

Royaume du Maroc

Ministère délégué auprès du
Ministre de l'Énergie, des Mines,
de l'Eau et de L'Environnement,
Chargé de l'Environnement



Ministère de l'Industrie, du
Commerce, de l'Investissement
et de l'Économie Numérique



giz Deutsche Gesellschaft
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MCA-Morocco



International Conference
**Sustainable Industrial Areas:
Be Part of the Climate Solution**
14th and 15th March 2017 | Rabat Morocco

Mr. Philip JAIN, GIZ, Tunisia

Energy Management System & Combined Heat Power Generation for Industrial Processes

Energy Management System

for a continuous improvement
(ISO 50001)
on the example of Industry

Session

Practices regarding CC mitigation
and adaptation actions”

1. No Energy Transition without **Energy Efficiency**.
2. The **energy** that **we do not consume** is **the less expensive**.
3. SIA can be part of the Climate Solution through **Energy Efficiency**.

Energy Efficiency why?

- Rising energy demand worldwide
- Resource scarcity
- Danger of climate change because of GHG-emission

Energy Efficiency – examples?



Law n°47-09 Energy Efficiency



20% energy reduction in 2020, -40% GHG emissions/1990



National Strategy Energy Transition 30|30, 30% energy reduction,
XXXXXX contribution to NDC -41%.

Energy Efficiency potentiel in industries?

Industries and Industrial Parks big consumers – big potentiel
→ Mitigation of Climate change

How?

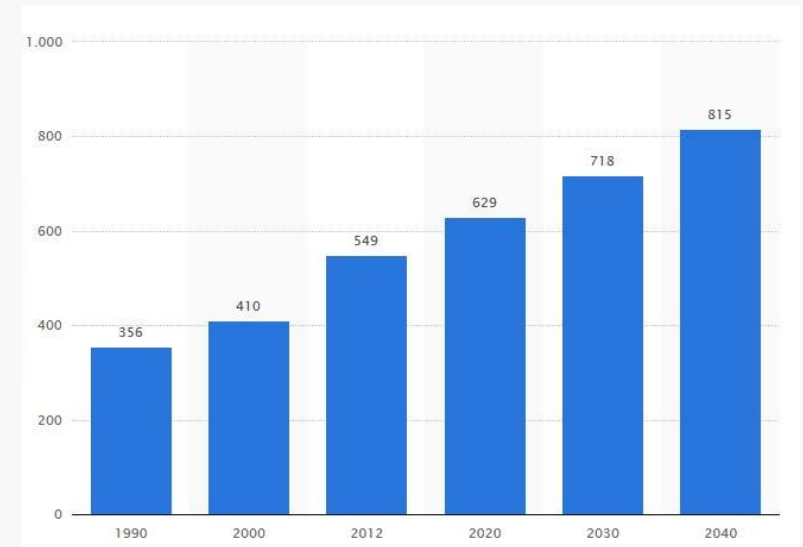


Chart: Worldwide Energy Consumption Outlook
in Billard BTU \approx 293,071 TWh
Source: <https://de.statista.com>

ISO 50001 – Energy Management System, 2011

P – Plan: Energy audit – identification current situation, potentials and possible measures

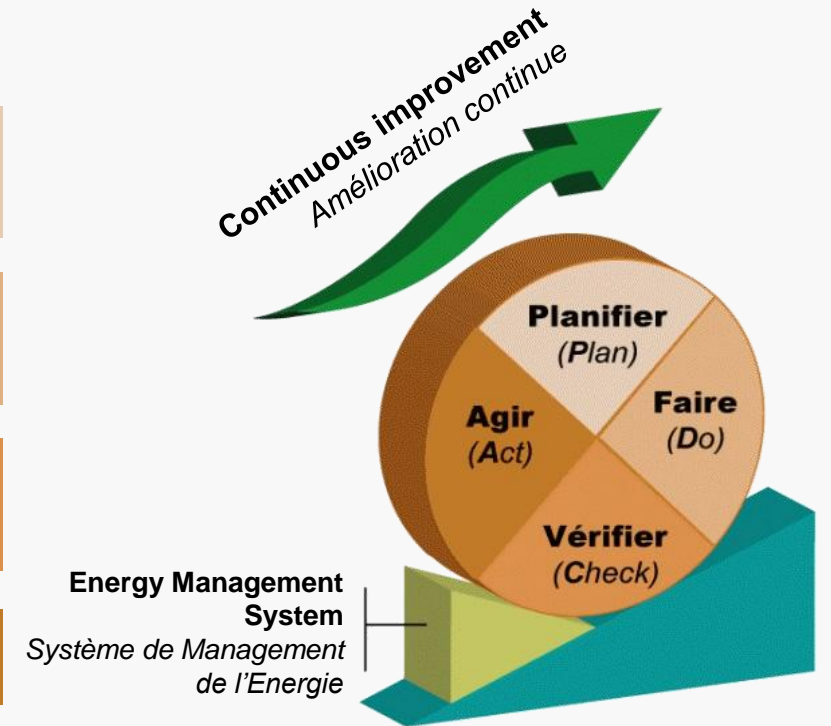
D – Do: Implementation of action plan, investments in cost-effective energy efficiency measures

C – Check: Evaluation of the implemented actions through measurements

A – Act: Correct if necessary the actions and restart from P-phase

Objective:

