



## E<sup>2</sup> Airport



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E<sup>2</sup>Airport is a comprehensive model to assess the aviation consumptions and environmental impacts at the airport and in flight. In particular the following are evaluated:

- air pollutants emissions at the airport;
- energy consumptions and carbon dioxide emissions at the airport ;
- air pollutants emissions in fly from airport to airport ;
- fuel consumption and emissions of carbon dioxide in fly from airport to airport;
- airport noise;
- energy consumption and air pollutants emissions from ground support equipments;
- air and water emissions from other airport facilities (boilers, incinerators, scrubbers, etc.).

At present the features for energy consumptions and air pollutants and greenhouse gases emissions have been developed. In this context, the model incorporates the previous AirAir model dedicated to air pollutants emissions.

E<sup>2</sup>Airport estimates energy consumptions and major air pollutants (sulfur oxides, nitrogen oxides, volatile organic compounds excluding methane, carbon monoxide, suspended particles) and carbon dioxide emissions from the handling of aircraft at the airport from the LTO cycles. The model also estimates emissions from abrasion of tires, brakes and asphalt runway.

E<sup>2</sup>Airport allows the introduction of the number of LTO cycles by aircraft model and the specific times of the different phases of the airport under study (dependent on the size of the airport and traffic). The model calculates, through the data contained within the database, energy consumption and emission factors for each aircraft and LTO cycle and consequently fuel consumption and emissions for aircraft model and total emissions.

E<sup>2</sup>Airport consists of an interface for data processing (typical times for classes of aircraft and number of LTO cycles for aircraft model) and a database where all data necessary for processing are stored.



## E<sup>2</sup>Plan



E<sup>2</sup>Gov



E<sup>2</sup>Port



E<sup>2</sup>Road



E<sup>2</sup>Diffusion



E<sup>2</sup>Airport



E<sup>2</sup>Impact



E<sup>2</sup>Polis CO<sub>2</sub>

E<sup>2</sup>Plan 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<sup>2</sup>Plan 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<sup>2</sup>Plan 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<sup>2</sup>Gov);
- models for the evaluation of driving forces, energy consumptions and emissions from road transport (E<sup>2</sup>Road), air transport (E<sup>2</sup>Airport) and shipping (E<sup>2</sup>Port);
- the model for the evaluation of energy consumption and emissions of carbon dioxide (CO<sub>2</sub>) in municipalities and to support the Covenant of Majors (E<sup>2</sup>Polis CO<sub>2</sub>);
- the system for assessing "quick" energy consumption and pollution E<sup>2</sup>Impact;
- the interface to the models for the assessment of transport and diffusion of pollutants in different media (air, water, soil) E<sup>2</sup>Diffusion.