

The European Future Project against Climate Change

At a time when actions in the fight against climate change are called for throughout the world, the European metropolitan regions take charge. In a 24-month project, 15 European metropolitan regions aim to devise strategies for achieving an 80% reduction of greenhouse gases emissions by the year 2050.

The discussion on the reduction of greenhouse gases shows ever more clearly that it's not a problem of lacking solutions. By higher energy-efficiency in production, by energy-saving in transport and buildings and by use of renewable energies, the reduction goals of the EU can be achieved.

The main problem rather consists in implementing the measures that have been identified as good practices into tangible politics. Therefore we need a decision finding process that unshackles the issue from ideological dispute and guides the stakeholders of economy, politics, science and administration towards a consensual strategy.

Exactly this is the task and goal of project EUCO2 80/50.

Outset: The regions compile CO2 inventories

From January to May 2009, each participating region compiled a Regional Greenhouse Gas Inventory. These reports are based upon an identical data model in accordance with UN guidelines (UNFCCC), in order to guarantee comparability of these data among the regions. Scientific monitoring was provided by the University of Manchester, which devised the GRIP model – the Greenhouse gas Regional Inventory Protocol. The compiled regional CO2 data is being entered into the data bank of a computer simulation which will be used in the subsequent project phases in scenario and strategy workshops.

The main phase involves regional stakeholders

This central phase of the project starts in February 2010 with the support of the exclusive partner General Electric (GE). In the last phase of the project, further metropolitan regions will be involved into the process.

The scenario and strategy workshops will take place on local and interregional level. Various groups of regional stakeholders from the fields of transport, industry, construction, services and administration will use the computer simulation of the GRIP model in order



EUCO2 80/50 in 2010: 15 metropolitan regions from all over Europe

to understand the efficiency of different measures and to develop a concrete proposal for a reduction strategy.

Partners from all over Europe

Project participants are seven European capitals, Europe's two largest ports and 6 further metropolitan regions from various climate zones.

The Metropolitan Region of Hamburg is the coordinator of the project (Lead Partner). METREX, the organisation of Europe's metropolitan regions, is partner, too, and makes available its network to disseminate the obtained knowledge to the other European metropolitan regions.

General Electric (GE) decided in December 2009 to be official partner of the project. The European Commission recommends the GRIP methodology as efficient tool in the **Covenant of Mayors** process.

The EU has set the target to reduce global CO2 emissions by 50% compared to 1990, by the year 2050. Project EUCO2 80/50 will enable Europe's metropolitan regions to devise effective strategies in order to achieve this objective.



Partner



Hamburg Metropolitan Region



The EU sets the target: 80% reduction of CO₂ by 2050

Limiting the global warming to 2 degrees

The European Commission's ambitious objective manifests the intention to reduce the global CO₂ emissions by 50% compared to 1990, by the year 2050. Only this can ensure that the average global warming does not exceed 2 degrees centigrade.

This requires the industrialised countries to reduce their emissions by 80%, in order to compensate for the lower mitigation capacities of the developing countries, due to the backlog demands of their national economies.

The 100 European metropolitan regions are responsible for 75% of the CO₂ emissions in the EU and are therefore particularly required to regionally comply with the globally set targets. With project EUCO₂ 80/50, the 19 partners aim to initiate a strategic process of greenhouse gas reduction which will, through knowledge and experience transfer, enable other metropolitan regions to follow suit.

Initiators

The initial idea originates from METREX. 50 of the 100 European metropolitan regions are members in this organisation founded in 1996.

Project History

From October 2006 to June 2007, a pilot project was realised, which devised a unified method for inventorying CO₂ emissions in a computer simulation. Participants were the METREX members Glasgow, Stockholm, Emilia-Romagna and Veneto.

Scientific monitoring was provided by the Tyndall Centre (University of Manchester, UK). It devised the GRIP model – the Greenhouse gas Regional Inventory Protocol.

In the pilot project, the four participants implemented the first step (compilation of regional energy data). In the project EUCO₂ 80/50 the entire GRIP process, including the use of the Scenario Tool, will be realised.

The Scenario Tool is based on the regional inventory. It is a comprehensible visualisation of the interdependencies of CO₂ emission sources, energy conservation and the use of renewable energies. The model also allows to compare a variety of different reduction and substitution strategies as regards their efficiency. By this means, the energy-based main problems of the studied region are being visualised and can thus be investigated analytically.