- (Certification for 3 years)
- Continuous improvement of energy consumption



Scheme: Deming cycle

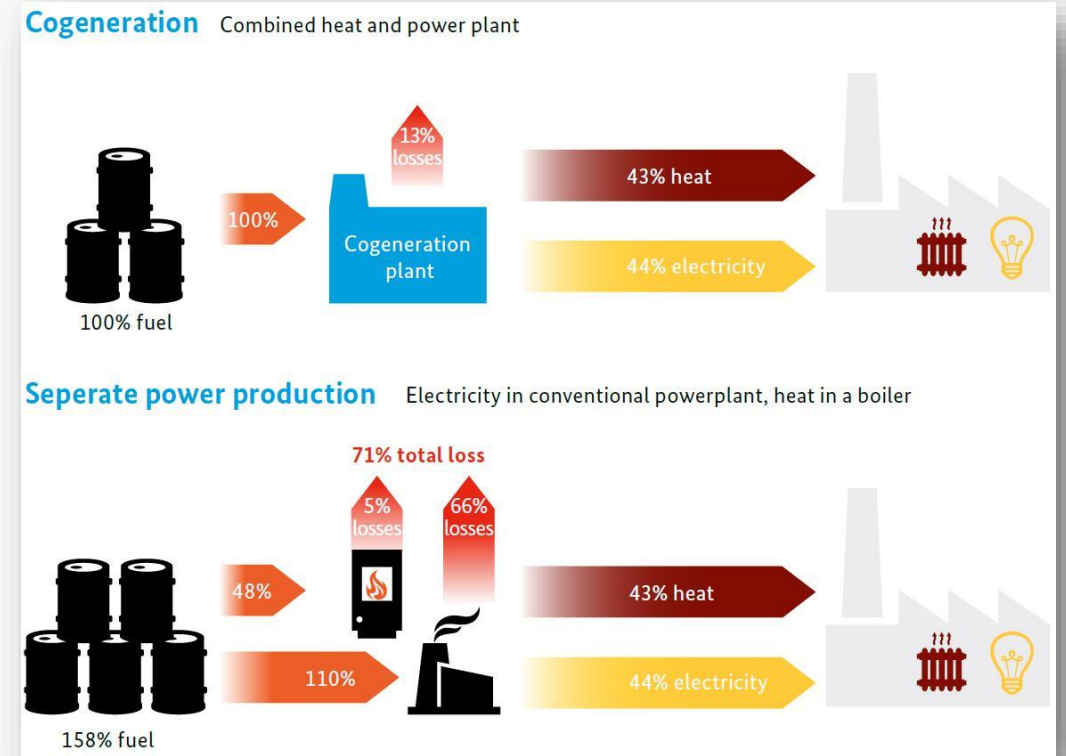
Example of an action of an Energy Management System

Combined Heat Power plant

- Production of electricity & heat in the same power plant
- Heat recovery → possible of cold production (chiller)
- Useful for industries needing electricity, heat & cold:
 - E.g. Agro-food industry

Advantages:

- High efficiency
- Heat recovery
- Cost reduction
- Emission reduction
- Decentralized energy supply



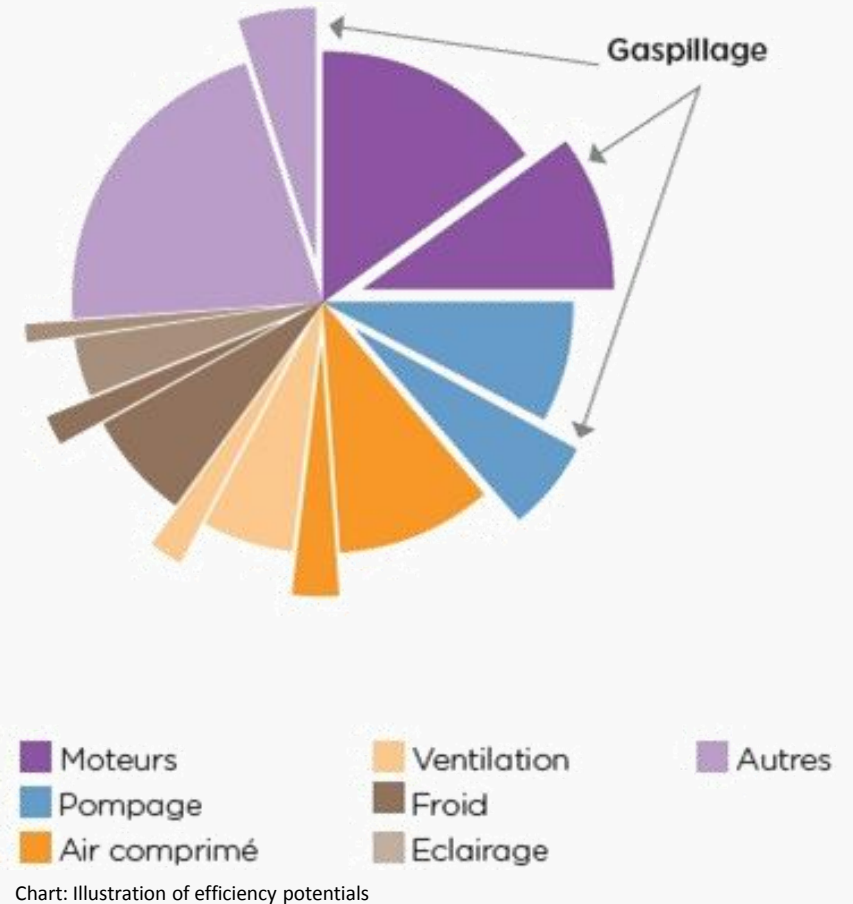
Keep in mind!

A successful energy transition is based on renewable energies **and the promotion of energy efficiency**

Industries can **reduce** their **energy consumption** and **GHG emission** through the implementation of an **Energy Management System** → **Mitigation Action**

On Industrial Park Management level:

Advising on energy efficiency and providing energy services.



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