme from 1 January.

Italy advised to go nuclear: Approval of nuclear in developing countries, to generate carbon credits under the Clean Development Mechanism (CDM) projects should be looked at, said Corrado Clini, chief of the Italian Climate Change office, at a conference in Milan.

Ontario to impose biofuel: Canada's most populous province Ontario is to impose a biofuel target for transport fuel.

Slovak gas plan strikes CO2 rock: Austrian utility Verbund, the leading Slovak power company Holding Slovenske Elektrarne (HSE) are planning a new gas fired power plant in Slovenia that could increase Slovenian CO2 emissions by 2.1 million tonnes a year.

EU targets aviation emissions: The European Parliament wanted the European Commission to advocate aviation cuts at COP-10 in Buenos Aires.

German plan - traffic emissions traded: The German Federal Environment Office (UBA) and the Cologne Centre for Public Economics (FiFo) are about to finish a research project on including traffic emissions in emissions trading.

Banks fund Russian renewables: The European Bank for Reconstruction and Development (EBRD) on 30 November announced that it has issued loans to institutions in Russia and Bulgaria that will go to various energy-saving projects.

NORTH AMERICA

Canada may order cuts: The Canadian government must consider regulating a cut in the country's greenhouse gas emissions if it is to waters for the first time since 1948.

Trebled tax on trash collection: The city council of Boulder in Colorado on Tuesday voted to nearly triple the tax on trash collection for homeowners, mostly to fund programs aimed at reducing greenhouse gas emissions.

NORTH ASIA

Japan, China, South Korea agree: The environment ministers of Japan, China and South Korea agreed to step up efforts to reduce greenhouse gas emissions.

ADB gives \$70m for coal gas China cuts: The Asian Development Bank has offered a loan of \$70 million to finance the reform of a gas and heating system in Liaoning Province, Northeastern China, by developing and utilizing the coalbed gas to improve the environment.

Japan to set new targets: The Japanese government has decided to set specific emissions targets for six greenhouse gases as the Kyoto Protocol on climate change will take effect in February. The news marks progress in an ongoing review of climate policies in Tokyo.

Japan C02 up 0.9 in 2003: CO2 emissions from the ten largest industries in Japan increased by 0.9 per cent in 2003, putting emissions 0.3 per cent above 1990 levels.

China writes new rules: A proposed law in China aims to ensure that renewable energy can be produced, marketed and used successfully, to replace oil and gas in electricity production.

AFRICA

Nigeria a new CDM seller: The Nigerian Minister of Environment, Colonel Bala Mande, announced this weekend that the country has ratified the Kyoto Protocol. This could open for some huge Clean Development Mechanism (CDM) projects in the country.

SMALL ISLAND STATES

Rising seas threaten islands, cities, coasts: It sounds insignificant alongside the Indian Ocean tsunami, yet an almost imperceptible annual rise in the world's oceans may pose a huge threat to ports, coasts and islands by 2100.

UNUSUAL WEATHER EVENTS

Icebergs NZ for first time in 57 years: New Zealanders complaining about unseasonal summer rain in recent weeks have received proof of changing climatic conditions after icebergs were sighted in local waters.

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World gets four-year deadline

The new data from the Swiss Federal Institute of Technology suggests nations have just four years - until 2010 - to act to avert run-away climate change. The Swiss models show a level at 400ppm would avoid a long-term 7-meter sea-level rise and other catastrophic climate change effects, such as:

- loss of the Greenland ice-sheet
- thawing permafrost; and
- rise of submarine hydrates from deep oceans.

Mid 2004, at 380ppm: The level at mid 2004 was 380ppm and rising at 3 per cent a year; after rising 35 per cent since 1750. At a rise of 3 pc a year, the level will hit 400ppm around 2010, and 450ppm by 2030 and 550ppm by 2060.