The GRIP process

The regional inventory is basis for a political discussion and decision finding process.

In the second step, scenario and strategy workshops are being held, with participation of regional stakeholders (industry, transport, politics, associations etc.). There, various scenarios for greenhouse gas reduction are being simulated with the GRIP model.

This initiates the political and technical discussion about which steps for reducing CO₂ emissions are technically possible, economically feasible and politically enforceable.

Then, the participants debate which specific strategies should be proposed to the political, economical and social decision makers at the end of the GRIP process.

In a third step, the implementation of the regional strategies will start. Parallely, other metropolitan regions will get access to the GRIP tool.

In summary, the GRIP process makes use of an intelligent technical tool – the GRIP model – to create presentations of energy scenarios which are comparable Europe-wide. It also provides the decision makers of the respective metropolitan region with a proposal jointly devised by numerous stakeholders.

This process is scientifically substantiated, rational and consensus-oriented and enables the decision makers to launch a sound, politically and economically feasible as well as future-oriented, long-term strategy which outlasts legislative periods.

Project progression, participants, structure

Project EUCO₂ 80/50 started in August 2007 when METREX and the future Lead Partner, the Metropolitan Region of Hamburg met first in order to bring together the partnership. 20 metropolitan regions plus METREX submitted an Application to the first call of the InterregIVc programme in January 2008.

When the approval failed in September 2008, 16 partners decided to finance the first step, the regional CO₂ inventory, by their own expenses and to resubmit the Application within the second call in January 2009. Approval failed again in October 2009.

From May to August 2009, the GRIP methodology was evaluated by the Joint Research Centre of the EU. In October, the Lead Partner received a letter of recognition from the European Commission which recommends GRIP as "efficient tool in the context of the Covenant of Mayors" and sees "a high analogy and good convergence between GRIP and Covenant".

This stands in contradiction to the assessment of the InterregIVc programme where doubts to the approach of project EUCO₂ 80/50, especially GRIP, gave reason to the non-approval of the project.

In view of the positive recommendation by the Covenant of Mayors, 15 partners decided in November 2009 to go on with the scenario step and start with a training meeting in February 2010. The Lead partner negotiated with possible sponsors to ensure the future of the project.

When General Electric decided in December 2009 to become partner of project EUCO₂ 80/50, it was ensured that one of the most promising mitigation projects in the world could go on and deliver regional greenhouse gas reduction strategies.

Benefits for the European process

The results of project EUCO₂ 80/50 could help the EU to devise specific and long-term binding regulations and funding criteria on the subject of climate change.

The EU CO2 process transforms a target into a strategy

The Greenhouse Gas Regional Inventory Project [Help](#) | [Energy Calculator](#) [Load](#) | [Save](#) | [Results](#) **grip**

General Energy Industrial Processes Waste Agriculture
 Mineral Products Chemical Industry Metal Production Production of Halocarbons and SF₆ Consumption of Halocarbons and SF₆

Metal Production

This data is available in your national inventory. National Data from UNFCCC National Inventory table 2(i)s1

Regional data should be available from your local environmental regulatory body.
 IF THE ACTIVITY IS NOT OCCURRING IN YOUR REGION, ENTER 0 (zero) IN THE GREEN BOX

	CO ₂ Released Nationally	CH ₄ Released Nationally	N ₂ O Released Nationally	PFCA Nationally	SF ₆ Nationally
Iron and Steel Production	42574.12525	0.0968162			
Ferroalloys Production	2.75	0			
Aluminium Production	882.829105	0		337.55624	
SF ₆ used in Aluminium and Magnesium Foundries					0.084629
Silicium Production					

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Iron and Steel Production					
Ferroalloys Production					
Aluminium Production					
SF ₆ used in Aluminium and Magnesium Foundries					
Silicium Production					

UNFCC http://unfccc.int/national_reports/annex_i_ghg_inventories/items/2715.php
 EUROSTATS <http://ec.europa.eu/eurostat>
 EPER <http://eper.eea.europa.eu/eper>

