ENERGY EFFICIENCY PROJECTS. A NEW VIEW FOR YOUR INVESTMENTS.

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A NEW VIEW FOR YOUR ENERGY EFFICIENCY INVESTMENTS.

Every time a company starts a new investment, defining the objective and its basis is key. Including the energy sources, its transference and the loss prevention is similarly important.

The efficient use of energy is the responsibility of producers, distributors and users.

This concept reduces operating cost.

A wide number of actions is then required depending of the category everyone belongs to:

- Producer
- Distributor
- User

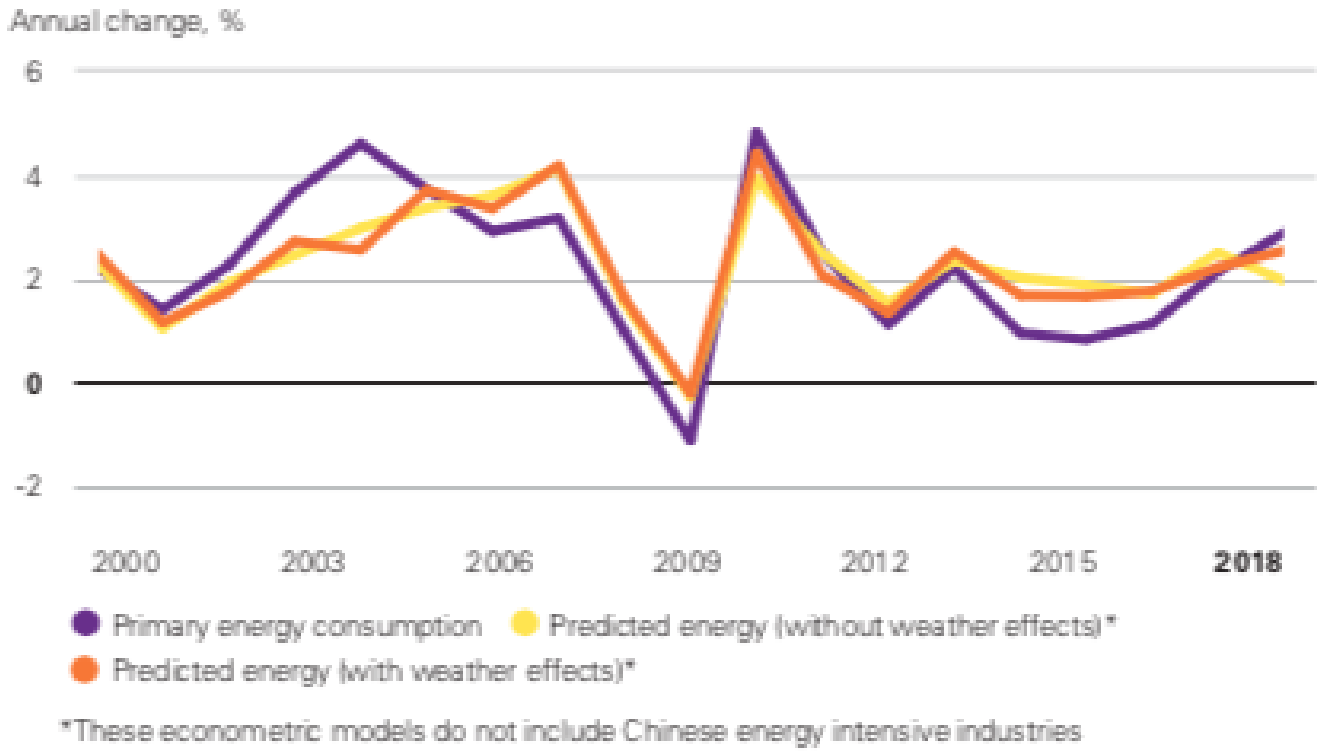
By preventing leaks in the distribution and use, the cost reduction is a result.

Investing in energy efficiency can be profitable. It just requires the right actions.

TARGET: 70% RENEWABLE ENERGY BY 2050

2.0% Growth of carbon emmisions from energy use. The fastest for seven years[1]

[1] **Global energy consumption growth**



[1]Source: BP statistical review of world energy 2019

CAN WE DO BETTER. . .?

Target is known, although a way to measure the effectiveness of taken measures is not clear yet.

LET'S PROPOSE KEY PERFORMANCE INDICATORS "KPI'S"

1. De-carbonization % is a must for the energy producers and users.
   - Power consumption increase shall be accounted by the reduction in carbon emissions for the power generation. It means the increase rate (Y) in consumption should be covered by Z, which is 2 times the rate (Y) of power generation by non-fossil/clean sources.

For a power consumption of **100** units, a 20% (Y) increase is **120** units. It would require a replacement of 4***0 (Z) units by clean sources***

Now for the new consumption of **120** units, **80** would be from traditional sources, while **40** by clean ones.

Progressively increasing the use of clean sources

KPI'S (CONT.)

2. Efficient use of energy. Despite the power generation source, the actual use should prevent losses and energy leaks.
   - Actual industry engines. What is the **relationship of energy consumed and energy use**. Is it **above 50%**? What can be done to increase the efficient use of the energy supplied to move the engine? How much the production costs can be improved by investing in energy efficiency?
   - A challenge to the engineers. Every time a new design or enhancement is required, calculate the energy efficiency compared to a traditional one. Include the **calculation of cost saving**. Is it worth investing in such design?
   - Asses your power usage compared to the sourcing and look for **increasing the efficient use by at least 15%**.
   - Search for the different types of energy sources and estimate its cost. Look for a ***cost reduction*** on each of your investing projects. It will drive you to ***an efficient use of energy***.
     - Reduce the energy consumption of your mobile devices by an efficient use of these. At least make use of *solar battery banks to re-charge*.

ENERGY EFFICIENCY EXAMPLES

[1]An electric car consumes 20 kWh of energy and transfers 10.5 kWh to the wheels.

Efficiency = (10.5 / 20) x 100% = 52.5%

[1]Gasoline burning car consumes fuel, equivalent of 60 kWh of energy and transfers 11 kWh to the wheels.

Efficiency = (11 / 60) x 100% = 18.3%

Reference.

[1]Spacey, J. 2017. https//.simplicable.com/new/energy-efficiency-formula

[3]Hair dryer consumes 28 Joules and transfers 15 Joules.

Efficiency = (15/28) x 100% = 53.57%

[3]Primrose, K. 2016. Science and Maths.

Air conditioning systems are used on buildings. What is the real level of energy efficiency[2] in the system performance?

[2]Kresse; Furthmüller. 1996. *Efficiency of ab-initio total energy calculations for metals and semiconductors using a plane-wave basis set*. https://doi.org/10.1016/0927-0256(96)00008-0

Heating water can be effcient depending of the medium used.

Efficiency = (usable power transferred / total power supplied) x 100%

COST EFFECT ON ENERGY EFFICIENCY PROJECTS

Next time you assess your investment projects,

- Ask for the energy efficiency considered.

- Look for an increase of at least 10% compared to the traditional way.

. . . It shall reduce your operating cost

IT IS ACHIEVABLE

A SAFE AND EFFICIENT ENERGY INVESTMENT IS FEASIBLE.

LET'S DO IT TOGETHER!