

# Piraeus Bank Syggrou 87, Greece



Fotini Karamani

Ch.Engineer MSc

*Centre for Renewable Energy Sources and Saving*

# Energy and Environmental Policy

The Bank is developing a strong and ambitious energy management program, including the installation of:

- a pilot BMS system tele-controlling 40 branch offices
- demonstration PV systems, analyzing and optimizing the energy consumption of all its branch offices / large buildings

The environmental management system applied to the operations of Piraeus Bank is based on systematic monitoring of the environmental impact induced by its operation and planning and implementation of projects and initiatives to reduce such impact.

The refurbishment of the specific building, designed by the GBP endorser Thelcon Ltd, started in 2008 and was completed at the end of April 2009.

# Applied Measures

<p><b>Heating System</b></p>	<ul style="list-style-type: none"> <li>• Replacement of all AHUs, fan coils</li> <li>• Multi-zone system fully BMS controlled</li> </ul>
<p><b>Cooling System- Air Condition</b></p>	<ul style="list-style-type: none"> <li>• Installation of high efficiency cooling towers</li> <li>• Fully BEMS controlled HVAC, with local thermostats operating in economy mode (setpoint +/- 3o C)</li> </ul>
<p><b>Ventilation</b></p>	<p>Heat recovery from conditioned exhaust air</p>
<p><b>Lighting System</b></p>	<ul style="list-style-type: none"> <li>• Total replacement of T8 lamps with T5. Installed capacity of 10.5 W/m<sup>2</sup> to achieve over 600 lux at working level.</li> <li>• Installation of local switches in all working spaces leading. About 50% of building operates at lighting capacity of 3.5 W/m<sup>2</sup>.</li> <li>• Utilisation of natural lighting using light sensors and dimmable ballasts for perimetrical light fixtures.</li> <li>• Movement sensors are placed in WC, archive and conference rooms, etc..</li> </ul>

# Applied Measures

<p><b>Renewable energy</b></p>	<p>Photovoltaic System. Installation of photovoltaic system of 5kWp at the roof of the building</p>
<p><b>Energy management</b></p>	<p>Building Energy Management System. Installation of BMS. Monitoring the indoor temperature, humidity etc..., and controlling relevant subsystems (heating, cooling, lighting etc.) Detailed monitoring of energy consumption through specially designed database and monthly/annual reporting. Analysis and optimization of building operation based on these reports.</p>
<p><b>Other measures</b></p>	<ul style="list-style-type: none"> <li>•Windows:Installation of regulated venetian blinds in the internal space</li> <li>•Power factor correction. Addition of capacitors at the main electricity</li> </ul>

***Energy consumption is decreasing continuously...***

# Results

- Reduction of final energy demand : **30.2%**
- Reduction of lighting demand : **54.4%**
- Reduction of cooling demand : **15.3%**

*Energy savings: **2,920 MWh/yr***