The GRIP-Inventory

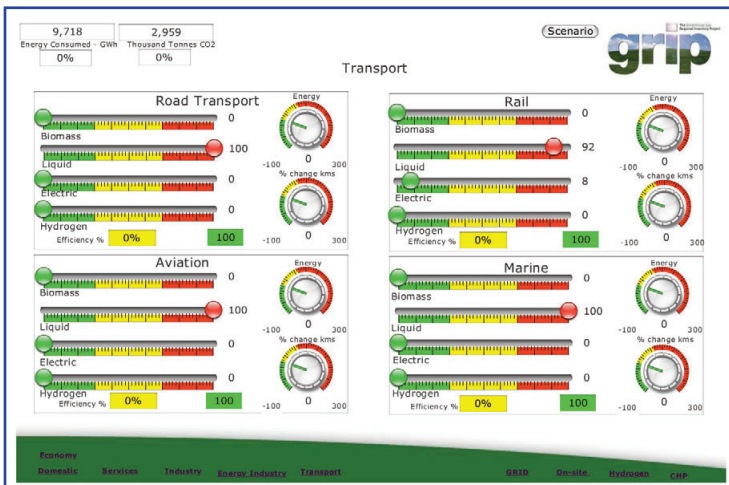
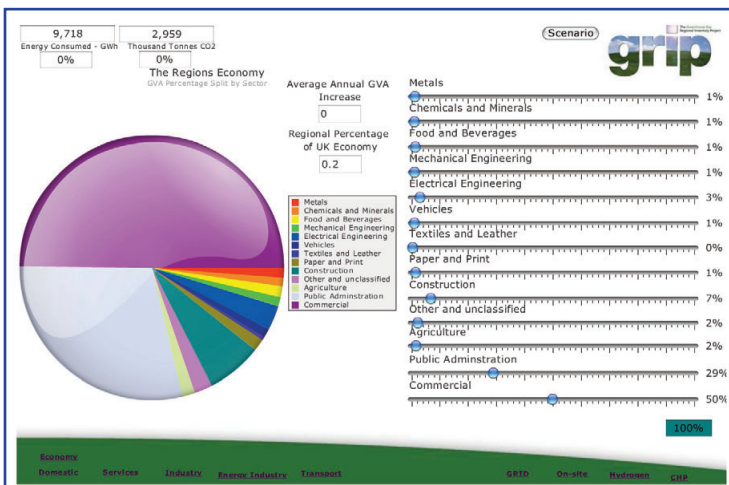
In the GRIP Inventory, the national data have to be inserted into the red fields of the GRIP topics energy production and consumption, industrial processes, waste and agriculture, and the correspondent sub-topics. These data are available for each country mainly from the UNFCCC statistics. From basic regional demographic data, GRIP then mathematically generates a regional greenhouse gas inventory.

The inventory can be rendered more detailed by inserting additional regional data into the green fields. Such regional data will then replace the national data of the inventory. Regional data can e.g. be obtained through EUROSTATS and through EPER, where more than 50.000 polluters are listed. In nearly 60 submenus, the polluters have to be identified, summarised and inserted into the inventory.

For a final optimisation of the inventory, non-published regional data are inserted additionally.

As regards energy production, only national data are being used and calculated in proportion to the region's population, since a statistic based on local energy production would distort the regional inventory.

The GRIP Inventory is the basis for the regional Scenario Tool.



The GRIP Scenario Tool

The GRIP Scenario Tool starts with a main page showing the gross value added (GVA) of the regional economy (Online example: Glasgow). The next 10 pages reflect the regional consumption (households, services, industry, transport and energy industry) and the national energy production. Additional submenus distinguish between production and consumption.

Assumptions concerning the regional increase of the GVA can be inserted. By changing the data on energy efficiency, energy savings, energy consumption and the percentage of renewable energies, scenarios can be simulated. The changes in the overall greenhouse gas balance and the reduction realised always are indicated in a special section on the top left of the page.

The scientific advisers will continuously correct non-realistic assumptions (e.g. an exaggerated percentage of energy produced by biomass which surpasses the regional resources).

The scenario simulation visualises CO2 reduction potentials and makes them comprehensible. Prejudices are confirmed or proved wrong, a consensual strategy for greenhouse gas reduction can be formulated.

<http://www.grip.org.uk/scentoolglasgow.html> (Online example Glasgow)