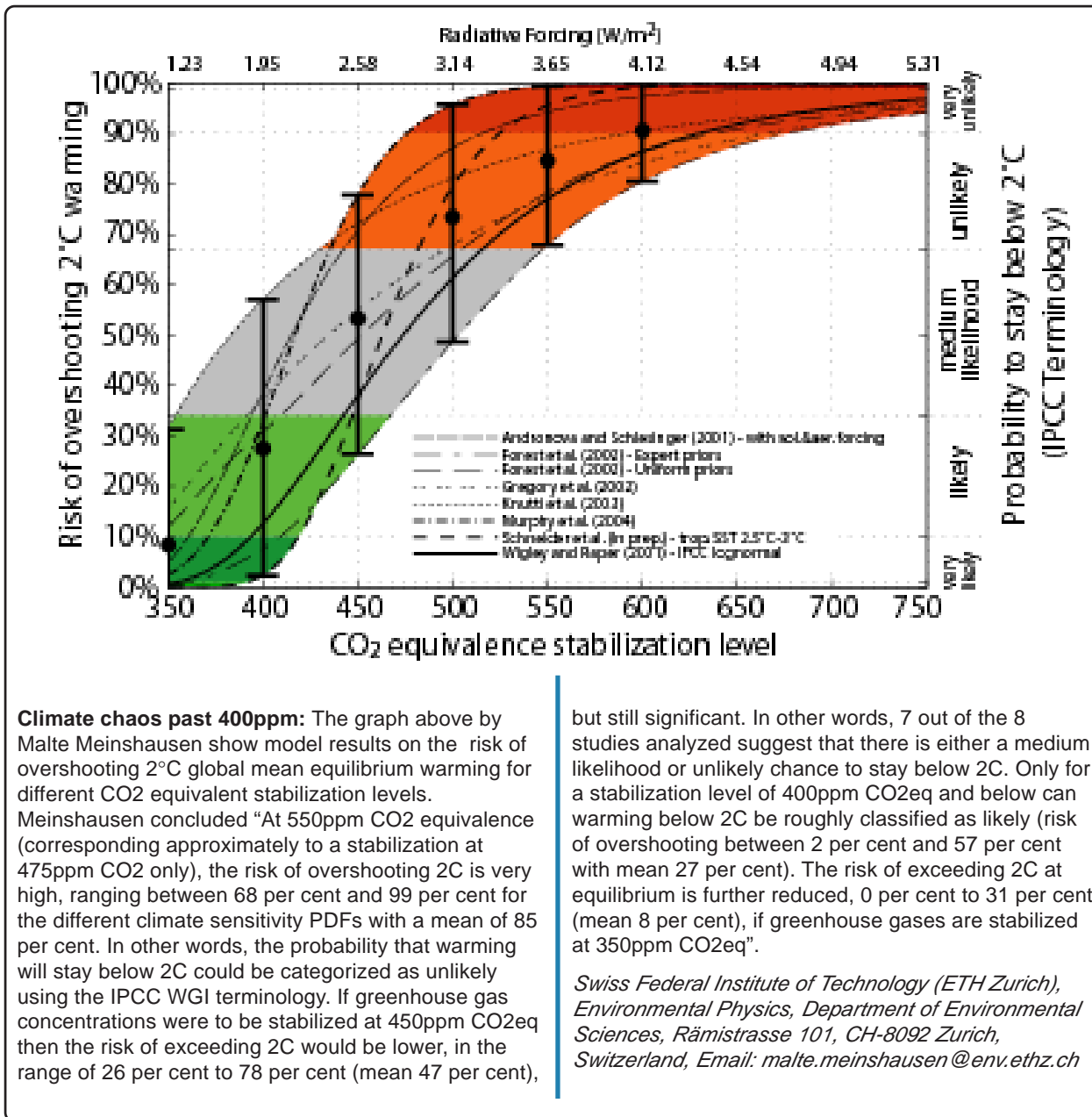
The new data: Malte Meinshausen, of the Swiss Federal Institute of Technology will present data at *Avoiding Dangerous Climate Change*, to show how:

- if CO2 levels rose above 400ppm;
- global mean temperature would rise over 2°C above pre-industrial levels;
- a 2C temperature-rise would then trigger unstoppable domino climate effects.

A global ppm limit was proposed and debated at the December Kyoto meeting for a new global agreement for the post 2012 period.

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Global economic chaos ahead if CO₂ not leveled to 400ppm

Malte Meinshausen, of the Swiss Federal Institute of Technology argued "As the loss of the Greenland ice-sheet alone may be triggered by a local temperature increase of approximately 2.7°C (which could correspond to a global mean temperature increase of less than 2°C).

Climate impacts beyond 2°C:

- a sea level rise of 7 meters over the next 1000 years or more. Similarly, unique ecosystems, such as coral reefs, the Arctic, and alpine regions, ... may be severely damaged by global mean temperature increases of 2°C or below
- a sea level rise of up to 3-5 meters by 2300 is possible for a 3°C global mean warming due to, among other factors, the disintegration of the West Antarctic Ice-Sheet;
- other large scale discontinuities are increasingly likely for higher temperatures, such as "strong carbon cycle feedbacks, or potentially large, but still very uncertain, methane releases from thawing permafrost or ocean methane hydrates".

In the paper *On the Risk of overshooting 2°C* Meinshausen, of his models showed risk to overshoot 2C equilibrium warming was:

- between 68 per cent and 99 per cent for 550ppm CO₂ equivalence.

Why world needs 400ppm limit: "Only at levels around 400ppm CO₂ equivalence, the risks of overshooting are limited so that the achievement of a 2C target can be termed likely.

Range of CO₂ scenarios: "Based on characteristics of 54 IPCC SRES and post-SRES scenarios, multi-gas emission pathways are presented that lead to a stabilization at 550, 450 and 400ppm CO₂eq in order to assess the implications for global emission reductions. Sensitivity studies in regard to delayed global action show that the next 5 to 15 years might be decisive on whether the risk to overshoot 2C can be limited to a reasonable range".

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Only big projects earn Kyoto cash: CDM projects must deliver about one million tons CO₂-eq emission reduction before 2012, to pay off

The history of CDM projects show they have generally been developed in a joint effort of:

- an Annex I Party investor entity -a government agency, private enterprise, or multilateral fund; and
- a non-Annex I host country.

Got to be big to pay off: Partners from both countries are actively involved in the entire CDM project cycle. An important disadvantage of how the CDM project cooperation presently develops is that the transaction cost related to the project design, including identification of the project, construction and approval of baseline and monitoring methodologies and validation, as well as to the actual project implementation generally require that a project (which does not fall within the small-scale CDM category) needs a considerable scale to be financially viable.

One million tons CO₂-eq needed: When looking at a number of present tenders for CDM projects, e.g.

- Dutch Rabobank carbon procurement programme;
- German Kreditanstalt für Wiederaufbau KfW; and
- the Dutch CERUPT programme, it turns out that a CDM project must often at least deliver about one million tons CO₂-eq. emission reduction before 2012 to have a chance of acceptance.

