

Understanding ENERGY EFFICIENCY

In simple terms energy efficiency, is the goal to reduce the amount of energy required to provide products and services and to allow a building to use less heating and cooling energy to achieve and maintain a comfortable temperature. Improvements in energy efficiency are generally achieved by adopting a more efficient technology or production process or by application of commonly accepted methods to reduce energy losses.

There are many motivations to improve energy efficiency. Reducing energy use reduces energy costs and may result in a financial cost saving to consumers if the energy savings offset any additional costs of implementing an energy efficient program.

4 Steps to Energy Efficiency

1 Audit & Measure

Energy Audits
Energy Meters - Water Air Gas

2 Fix the Basics

Low consumption devices & equipment
Building Materials
Power quality / Reliability issues

3 Automate

BMS - Building Management Systems
Lighting control systems
Motor control systems

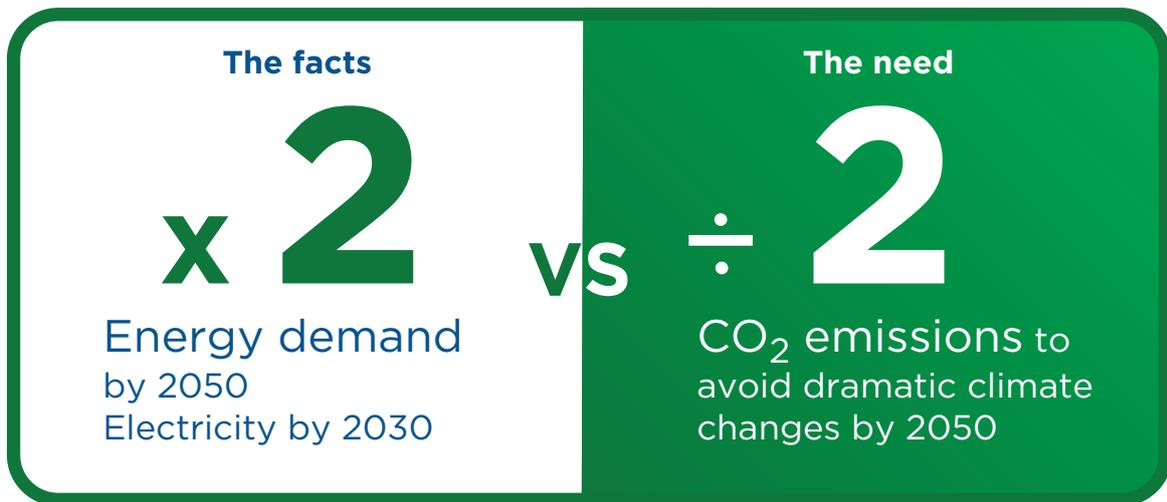
4 Monitor & Improve

Energy Management Software
Facilities Management software
Remote monitoring systems

In a commercial environment the definition of Energy Efficiency is the act of reducing consumption while achieving the same results.

ENERGY DILEMMA

Over the next three decades the demand for energy will require energy consumption to double but emissions are to be half the current levels. There have been massive technological advances in the energy sector over the past decade making these targets achievable. The sooner you begin to establish and implement an energy management plan (EMP) the sooner you will have a clear understanding of projected savings and capital costs.

