

# Energy Efficiency Services



## Energy Efficiency Solutions

Providing Energy Efficient Solutions, to help our clients face their challenges

Globally, balancing energy costs and environmental responsibility pose great challenges for industries, developers and authorities alike.

Tractebel's energy transition know-how, with deep multidisciplinary expertise in geothermal energy, solar and wind power, energy storage, heat recovery, thermal comfort, process optimisation and more, make us an ideal partner to achieve your most ambitious energy efficient solutions.

### Our services

From expert consulting to audits to rapid solution implementation, all of our engineering studies fit with the view that energy efficiency optimisation and sustainable development are inseparable aspects of all energy related projects. Listening closely to understand your needs and constraints from the start, we can take you every step of the way.

### Our clients

Our specialised, targeted services are offered worldwide to all levels of industrialists, public and private decision-makers in sectors including:

- Industry
- Tertiary (Private/Public)
- Territories and Cities
- Governmental bodies
- International and National Financing Institutions

### Our added value

- Broad, strong experience with worldwide references
- Engineering & Consultancy based on deep modelling expertise using powerful software tools - with increased calculation accuracy and speed of execution
- Ongoing R&D activity - the constant improvement of in-house software and modelling tools

## Key Services and Competencies in Energy Efficiency

### Feasibility Studies supporting all project development phases

#### Energy Audits & Due Diligence

#### Energy MasterPlans

For energy intensive production processes, distribution investment planning, energy efficiency in buildings and heat distribution networks

#### Energy Efficiency Consulting for Financial Institutions and governmental bodies

### Eco-districts & Smart Grids

Combining energy master plans, mobility studies, renewable energy and city dashboards

### Assistance in obtaining certification (BREEAM, LEED, HQE, ISO 50001 etc.)

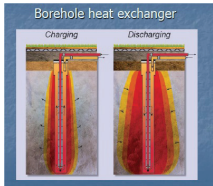
### Energy Management Systems

### Energy Performance Contracting assistance

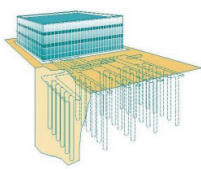
### Energy Efficiency PROject Development (E<sup>2</sup>PRO)

**Energy MasterPlanning, Energy Audits, District Cooling and Heating, Building Construction and Renovation, Energy Efficiency Assessment and Strategies:** Our long experience in providing critical Energy Efficiency Engineering & Consultancy services is advanced by our knowledge and use of top software tools, resulting in many worldwide references...

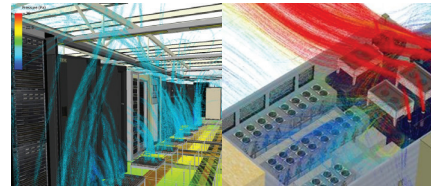
## Engineering & Consultancy based on advanced modelling and simulation



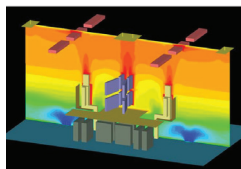
Geothermal Borehole Simulation



Building Information Modelling (BIM)



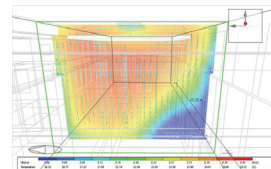
Computational Fluid Dynamics Simulation



Thermal Comfort Analysis



Photovoltaic Cells Optimisation



Natural Ventilation Simulation

## Some of our References

## Energy Efficiency Solutions

### Belgium: Energy Audit

**Objective:** Complete energy audit of an entire industrial automotive site comprising factories, offices and technical rooms with an operational energy management approach.

**Outputs:**

- 10% energy savings in 1 year
- Representing 40% of the whole client's Group effort on energy efficiency in 2016

### Netherlands: Industrial Energy MasterPlan

**Objective:** Energy solutions to achieve environmental objectives of high tech company faced with high energy consuming core process systems.

**Outputs:**

- Energy-saving projects identified to meet client's targets
- Global reduction of energy consumption by 10%
- Reduction of CO2 emissions by 50%
- The plan covers Europe, USA and Asia

### UK: Energy Efficient Building

**Objective:** Develop an energy efficient solution for the design of a 23,000 m<sup>2</sup> Corporate HQ Building.

**Outputs:**

- The proposal of several energy efficient base systems and renewable energy technologies including ground source heat pump
- 35% reduction achieved on building regulation part L 2013 (UK energy efficiency referential)

### Colombia: District Cooling

**Objective:** Develop an energy efficient District Cooling and Heating strategy for 5 cities in Colombia.

**Outputs:**

- Characterization of each of the potential sites
- Technical, commercial and financial analysis undertaken
- Business Plan definition for each project
- Basic design and Action plan

### Romania:

#### Energy Efficiency Consulting

**Objective:** Consultancy support for Energy Efficiency Financing by EBRD and EU (up to 65 M€).

**Outputs:**

- Support provided for projects developed by SME intending to invest in Energy Efficiency
- More than 150 Energy Audits & Technical Studies completed
- 341 approved credits for Energy Efficiency projects to date

### Singapore: Efficient Data Center

**Objective:** Build a new data center facility (huge energy consumption due to cooling) incorporating highly-efficient energy saving design.

**Outputs:**

- 14,500 m<sup>2</sup> center achieved using modular design and construction approach to maximize part load efficiency
- Tier III Data Center standard
- Green Mark Gold certification