



Saving Energy, Reducing Emissions, Improving Air Quality

The objectives: exploiting co-benefits of climate protection and air quality improvements.

The approach: multi-criteria optimization of emission reduction strategies for CO₂/GHG and improved energy efficiency and the associated economic benefits, together with related emission control for traditional air pollutants for improved urban and regional air quality.

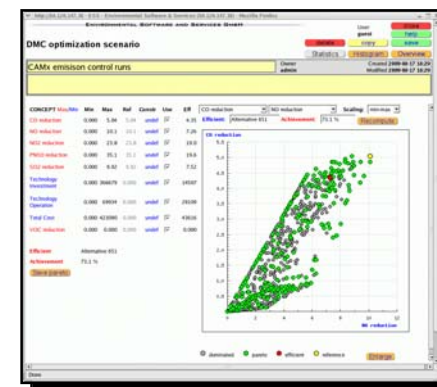
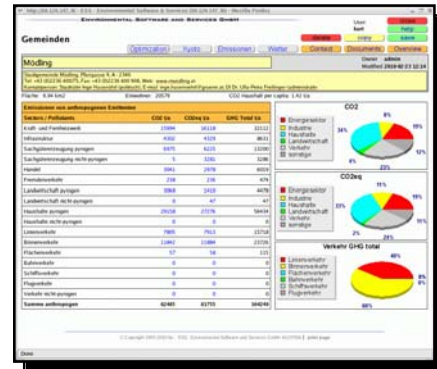
The policy framework: European climate and environmental policy, e.g., the Air Quality Framework Directive (2008/50/EC), IPPC Directive (2008/1/EC).

We would like to invite you to join this international R&D project EUREKA E13266 WEBAIR in a pilot study. Current on-line examples of operational systems include Lower Austria, Vienna; Seoul, South Korea; Tehran, Iran; Republic of Cyprus; Sisak, Croatia and the United Arab Emirates, see the on-line examples: <http://www.ess.co.at/WEBAIR>.

The EUREKA/EUROENVIRON Project WEBAIR develops a fully web-based information system for air quality assessment and management, including the non-linear, multi-criteria optimization of emission control measures (CO₂/CO_{2e}, SO₂, CO, NO_x, PM₁₀,). This also supports measure for increasing energy efficiency for industry, households, and the transportation sector.

WEBAIR offers a web-based on-line tool for emission control and real-time information system that facilitates:

- The cooperative management of emission inventories (Web 2.0), e.g., based on 2008/1/EC (European IPPC directive, using CORINAIR methodology).
- Daily air quality forecasts (up to 5 days) that are based on the dynamic downscaling of (ensembles of) meso-scale weather forecasts with prognostic meteorological models, dynamic emission modeling, and several nested grid air quality models including full photochemistry for ozone and PM₁₀/2.5 forecasts;
- Capture, management, and analysis of real-time monitoring data, data assimilation;
- Compliance monitoring (e.g., 2008/50/EC).
- Public information and access to environmental data (e.g., Aarhus, 90/313/EC) including optional personalized messaging (e.g., SMS for asthma patients)
- Comparative scenario analysis and EIA for new or modified emission sources, developments, policies, public health impacts, and climate change impacts based on a range of IPCC scenarios and dynamic downscaling.



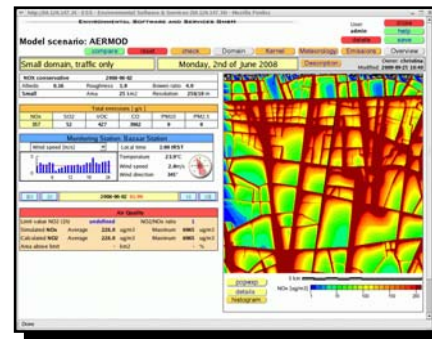
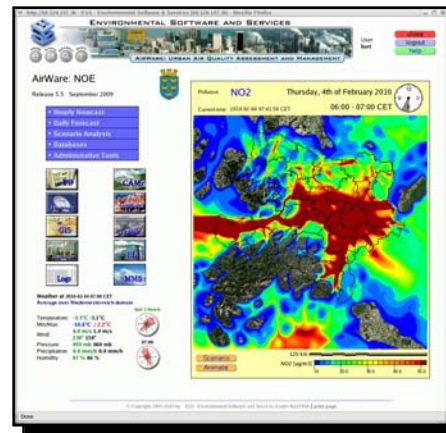
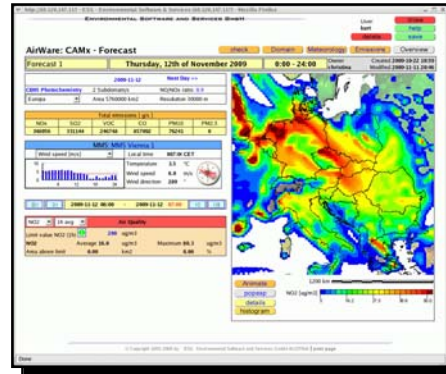
- Multi-criteria non-linear optimization of cost-efficient emission control measures and strategies. Objectives and criteria combine climate protection, energy efficiency, air quality, public and environmental health, and a range of economic criteria. The optimization integrates detailed local emission inventories, CORINAIR based emission estimates, an emission control technology data base, and nested air quality models from European to local scales to include air quality criteria (co-benefits), and an advanced multi-criteria optimization methodology (adaptive heuristics, genetic programming) for complex, non-linear (non-differentiable) systems.

WEBAIR covers a wide range of spatial and temporal scales and resolutions, from the simulation of regional dynamic boundary conditions to the street level, from hourly to multi-annual, as well as the dynamic downscaling of IPCC scenarios as dynamic boundary conditions for the design of robust emission control strategies.

The WEBAIR project is supported by a number of national funding institutions, e.g., in Austria by the National Research Foundation (FFG); prospective partners may be eligible for their own national funding, (www.eurekanetwork.org) or join future EU research proposals.

We would be very happy if we could interest you to „join the club“ on a flexible subscription basis with a new case study embedded in a European framework !

If you want to learn more about WEBAIR, please do visit <http://www.ess.co.a/WEBAIR> or contact us by mail at air@ess.co.at, or call: tel. +43 664 245 1399, +43 2252 63305.



Sincerely yours,

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