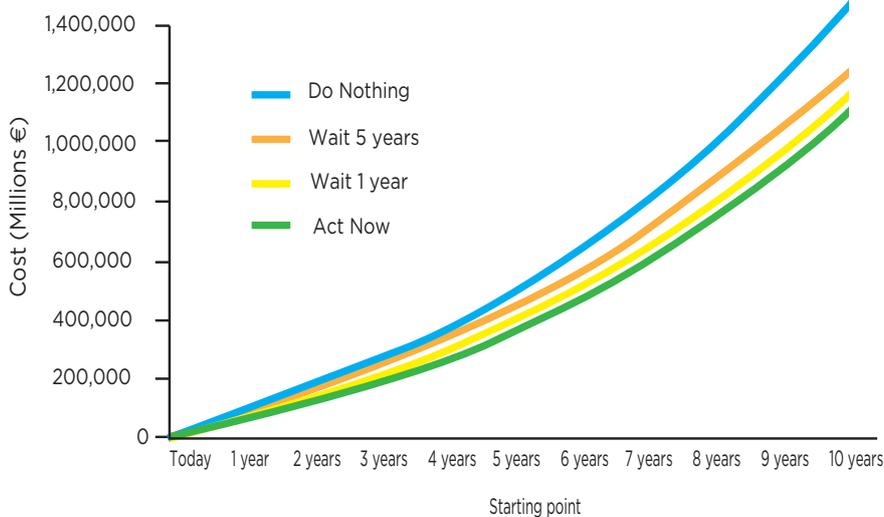


Source: IEA 2007

Source: IPCC 2007, figure (vs. 1990 level)

DELAY IS EXPENSIVE

The cost of delaying an energy project compounds everyday. In order to develop a practical energy management plan for your company you must forecast in the costs of planned start dates for projects.



For a typical building, cost of delay*

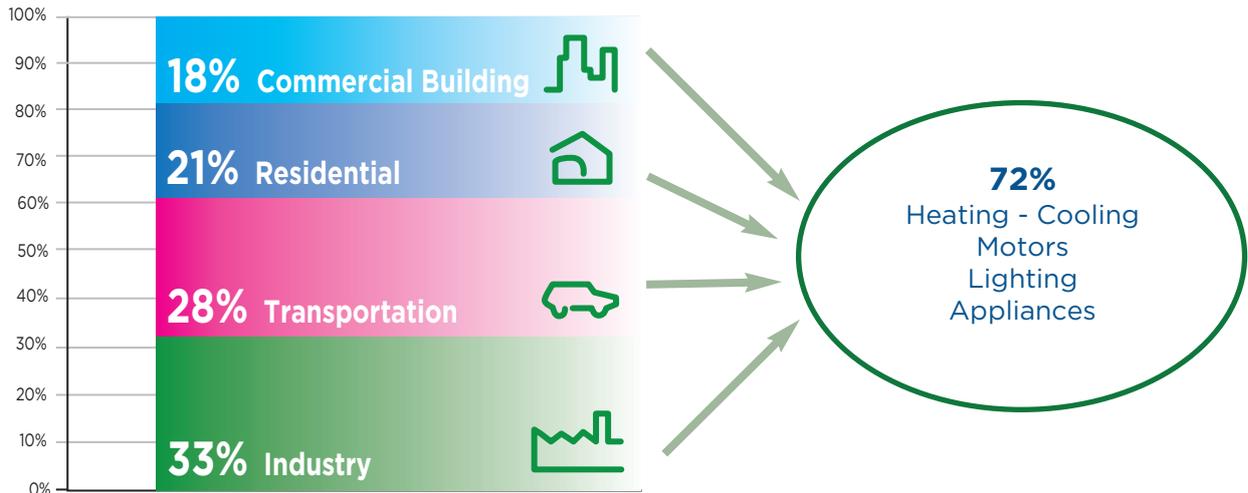
1 Year	€36,000
5 Years	€228,000

Example:
Typical 3,000 sq.mt office building with annual utility bill of €60,000

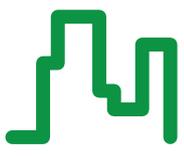
Assumed 5% increase in energy prices per year, 10% cost of capital (Conservative)

Typical energy project executed with 20% energy savings and 4 year simple payback

* Includes additional energy charges and increased cost of project based on inflation.



Buildings



Energy requirements for

- Heating
- Ventilation
- Air Conditioning

can be maximised through **efficiency products** and **building management systems**

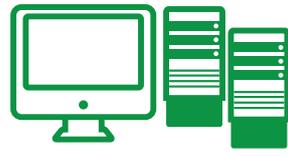
Industry & Infrastructure



Over **60%** of electricity is **consumed by motors**

Saving **25%** in this area would save **7%** of the world's electricity

Data Centers



Servers require **large amount of power** and have **tremendous needs for cooling**

digren energy can assist you in developing your Energy Management Plan and offer advice and solutions on how best to implement it. Our solutions and planning are based on practical experience and maintaining cost efficiency.