



Energy & Facility Management

This activity remains highly connected to the **LEAN MANAGEMENT**.

This page should be read in conjunction with the pages:

- [Lean Management](#)
- [Renewable Energies](#)
- [Waste-Energy Chain](#)

The approach based on "Load Profile" **prediction** (Demand Side Driven!) using ERP also combined with an energy portfolio management (making also use of cross-border interconnection and trading through APX or others).

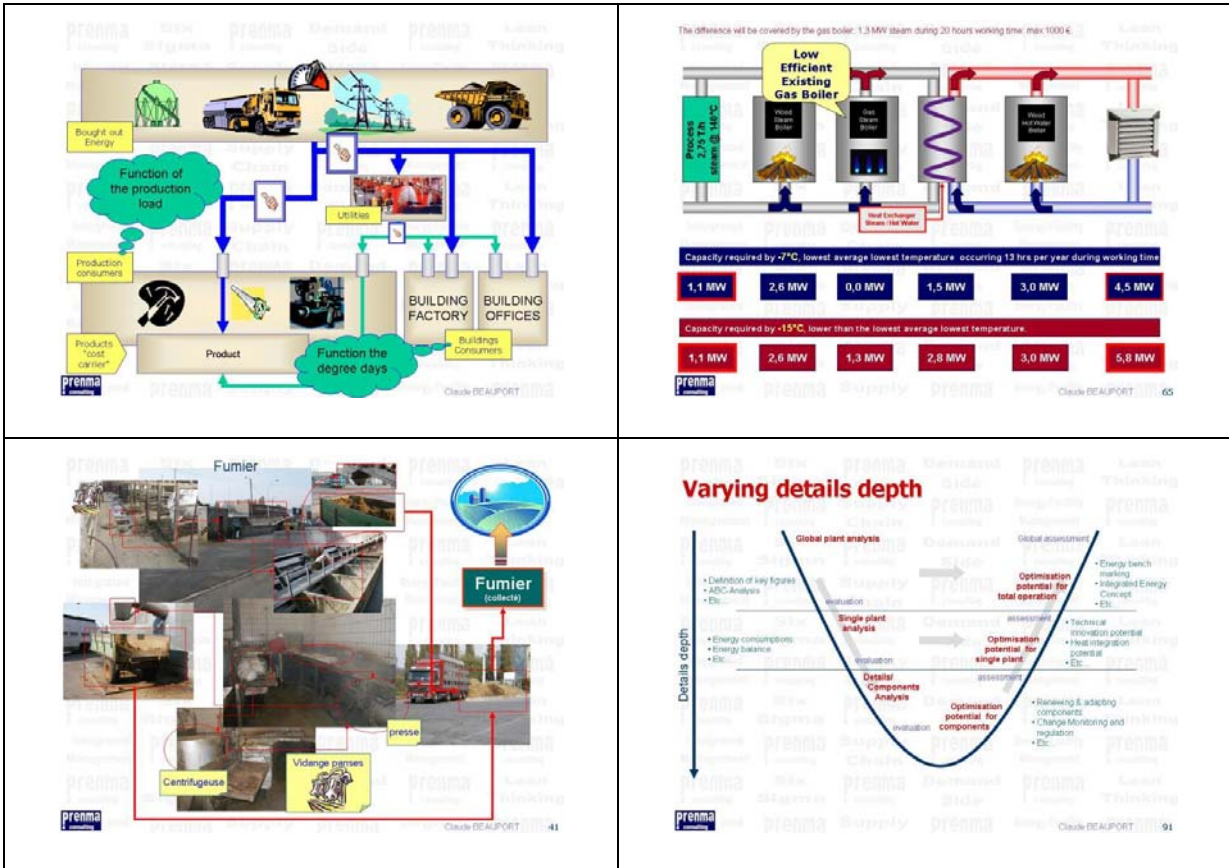
CO2 emission rights and green certificates mechanism play an important role.

The missions consist of scanning, developing and implementing methodologies in order to **improve** the **profitability** and **effectiveness** of the Customer's operation. Therefore the missions are not limited to technical matters but covers full-integrated management system, involving all stakeholders acting along the **Value Creating Chain** (see [Change Management](#)).

He promotes Integrated Management applied on the field of Energy / Facility (Integrated Energy Management). It means also that he is integrating the activities within the logic of **Supply Chain Management** and **Maintenance**.

The figure consists of four panels:

- Top Left:** "Energy / Facility Management = Managing the whole Energy Value Chain". It shows a flow diagram of energy processes. Core business includes: Supplies Power, Supplies Cold, Supplies Heat, Recovers wastes with energetic values, Purchases Fuel, Generates energy heat, cold, e-power, Buys additional e-power, and Sells e-power produced in excess, Evacuates the rest of combustion. It also features an "Integration" icon and a "7" in the bottom right corner.
- Top Right:** "Integrated Concept Lean-, Kaizen-, Six Sigma- driven". It shows a Venn diagram with "Integrated Energy Management" at the center, overlapping with "Supply Chain Management", "Maintenance", and "Energy Management". A "Six Sigma" box is in the top right. The number "16" is in the bottom right corner.
- Bottom Left:** Four bar charts showing "Gas" and "Elektriciteit" for "Typische Winter Week" and "Typische Zomer Week". The charts are labeled with "145 MW", "145 kWh", "145 MW", and "145 kWh". The number "10" is in the bottom right corner.
- Bottom Right:** "Warmte Kracht Koppeling (WKK) ?". It shows four bar charts for "Gas" and "Elektriciteit" for "Typische Winter Week" and "Typische Zomer Week". The charts are labeled with "650 kW th", "125 kW e", "500 kW th", and "125 kW e". A red box contains the text: "Een WKK oplossing met 125 kW_e gas turbine is technisch mogelijk". The number "34" is in the bottom right corner.



