

An urban planning tool for Singapore

Cities and their growing number of citizens – set to almost double by 2050 – are responsible for 70% of the planet's carbon emissions. Integrating renewable energy and reducing CO₂ emissions are crucial issues for the quality of the environment and public health. In Singapore, the social landlord HDB, which houses 80% of Singaporeans, has contracted EDF for assistance with housing renovation and new construction across the city, potentially 9,000 buildings.



For HDB, EDF has developed an urban planning tool used right from the design phase to optimise energy systems and minimise carbon emissions by focusing on several key improvement drivers, such as the choice of energy system, energy efficiency in buildings, electric mobility, neighbourhood renewable energy systems, and even waste and water management. Using the tool's 3D augmented reality interface, decision-makers can visualise the impact of their decisions on districts to be refurbished or future developments, measure the performance of a solar roof depending on its location and orientation, identify the optimum package of lighting and air conditioning measures, and even identify which urban spaces would most benefit from greenery. This tool, which concerns both urban infrastructure and residents' quality of life and health, makes it possible to achieve ambitious targets for low carbon, air quality and reduced energy bills.

KEY FIGURES

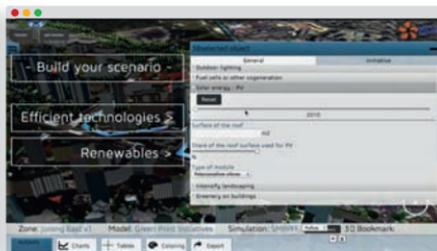
500 functions needed to exhaustively cover the main urban issues: energy, transport, water and waste

3 minutes to get simulation results

20-year projections for forecast scenarios

30% reduction in future CO₂ emissions

INTERESTING FACTS



THE SERVICE OFFER

1. Audit the existing situation and define the applicable indicators with the city's stakeholders.
2. Provide local decision-makers with energy and environment expertise.
3. Visualise the different choices for forward planning and to maximise investments.
4. Display the expected benefits in context using the 3D interface for communication.

STAKEHOLDERS

- Dassault Systèmes for the development of the 3D interfaces and ON-X for the augmented reality.
- Housing and Development Board (HDB), responsible for planning and building over 80% of Singapore's housing.
- EDF, designer and programme manager for the urban modelling platform.
- Veolia for water and waste expertise.

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 FOR THE CLIMATE**