Reference: *Joint Implementation Quarterly. Magazine on the Kyoto Mechanisms. Vol. 10 - No. 4. December 2004 - Paterswolde, the Netherlands. <http://jiq.wiwo.nl>*

18 November 2004: CDM Executive Board registers first CDM project

On 18 November 2004, the CDM Executive Board registered the first CDM project in its CDM project registry. The registered project is the Brazil NovaGerar Landfill Gas to Energy Project, developed by EcoSecurities in partnership with S.A. Paulista, a local Brazilian civil engineering and construction firm, under a joint venture cooperation NovaGerar.

How it works: The project aims at capturing landfill gas to generate electricity. The project:

- funded by the World Bank Netherlands Clean Development Facility;
- managed by the International Bank for Reconstruction and Development; and
- the Netherlands Government facilitates the agreement to have the World Bank act as a trustee to purchase the CERs resulting from the project.

Marrakech Accords muddle: There have been other projects that requested registration from the CDM EB. However, as 4 October, no project was registered due to unclarities regarding project requirements under the Protocol or Marrakech Accords. The CDM EB can request a review once three or more EB members or at least one party in the project asks for such a review. The four projects for which review is requested are:

- 'Project for GHG emission reduction by thermal oxidation of HFC 23 in Gujarat, India' (3 requests);
- 'HFC Decomposition Project in Ulsan' (3 requests), for which a request for review was made at the EB-17 Meeting, and
- 'Cuyamapa Hydroelectric Project' (3 requests), and 'La Esperanza Hydroelectric Project' (5 requests), for which the request for review will be first discussed at the EB-18 Meeting, which will take place on 23-25 February 2005, before any decision on review will be made.

Reasons why the reviews were requested:

The reasons why the reviews were requested vary from the non-involvement of an Annex I participant to problems with capturing the replacement of HCFC22 with HFC23 in the project baseline, to changes made to the PDD after the public consultation period. The projects that have been put under review at EB-17 will be decided upon after clarifications have been made by either the MethPanel or the project participants.

Source: cdm.unfccc.int, 6 December 2004.

Reference: Joint Implementation Quarterly Magazine on the Kyoto Mechanisms. Vol. 10 - No. 4. December 2004 - Paterswolde, the Netherlands. <http://jiq.wiwo.nl>

A.T. Biopower, Rolls-Royce, Chubu to make a mint from subsidies plus rice-husk CERs, earn 83 ktons CO₂-eq at US\$77 pa, if CDM approve

The Thai Government through the Ministry of Energy (Energy and Planning Office), will provide a five-year subsidy to 22MW rice-husk fuel electricity project. According to the financing scheme, 75 per cent of the funding will have to come from different forms of debts and 25 per cent will have to be provided by common equity (US\$ 8 million).

The money factor: The project plan assumes:

- annual return on investment for CDM investors of 7.2 per cent;
- assumes an annual generation of CERs of 83 ktons CO₂-eq. at a CER price of US\$ 7 per ton.

What it substitutes: The project developers have considered two options for the identification of the capacity that would have supplied power to the Thai grid in case the project would not take place.

- The first option is based on the assumption that the project will replace existing capacity;
- whereas the second option assumes that otherwise new to be added capacity will be replaced by the plant.

Who's who: About half of the common equity is to be provided through the main project participants:

- A.T. Biopower Co., Ltd. (Thailand);
- Rolls-Royce Power Ventures Ltd. (UK); and
- Al Tayyar Energy Ltd. (United Arab Emirates, USA).

For the other half, the project participants are seeking funding. Presently,

- the Chubu Electric Power Company International (Japan);
- Al Tayyar Energy Ltd;
- the Private Energy Market Fund L.P. (Finland);
- Finnfund (Finland);
- Flagship Asia Corp; and
- Rolls-Royce;
- Power Ventures Ltd.

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Dutch JI funder, SenterNovem, gets 31 m tCO₂-eq. in 42 ideas by 33 different companies for eight host countries

On 7 October 2004, the fifth round of the Dutch JI tender programme ERUPT closed. ERUPT, managed by the Dutch government agency SenterNovem, had been open for JI project proposals as of early August. According to SenterNovem's announcement in August 2004, ERUPT-5 was also envisaged to be the final one in the programme. At the closure of the fifth round, SenterNovem announced that it had received 42 project ideas.

The 42 project ideas: Expressions of Interest were submitted by 33 different companies to be implemented in eight host countries. Among the host countries were 'traditional' JI hosts like Poland, Ukraine, Russian Federation, Hungary, and Bulgaria, where 23 project ideas were 'located'. 19 project ideas came from the Annex II Perhaps surprisingly, 19 project ideas came from the Annex II host countries Germany (10), New Zealand (8), and the UK (1). The German project ideas all dealt with coalbed methane extraction JI projects. The total size of GHG abatement offered by the 42 project ideas was 31 m tCO₂-eq.

- The project ideas from New Zealand could be considered a result of the intensified

cooperation on JI of this country with the Netherlands. The governments of both countries signed a Memorandum of Understanding on JI cooperation in August 2004.

- The project ideas originating from Ukraine could also be seen as having been stimulated by the ratification of the Kyoto Protocol by the country in April 2004. This may have facilitated governmental approval procedures for the Ukrainian project ideas (host country government approval of Expressions of Interest is required under ERUPT).

23 companies selected: On 6 December 2004, SenterNovem announced that 23 companies had been selected to submit full project proposals based on their Expressions of Interest. It is estimated that these projects will eventually deliver about 21 m tCO₂-eq. emission reduction.

- Seven of the selected projects from New Zealand (out of 8 ideas);
- five from Ukraine (out of 8);
- three from Bulgaria (out of 4);
- Poland (out of 4); and
- two from the Russian Federation (out of 5).

One project per host country was selected from the UK (out of 1), Germany (out of 10), and Hungary (out of two).

