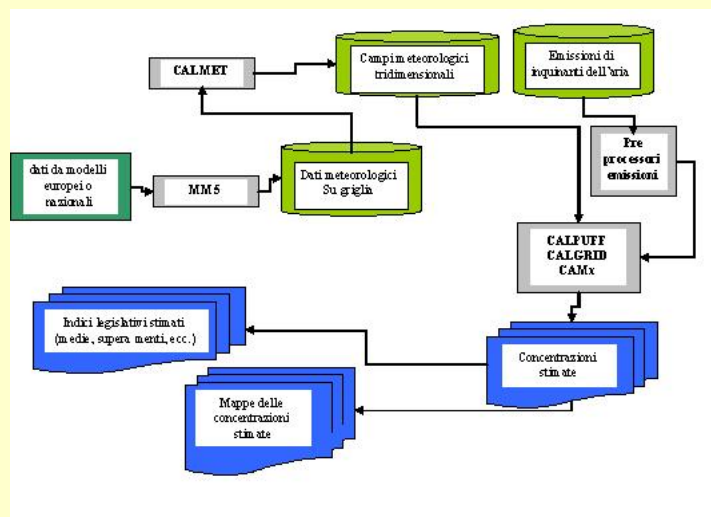# E^2 Diffusion

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E^2Diffusion allows the use of simulation models regarding diffusion, transport and transformation of pollutants in an integrated procedure with all the information systems of pollutants emissions in the system of government (E^2Gov Emissions). Currently the system contains the module related to air pollutants, but modules related to water and soil are scheduled to be included.

E^2Diffusion uses both emissions data from E^2Gov Emissions and, if available, projections of pollutant emissions from E^2Gov Projections.

E^2Diffusion interface provides the user the tools to choose the typical parameters of a modelling study that vary from case to case, doing the task of preparing the input control file to the model taking into account the complexity and type of study concerned.

Interface system, developed by Techne Consulting, allows the execution of models and shows the results in reports, external files, as well as thematic and isopleths maps of estimated concentrations in a Mapinfo or Arcview environment.

E^2Diffusion supports the following models:

• CALMET prognostic meteorological model that generates an output file containing three-dimensional fields of temperature and wind and some features of the atmosphere as mixing height, stability classes and convective friction velocity.
• CALPUFF California Air Resources Board Model; Lagrangian-Gaussian "puff" model containing non-stationary modules that include effects of terrain complexity, transport over sea and lake, coastal interaction effects, dry and wet deposition and chemical transformations;
• Three-dimensional Eulerian photochemical model CALGRID distributed by Control Strategy Modeling Section of the California Air Resources Board;
• Eulerian photochemical dispersion model CAMx of ENVIRON that allows an integrated assessment of gaseous air pollutants and particulate from urban to sub-continental scale

www.techne-consulting.com

E^2Plan is a complete system for Environment and Energy Planning developed by Techne Consulting.

The system was founded originally as a system aimed to study air pollution (AirSuite) and has evolved over the years towards a system for integrated assessment in different environmental media under the name EnviPlan.com.

The new version in the Web environment E^2Plan released at the end of year 2010 by Techne Consulting extends the functionality of the system to the environment and energy government by managing and processing basic data and indicators, evaluation models and diffusion, transport and transformation of pollutants models.

E^2Plan is designed as a complete support system in energy and environmental planning and includes:

- the system for managing and processing data and basic indicators in the fields of energy and environment, the development of inventories of emissions and energy balances and their future projections (E^2Gov);
- models for the evaluation of driving forces, energy consumptions and emissions from road transport (E^2Road), air transport (E^2Airport) and shipping (E^2Port);
- the model for the evaluation of energy consumption and emissions of carbon dioxide (CO_2) in municipalities and to support the Covenant of Majors (E^2Polis CO_2);
- the system for assessing "quick" energy consumption and pollution E^2Impact;
- the interface to the models for the assessment of transport and diffusion of pollutants in different media (air, water, soil) E^2Diffusion.