Objective of the Energy/Facilities Management

The primary objective is the reduction of energy/facilities cost through rational operation of the plant with energy/facilities. Further and not minor objectives are:

- Improvement of the transparency on the operation, through which are discovered some technical, structural or organisational weak area as well as improvement potentials
- Reduction of the environmental impact, specially though saving of resources and decreasing of CO2 (GHG: Green House Gas) emissions
- Improvement of internal communication and coordination in all energy connected matters
- Improvement of the reaction capability with regard to deviation and disturbances
- Increase of the reaction capability on changes in the energy policy and economy within the enterprise environment
- Increase of the transparency of the quantitative and qualitative development of the energy requirement in connection with improvement measures and investment decision
- Better use of resources (chain waste to energy): synergies between energy and environment

Methodology:

Top-down and bottom-up complementary methodologies

Objectives of a top-down analysis

- Investigation about the general energy consumption profile and its development during the last years
- Evaluation of the purchasing contracts and tariffs for each kind of energy
- Transparency related to the distribution of the energy trough the all plant (which single plant is fed with electricity, Gas etc ..)
- Investigation about the main consumers in the total plant
- Investigation about the energy data collection in the plant
- Discovering the first weak area and potential optimisation
- Establishing the area first to be scanned

Objectives of a bottom-up analysis

- Implementation of the Data related to the purchasing of energy and the utilisation structure through the plant
- Investigation about the energy efficiency of the most important energy operating systems

- Discovery, quantify and evaluation of the weak area
- Work out a possible improvement for the energy system

Views on Energy / Facilities

Energy means:

Heat, Cold, Lighting, E-Power, Gas, Compressed air, etc

Facility means:

Waste, Water, HVAC, Decentralised Energy production

Energy / Facilities Management means:

Managing the whole related Value Chain including the interfaces to the core business process and their relations, the target being:

- Reducing the global cost of Heat, Cold, E-Power, Water, Compressed Air and Wastes on the Finished Products.
- Energy/Facility Managing means also taking the whole responsibility for all activities related to the facilities on a reliable base:
- Procurement Maintenance
- Repairs
- Operation
- etc ...

Integrating the chain Waste to Energy

More information may be downloaded (see link below)

Some related documents prepared by Claude Beauport

N.B.: *click on the icons to get access to the document through an internet connection (required)*



[Integrated Energy Management](#)



[Presentation of the activities \(pdf file\)](#)



[Brochure \(pdf file\)](#)

Documents presenting various aspects of activities



Presentation of the activities and Integrated Energy Management



Presentation of the activities - Thinking differently

Documents related to the Waste-Energy Chain:



Biomethanisation (digestion process)
Claude Beauport



Biomethanisation (digestion process)
Claude Beauport



High Temperature Melting Gasification process
Claude Beauport



High Temperature Melting Gasification process
Claude Beauport



Gasification Process / medium size installations
Claude Beauport



Gasification Process / medium size installations
Claude Beauport



Fluidized Bed Gasification Process
Claude Beauport

Some examples of realised projects:

- Audit and Feasibility studies for an Energy Contracting Project by UCB Drogenbos for Harpen Energie Contracting (RWE) - Dortmund-Germany
- Pre-audits by various companies using steam for Energy Contracting offer on behalf of Harpen Energie Contracting (RWE) - Dortmund-Germany
- Feasibility studies for a various CHP and Biogas projects for Energo
- Decentralised energy production using wastes for BIFFA (now Valeo)
- Energy Audit for slaughterhouse (abattoires de Liège) and meat product manufacture (Derwa) including gasification of wastes and production of power through a CHP.
- Master Class Teacher for IIR in Brussels "Energy Management"
- Waste Gasification project for Hartland in Germany
- Waste-Energy Chain integration project for Carrefour.
- Energy Audits for School buildings in Belgium and in Romania
- Energy Management project integrated with a maintenance service for an important Bank (Sté Générale de Banque) in Luxemburg through Cégelec
- Complete Energy/Facility management audit for a Furniture Manufacturer in Cluj-Napoca in Romania including use of sawdust.
- Complete energy audit for Bakkersland (Netherlands): production analysis, furnaces, ... integrated energy, CHP, Day light et... demand prediction, spectrum model,...
- Energy Management (HVAC) related to the transformation of an existing office block building into a crib for the personnel of the European Commission in Brussels, including renewable source of energy (sun, CHP, heat pump)
- Speaker at the seminar in Belgrade related to Integrated Energy Management ([click here to see](#))

This document may also be viewed with all active links on internet at the address:
<http://www.prenma.eu/IM/EnergyFacilityM.htm>