Project types: wind, hydro, geothermal, and biomass technologies; capturing and flaring of methane; and cogeneration. The 23 selected project ideas must be developed into full proposals by 5 April 2005 at the latest. The final selection will be made of which projects will be contracted as JI in the summer of 2005.

For further information contact: SenterNovem. PO Box 93144 2509 AC The Hague, the Netherlands tel.: +31 70 3735495 e-mail: carboncredits@senter.nl Internet: <http://www.carboncredits.nl>

Thai "Rice Husk" project developers have proposed grid average of CO₂-eq. emissions between 0.548 and 0.635 tCO₂/MWh

Thai "Rice Husk" project developers, A.T. Biopower Co. Ltd argued that the its 22 MW project size is only 0.2 per cent of the country's planned capacity and that it was thus unlikely that the implementation of the project would have any impact on Thailand's energy sector investment decisions, therefore they can't guarantee the value of CO₂ reduction output.

Case for an average: Consequently, the project developers have proposed in their baseline methodology a grid average of CO₂-eq. emissions. The project developers claim that this baseline emissions factor is rather conservative as it also includes zero-emission

hydro power plants and combined cycle natural gas installations. The proponents said the resulting baseline emission factor would range between 0.548 and 0.635 tCO₂/MWh.

7-year crediting lifetime: The total GHG emissions in the baseline are estimated to vary during the chosen 7-year crediting lifetime between 83 and 92 ktons CO₂-eq. The emissions from the project (burning rice husk, transportation and startup) are estimated at 2.5 ktons CO₂-eq. per year.

81 and 89 ktons CO₂-eq pa claimed: The emission reduction resulting from the project thus amount to between 81 and 89 ktons CO₂-eq. per year, or approximately 600 kt CO₂-eq. for the full 7-year crediting period.

Conditions for using AM0004: The Approved methodology AM0004 'Grid-connected biomass power generation that avoids uncontrolled burning of biomass is applicable to biomass-fired power generation project activities displacing grid electricity that:

- use biomass that would otherwise be dumped or burned in an uncontrolled manner;
- have access to an abundant supply of biomass that is unutilised and is too dispersed to be used for grid electricity generation under business as usual;
- have a negligible impact on plans for construction of new power plants;
- will not be connected to a grid with suppressed demand;

- have a negligible impact on the average grid emissions factor.

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A.T. Biopower rice husk power project in Thailand, operational on 1 January 2006

The A.T. Biopower rice husk power project in Thailand baseline and monitoring methodologies were:

- submitted to the CDM Executive Board for approval in 2003 (Round 3, NM00019);
- were approved in the meantime (methodology AM0004).

How it works: The project's main objective is to collect and use rice husk for electricity generation.

Makes electricity, CDRs and cement ash: In addition, the project developers explore possibilities to use the ash from burning the husk as a raw material for the cement industry. The GHG emission reductions to be claimed from the project will be those that directly relate to the electricity production component.

Money flows in 2006: The plant will become operational (including delivery of CDM credits) on 1 January 2006.

30 ha site: The activity is located in the Pichit province in Thailand, which is north of Bangkok. The site has a size of 30 hectare on which the rice husk will be stored (outdoors) and a boiler and steam turbine generator constructed.

30 associated rice millers: The project developers have reached agreements with around 30 rice millers that the husk from the rice plants will be delivered to the project. Subsequently, the husk will be burned in a plant with a capacity of 22 MW. The power produced will partly be used by the plant itself (around 10 per cent), but the largest part of the electricity will be transmitted to the Thai Electricity Generating Authority (EGAT) through a 115kV provincial electricity authority line connected to the grid.

25-year power purchase: The project developers have applied for a 25-year power purchase agreement with EGAT.

25 ktons of ash per year: A second component of the project's output is the ash from burning the rice husk. It is expected that the project's rice husk burning will result in about 25 ktons of ash per year. The suspension-fired boiler as used in the project applies a procedure to produce so-called non-crystalline silica ash, which has a higher quality and is thus suitable as a substitute ingredient for cement.

Will not claim cement CERs: As such, the rice husk ash delivered by the project could replace part of the processes in cement manufacturing thereby avoiding GHG emissions. Despite this expected potential, the project in its present shape will not claim CERs from using rice husk ash in the cement industry, but it can be an interesting case to be studied under the project for later application. The project developers are already discussing with Thai cement manufacturers on the sale of rice husk ash from the project.

Who's who:

- A.T. Biopower Co. Ltd., Thailand - a project development and finance company. The Project will be managed by a full-time project development and management team of over ten staff at ATB;
- Rolls-Royce Power Ventures Ltd., UK - developer of independent power projects between 5 MW to 150 MW in selected markets internationally; the company is the industrial investor in the project;
- Al Tayyar Energy Ltd., United Arab Emirates, USA - an energy investment and development company with a focus on renewable energy and energy efficiency projects in developing and newly industrialised countries;
- The Engineering Business Division of EGAT, Thailand - the largest power engineering service provider in Thailand and the engineering partner for the Project;

- Expansion Exterior S.A. (Spain) - a sovereign company providing financial advisory and foreign trade services;
- The Clean Energy Finance Committee of Mitsubishi Securities, Japan, acts as a CDM advisor to the project and has been involved in the baseline study, but is not a project participant.

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Most-debated JI/CDM topic: how to make sure that projects result in additional emission reductions: new standards now needed

Perhaps the mostly debated JI/CDM topic is how to make sure that projects result in additional emission reductions, (the reductions would not have taken place in the absence of the project).

