

## Operational objectives

- Integrated analysis of energy sub-systems and their interactions
- Improved forecasting of electricity and fuel prices as well as energy loads
- DSS Engine for integrated management of energy-efficient sites
- Customised and user-friendly interface to the DSS Engine linked to a user's existing ICT architectures
- Testing and quantification of the DSS Engine benefits
- Validation of the DSS in different European buildings and public spaces
- Promoting adaptation of the system for buildings and/or spaces of public use

## Beneficiaries

- Local governments, agencies in charge of housing and public spaces, and the commercial building sector are potential users of the DSS tool
- Operators of public buildings use the EnRiMa DSS to find best strategies for adopting and controlling energy resources, such as energy purchases or installation of renewable energy technologies
- Policymakers use the EnRiMa DSS to obtain insights about building regulations on how to reduce energy consumption and CO<sub>2</sub> emissions

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The "Austrian Federal Ministry for Transport, Innovation and Technology" also supports the Center for Energy and innovative Technologies (CET) through the "Building of Tomorrow program. Additionally, the Theodor Kery Foundation of the province of Burgenland also supports the Center for Energy and innovative Technologies (CET) in course of EnRiMa.

**EnRiMa**  
Energy Efficiency and Risk  
Management in Public Buildings

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# The project

The aim of the project Energy Efficiency and Risk Management in Public Buildings (EnRiMa) is to develop a decision-support system (DSS) to enable operators to control energy flows in energy-efficient buildings and areas of public use. This process will be achieved via integrated management of conflicting goals such as minimising costs, improving energy efficiency, meeting emission reduction requirements as well as managing risk.

# General objectives

1. Develop an interdisciplinary DSS for operators to help them to meet their needs in a more efficient, less costly, and less CO<sub>2</sub> intensive manner
2. Enhance the existing methodology for modelling energy flows in buildings with recent advances in efficient management of uncertainty
3. Facilitate the operators' on-site generation dispatch, off-site energy purchases from diverse sources, and open positions in energy markets
4. Enable long-term planning aimed at increasing energy efficiency, specifically analysis of retrofits and/or expansion of on-site energy sub-systems in order to meet forthcoming EU targets for CO<sub>2</sub> emissions reduction
5. Improve energy efficiency and sub-system integration in line with EU targets

# The consortium

## Stockholm University, Sweden

The Department of Computer and Systems Sciences (DSV) yearly hosts ca. 5000 students and has ca. 200 employees. It cooperates with more than 30 universities and research institutions worldwide. DSV's research and education activities cover a broad range of topics in ICT with a particular emphasis on the interplay among humans, organisational actors and information systems.  
[dsv.su.se](http://dsv.su.se)



## University College London - UCL, United Kingdom

The Department of Statistical Science at UCL is the oldest academic statistics department in the world. It has recently developed capacity in analysis of energy industries.  
[www.ucl.ac.uk/statistics](http://www.ucl.ac.uk/statistics)



## International Institute for Applied Systems Analysis – IIASA, Austria

IIASA is a multinational organisation devoted to interdisciplinary, policy-oriented research focusing on selected aspects of environmental, economic, technological, and social issues in the context of global change. The core activity is represented by the construction of models, methods and mechanisms, and tools for supporting identification of solutions robust against uncertainties.  
[www.iiasa.ac.at](http://www.iiasa.ac.at)



## Universidad Rey Juan Carlos - URJC, Spain

The Department of Statistics and Operations Research at URJC tackles complex problems, inference, and decision-making with an interest in Bayesian methodology and stochastic and nonlinear programming.  
[bayes.escet.urjc.es](http://bayes.escet.urjc.es)



## Center for Energy and Innovative Technologies CET, Austria

CET is a non-profit organisation established in 2006 and features a collaborative structure among international and national researchers with affiliations to research institutes with high reputations. CET creates a platform for knowledge exchange in the field of renewable energy sources as well as energy efficiency.  
[www.cet.or.at](http://www.cet.or.at)



## Minerva Consulting & Communication, Belgium

Minerva Consulting & Communication is a Belgian public relations agency specialised in the management and execution of communication and dissemination activities within research-related projects funded by the European Commission.  
[www.minerva-communication.eu](http://www.minerva-communication.eu)



## SINTEF Group, Norway

The SINTEF Group is one of the largest independent research organisation in Scandinavia that performs contractual research in fields including operation research energy engineering, and building/construction. The SINTEF Technology and Society Institute focuses its activities on modeling better decision support systems both for public administrations and private businesses, combining knowledge on economics and social sciences with operations research.  
[www.sintef.no](http://www.sintef.no)



## Tecnalía Research and Innovation, Spain

Fundación Tecnalía Research and Innovation is a private, non-profit technological research and innovation centre integrated into Tecnalía Corporation. It is the largest private Research, Development and Innovation (R+D+i) group in Spain and one of the leading ones in Europe.  
[www.tecnalia.info](http://www.tecnalia.info)



## Hidrocantábrico Energía - HCE, Spain

HCE was established in 1919 as an electricity output, transmission, conversion, and distribution company. HCE is a diversified company present in other areas of the energy producing scene such as natural gas and renewable energy technologies. Hidrocantábrico will provide a site test.  
[www.hcenergia.com](http://www.hcenergia.com)