How to account: The most straightforward way to determine this is by setting a baseline which estimates the emissions under business-as-usual circumstances. Theoretically, emission reductions can be considered additional if the project's emission level is lower than the baseline emission level.

This is especially true in cases where the baseline scenario clearly identifies which plant or capacity will be replaced by the project.

Why new standards now needed: This picture changes if baselines are determined using standardised, multiproject parameter values or emission factors for a particular project type in a host country or region. Such standardisation could provide scope for free riding, because each investment in the host country that beats the standard baseline factors would be eligible for JI/ CDM crediting, irrespective of whether the purpose of the investment was JI/CDM crediting. With an additionality test, such free riding could be reduced.

Reference: Joint Implementation Quarterly. Magazine on the Kyoto Mechanisms. Vol. 10 - No. 4. December 2004 - Paterswolde, the Netherlands. <http://jiq.wiwo.nl>

CDM rules flaw: “political question” whether tests for “additionality” for projects

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According to Catrinus J. Jepma, Chief editor of *Joint Implementation Quarterly*, the actual practice of the CDM is that many of the projects in the pipeline were so-called greenfield projects. These projects do not replace a particular plant or system but replace power production capacity connected to a grid.

What went wrong: In order to determine which capacity will be replaced by the project, methodologies for CDM baselines have been constructed that strongly resemble multi-project baseline methodologies. Basically, it became a political question whether testing additionality for these projects was needed.

Trade off in both directions: On the one hand, policy makers had to realise that using multi-project baselines provides scope for free riders, but introducing an additionality test to prevent free riding would create an extra burden for investors to become involved in projects. So, there was a trade off in both directions.

Reference: Joint Implementation Quarterly. Magazine on the Kyoto Mechanisms. Vol. 10 - No. 4. December 2004 - Paterswolde, the Netherlands. <http://jiq.wiwo.nl>

New CDM Executive Board rules call for national or regional assessment of energy in the host country

At its 16th and 17th Meeting, the CDM Executive Board (CDM EB) decided to adopt a 'tool for the demonstration of additionality'. Earlier in 2004, the CDM EB presented a draft consolidated text (see JIQ, October 2004, p.3). The draft was posted on the UNFCCC website for the CDM (cdm.unfccc.int) to enable public comments on

the text and proposed structure. The presently adopted text is partly based on the comments received (30 in total).

Experience to date: The additionality tool was drafted on the basis of the baseline and monitoring methodologies submitted by CDM project developers since 2003. Each of these methodologies contained methods to test the additionality of the project activity and its emission reductions, as this is required by the CDM project design document (PDD).

All in one big pot: In order to provide more guidance on this aspect of the PDD, the CDM-EB decided to consolidate the additionality methods used by project developers and approved by the CDM-EB, into one general framework for additionality.

National data needed: It requires a national or regional assessment of the recent and actual energy sector development in the host country. This may create a relatively large burden on project developers as it requires considerable data gathering and interpretation efforts, and could further raise the transaction costs related to project development. If one or more steps in the tool cannot be satisfied, the project will be considered non additional and hence non-eligible under the CDM.

Contact information: UNFCCC Cooperative Mechanisms Programme. PO Box 260124 D-53153 Bonn Germany Internet: cdm.unfccc.int (visit also for the full text of the consolidated tool)

6/17 December 2004: Buenos Aires, Argentina, 5,000 participants met at COP-10, Kyoto Protocol entry into force on 16 February 2005

With the Russian Federation's ratification of the UNFCCC's Kyoto Protocol on 18 November 2004, Parties are now able to look forward to the entry into force of that instrument, which will take place on 16 February 2005. COP-10. At COP-10, delegates took up the

- financial mechanism of the UNFCCC, including the Special Climate Change Fund (SCCF); and
- guidance to the Global Environment Facility (GEF).

The good practice guidance for land use, land-use change and forestry (LULUCF) was resolved.

Eliminating the last 5 percent of a given pollutant usually costs more at the margin than cutting the first 50 per cent

Eliminating the last 5 percent of a given pollutant usually costs more at the margin than cutting the first 50 percent,

reported *The Economist* (9/10/2004, p. 22-23). That is why the next wave of environmental policymaking will need to employ commonsense tools such as cost-benefit analysis, and make greater use of flexible, market-based instruments such as emissions-trading. In one of the most important green rulings in recent years, White House economists pushed the Environmental Protection Agency (EPA) to tighten proposed rules on diesel emissions because cost-benefit analyses justified the higher standards.

CDM systems require strong training effort in developing nations to identify and market possible CDM opportunities

According to Catrinus J. Jepma, Chief editor of *Joint Implementation Quarterly*, "The key element of unilateral action is that the initiative for a CDM activity is with the host country.

How nations can do it:

- A special agency within or acting on behalf of the government identifies possible CDM project opportunities;
- subsequently, a local entity designs the project, submits the baseline and monitoring methodologies applied to a validator;

- once the project plan has been validated, the CERs can be sold to an international investor;
- the large involvement of local experts from the host countries could largely reduce transaction costs related to project design. However, such unilateral CDM requires a strong training effort.

CDM training needed: Presently, there are a number of training programmes that are specifically focussed on streamlining CDM procedures in host countries and training local stakeholders (both government and private sector) to prepare and implement CDM projects.

Reference: *Joint Implementation Quarterly. Magazine on the Kyoto Mechanisms. Vol. 10 - No. 4. December 2004 - Paterswolde, the Netherlands.* <http://jiq.wiwo.nl>

70 per cent of all CDM money under the Kyoto Protocol will be spent in China and India: big projects to cover high transaction costs

According to Catrinus J. Jepma, Chief editor of *Joint Implementation Quarterly* some studies (e.g. Baker & McKenzie, <http://www.bakernet.com>) expect that around 70 per cent of all CDM money under the Kyoto Protocol will be spent in China and India.

High transaction costs: On the other hand, in countries where the majority of the CDM potential consists of projects with an abatement potential of (far) less than one million tons, transaction costs per CER may simply turn out too high to compete with large-scale CDM projects elsewhere. Many of these potential CDM hosts were among the least-developed countries.

Reference: Joint Implementation Quarterly. Magazine on the Kyoto Mechanisms. Vol. 10 - No. 4. December 2004 - Paterswolde, the Netherlands. <http://jiq.wiwo.nl>

Lao PDR, Science Technology and Environment Agency, where foreign CDM investors have one contact point for CDM bureaucratic "maze"

A conference was held in Vientiane, Lao PDR, on 3-5 November 2004. The Asia Pro- Eco program project conference brought together key stakeholders for the CDM in Lao. At the 3-day conference participants discussed the modalities and procedures for the CDM, as well as opportunities in terms of support to local sustainable development in Lao PDR.

CDM structure looks like a 'maze' Participants observed that the CDM structure looks like a 'maze' with several entities playing a role. On the other hand, they argued that if a host

country streamlines its domestic procedures for project approval, it might well be able to find its way through the maze.

With a view to this, it is important that the national focal point for the CDM is well equipped for its tasks. In Lao PDR the Science Technology and Environment Agency (STEA) is the designated national authority for the CDM (DNA). It was argued by several participants that it is up to the CDM host country itself how to arrange the domestic procedures for project identification and approval, as long as foreign CDM investors have one contact point to express their interest in investing in CDM projects.

How it might work:

- This contact point would then carry out the required domestic procedures for the CDM (i.e. get approval for projects from relevant ministries). This discussion subsequently led participants to the issue of what precisely the role of the DNA as a national CDM focal point would be. Based on the above discussion,
- the DNA would have an active role and participants discussed several tasks that the DNA in Lao PDR might consider in terms of streamlining project procedures in the country.
- Finally, participants discussed potential CDM projects in Lao PDR. Ideas included
- forestry activities;
- improvement of infrastructure in tourism;

- sustainable energy supply to regions not connected to the grid;
- landfill gas projects; and
- fuel switch in transport.

Under the coordination of STEA some of these ideas will be worked out in further detail. At future project meetings, to be held in 2005 (see next issues of JIQ), these project ideas will be presented to potential investors.

For further information about the Asia Pro- Eco program project, please contact: Ms. Hanh Hong Dang HWWA, Hamburg, Germany. tel.: +49 40 42834 272 fax: +49 40 42834 451 e-mail: dang.hong.hanh@hwwa.de Internet: <http://www.hwwa.de> Reference: Joint Implementation Quarterly. Magazine on the Kyoto Mechanisms. Vol. 10 - No. 4. December 2004 - Paterswolde, the Netherlands. <http://jiq.wiwo.nl>

Cuyamapa hydroelectric in Honduras and Bagepalli afforestation in India first CDM projects to go ahead without an Annex I Party

The Cuyamapa hydroelectric project in Honduras and the Bagepalli afforestation program in India were two of the first CDM projects seeking validation with the CDM Executive Board without direct involvement of an Annex I Party.

Small-scale CDM not yet possible: The prospects of these unilateral initiatives are promising, particularly because they may help overcome the barriers that have so far prevented the widespread implementation of small-scale CDM projects.

The case study source: The roots of unilateral CDM can be traced back into the AIJ pilot phase. Costa Rica introduced Certifiable Tradeable Offsets (CTOs) for its forest management program as a unilateral anticipation of an international crediting system. A national umbrella finance fund administered the projects. By selling only a part of all possible reductions as CTOs, the fund could bear the risks of project delay or failure. International investors could simply buy the CTOs and Costa Rica was able to realize projects according to its own economic necessities and political preferences. This particular system did highlight an important window of opportunity for unilateral action.

Examples of CDM capacity building programs

- Asia Pro Eco -the EU-Asia institutional cooperation and multinational dialogues on enabling the meaningful participation of Cambodia, Lao People's Democratic Republic and Vietnam in the Clean Development Mechanism", see http://www.hwwa.de/hwwa_engl.html

- SYNERGY - "Business Opportunities for CDM Project Development in the Mediterranean" (i.e. Algeria, Egypt, Israel, Jordan, Lebanon, Malta, Morocco, Syria, and Turkey), <http://medacdm.epu.ntua.gr>.
- Capacity Development for the CDM, CD4CDM, see <http://www.cd4cdm.org>

Protocol's Adaptation Fund - triggered 16 February 2005

Upon receiving the Russian documents required for the ratification of Kyoto Protocol by the UNFCCC Secretariat on 18 November 2004, the 90-day countdown period to the Protocol's entry into force has started.

Blast-off: On 16 February 2005, the Protocol will become a legally binding document for all 128 Parties that have ratified it. With the entry into force of the Kyoto Protocol the industrialized countries that have ratified the Protocol thus far will be legally bound to meet the quantitative GHG emission reduction targets that were agreed upon.

New rules take-off: The flexibility mechanisms will become serious instruments in meeting the emission reductions. Also the Protocol's Adaptation Fund, which was set up in 2001, will become an official fund which will assist developing countries in coping with the adaptation to climate change. With the Protocol entered into force, the spotlight also has to be pointed on the period after 2012. The

negotiations with Parties that are involved in the Protocol, and Parties that have thus far decided not to ratify (e.g. USA and Australia) will have to get started.

New credit rules only applicable to existing HCFC22 capacity with 3 years history

On 21-22 October 2004, the CDM Executive Board held its 16th Meeting. At this meeting the Board considered the draft consolidation of a tool for the demonstration and assessment of additionality agreed upon at its fifteenth meeting and 30 comments submitted by the public.

The decisions: Also the Board considered the possible revision of AM0001, with regard to the accounting of existing and non-existing methane (HCFC22) production capacity, and took note of the 22 public comments received. At its 17th Meeting, taking place on 1-3 December 2005, the EB approved a further three project methodologies, namely;

- 'Steam System Efficiency Improvements in Refineries in Fushun, China';
- 'Energy efficiency project by modification of CO2 removal system of Ammonia Plant to reduce steam consumption', and 'Lihir Geothermal Power Project', respectively in scope 3 'Energy demand', idea, and scope 1 'Energy industries (renewable-/nonrenewable sources)'.

Accounting for HFC23 projects: Another issue discussed at the 17th EB meeting was the issue of accounting for HFC23 projects. Upon advise by public comments and the MethPanel, the Executive Board decided as follows:

- AM0001 will only be applicable to existing HCFC22 capacity (meaning a minimum of 3 years production history by the end of 2004);
- The capacity involved will be based on the maximum annual production in the last three years;
- Actual waste generation rates will not exceed 3 per cent, and will be based on the lowest annual rate in the last three years. If not available the rate will be set on 1.5 per cent.

Source: cdm.unfccc.int, 8 December 2004.

European Carbon Fund to make money with GHG cuts

On 18 November 2004, Fortis Bank, Groupe Caisse des Depots and IXIS Corporate & Investment Bank signed a memorandum of understanding on the launch of the European Carbon Fund. Fortis Bank will invest EU15m and will act as joint promoter with Caisse des Depots (EU25m) in this private sector investment fund dedicated to reducing GHG emissions.

The European Carbon Fund has a subscription target of EU100m. IXIS Environnement & Infrastructures is a certified management firm, subsidiary of IXIS Corporate & Investment Bank. Fortis Bank is part of Fortis, a worldwide provider of financial services specialized in banking and insurance, ranked among the top 20 financial institutions in Europe.

Contact: Ms. Corinne Lavaud, Mr. Philippe Germa, Mr. Wilfried Remans, and Mr. Seb Walhain tel.: +33 1 58 55 58 30; + 33 1 58 55 6609; +322 565 46 79; +3120 535 72 95 e-mail: c.lavaud@cdcixis.com; pgerma@ixis-cib.com; wilfried.remans@fortis.com; seb.walhain@nl.fortisbank.com

Denmark, Finland, Iceland, Norway and Sweden buy JI credits as ERUs

Denmark, Finland, Iceland, Norway and Sweden plan to buy credits from the Russian Federation, Estonia, Latvia, Lithuania, and Poland. In all these countries, projects are being identified, both via specific Calls for Project Ideas and continuously. On 18 November 2004, the Baltic Testing Ground Facility (TGF) was opened for private investors. TGF was established in December 2003 with the objective to facilitate and finance a number of concrete JI pilot projects and acquire cost effective carbon credits for the investors in the Fund.

The Baltic fund: The initial capital subscribed to the Facility was A\$10 million. The founding

investors were the Governments of Denmark, Finland, Iceland, Norway and Sweden. In addition to these founders, also private investors have now been invited to join. The fund is managed by the Nordic Environment Finance Corporation (NEFCO).

Facility operates as a 'purchase fund': The founding governments and the private sectors together form a Investor's Committee, which supervises the work of the TGF. The Facility operates as a 'purchase fund' in the sense that it acquires the GHG emission reductions from JI projects as ERUs. In addition, also AAUs could be acquired through the Facility.

The first Call for project ideas was published in November 2004. Contact: Fabianinkatu 34 PO Box 249 FIN-00171 Helsinki Finland tel.: +358 918001 / 1800344 fax: +358 9 630 976 e-mail: info@nefco.fi Internet: <http://www.nefco.org>

Japanese GHG Fund: two governmental banks and 31 private companies fund a US\$141.5m fund

On 1 December 2004, two governmental banks and 31 private companies founded a US\$141.5m fund to help achieve Japan's mandatory target under the Kyoto Protocol. This fund, the Japan Greenhouse Gas Reduction Fund, would invest in overseas GHG reduction projects.

The investment plan: The Fund was expected to invest in 30 to 40 forestry and energy-sector projects in developing countries. The GHG reduction credits thus acquired will be shared among the Fund investors. The 31 firms include power and gas utilities, manufacturers and trading companies. Earlier, the same two governmental banks, together with five Japanese firms, including Tokyo Electric Power Co., and Nippon Oil Corp., established the Japan Carbon Finance Ltd. to operate the fund.

Source: <http://www.e5.org>

Spanish CDM program targets CDM in Latin America

The Spanish action further focuses on the Iberoamerican Forum, under which governments and institutions in Portugal, Spain and Latin America work together to enhance economic and technological cooperation between the members.

Regional plan to cut GHG: The Environmental Ministers in this Forum decided at the October and November 2004 meetings on the development of a Latin American Network of Climate Change Offices. This Network should support cooperation amongst its members in order to reduce GHG emissions in general and apply the Kyoto flexibility mechanisms in particular.

Source: <http://www.co2-solutions.com>, 10 November 2004

CDM and JI credits only traded if proven to cut pollution: AAUs a different sort of beast

The Kyoto Protocol defines three emissions trading mechanisms: Joint Implementation (JI), Clean Development Mechanism (CDM) and Assigned Amount Unit (AAU) trading. Of these, JI and the CDM are based on project co-operation between countries, possibly with participation of the private sector, whereas the third mechanism is based on the principle of quota trading, according to the *Joint Implementation Quarterly* (December 2004).

Domestic trading schemes: In addition, some Parties have initiated domestic GHG emissions trading schemes to reduce emissions domestically, e.g. Denmark, UK, Norway, and, as of 1 January 2005, the EU.

Are they for real? These emissions trading mechanisms all trade tons of CO₂-equivalent emission reduction, but differ in terms of the how these have been generated. For example, JI and CDM emission reduction credits can only be considered eligible for trading if the baseline and monitoring methodologies for the underlying projects have been approved. In other words, these credits can only be traded if they are for real.

AAUs more flexible: AAU trading, on the other hand, does not necessarily imply that the traded credits are based on additional

emission reductions. The extent to which countries will be able to sell AAUs during the commitment period depends on the strictness of the negotiated target in the Kyoto Protocol, their economic development, and GHG emission reduction policy. Some countries have strict targets and must carry out an ambitious abatement policy to comply with 'Kyoto', whereas others have negotiated a relatively lenient target, and/or have experienced an economic slowdown so that even without climate policy measures they will have an AAU surplus to sell to other countries.

Reference: *Joint Implementation Quarterly. Magazine on the Kyoto Mechanisms. Vol. 10 - No. 4. December 2004 - Paterswolde, the Netherlands. [jiq.wiwo.nl](http://www.jiq.wiwo.nl)*

Energy CO₂ up 69pc, India; 57pc, Brazil; 33pc, China in ten years 1990 to 2000

Between 1990 and 2000, energy-related carbon dioxide emissions grew by 69 per cent in India, 57 per cent in Brazil and 33 per cent in China.

Warning that game could be over: "If India, China and Brazil replicate our pattern of fossil-intensive development, the game is over," said Alden Meyer, director of the US-based Union of Concerned Scientists.

China and Brazil present inventories: China and Brazil took a step forward at the conference by jointly presenting their

inventories on greenhouse gas emissions. India did the same six months ago. At the presentation, Joke Waller-Hunter, executive secretary of the UN body dealing with climate change, called China and Brazil "two strong pillars of our climate change process."

Reference: Digest of latest news reported on website of Climate Change Secretariat of United Nations Framework on Climate Change Control (UNFCCC). 14 December. Address: PO Box 260 124, D-53153 Bonn, Germany. Phone: : (49-228) 815-1005, Fax: (49-228) 815-1999. Email: press@unfccc.int <http://www.unfccc.int>

New afforestation and reforestation accounting plans to the CDM Executive Board

Proposed new afforestation and reforestation baseline and monitoring methodologies were submitted to the CDM Executive Board for its review and are available for public input (01 December 2004 - 21 December 2004): it was *ARNMOO02: Reforestation Project Using Native Species Around AES-Tiete Reservoirs*.

What happens next: In accordance with the procedures for submission and consideration of a proposed new methodology for afforestation and reforestation the secretariat shall make the proposed new A/R methodology publicly available on the UNFCCC CDM web site and invite public inputs for a period of 15 working days.

Submissions invited: Public inputs on a proposed new methodology shall be made using the Proposed new A/R methodology - public comment form (F-CDM-AR-NMpu). Comments shall be forwarded to the A/R Working Group at the moment of receipt and made available to the public at the end of the 15 working day period.

For call for inputs please visit the URL <http://cdm.unfccc.int/methodologies/ARmethodologies/process>

Case to subtract JI emission reductions achieved before 2008 from the assigned amount of the JI host country

According to Catrinus J. Jepma, Chief editor of *Joint Implementation Quarterly*, in 2003, JIQ JI emission reductions achieved before 2008 could be subtracted from the assigned amount of the JI host country. Jepma expressed concern that the "strict approval process for CDM accounting methodologies by the Executive Board" could lead to a situation in which "early movers are punished for their pioneering and in which the CDM may only deliver a fraction of its GHG emission reduction potential.

The problems with AAUs: "When Parties continued negotiations after the adoption of the UNFCCC, there was a large unwillingness among developing countries to accept that JI

be used by Annex I Parties to achieve their emission stabilisation objectives under the UNFCCC. Consequently, at COP-1 (1995) Parties could only agree on a pilot phase for JI, called Activities Implemented Jointly (AIJ).

Only a few AIJ pilot projects: As the AIJ phase did not allow for crediting of emission reductions, only a few AIJ pilot projects were actually implemented (not to be confused with the relatively large number of paper projects reported to the UNFCCC). Early action in the sense of large-scale GHG emission reduction did not take place.

JI credits defined: The way JI has been defined in the Kyoto Protocol only allows crediting of JI projects between 2008 and 2012. The reason for this is that JI credits are actually assigned amount units (AAUs) transferred from one Annex I Party to another. So, rewarding pre-2008 JI emission reductions on top of reductions during 2008-2012 would inflate the overall assigned amount of Annex I countries.

How to solve the problem:

- JI emission reductions achieved before 2008 could be subtracted from the assigned amount of the JI host country.

This would not inflate the overall assigned amount, and could trigger parties to start early with GHG emission reductions".

Reference: *Joint Implementation Quarterly. Magazine on the Kyoto Mechanisms. Vol. 10 - No. 4. December 2004 - Paterswolde, the Netherlands.* <http://jiq.wiwo.nl>

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