



**ENERGY DESIGN REVIEW
INFORMATION**

Energy Design Review (EDR)

Industrial facilities typically have long lives and consume large amounts of energy. As such, intervention in the earlier design phases can have significant impact on long-term energy consumption.

What's EDR?

Energy Design Review is a very efficient way to **reduce long-term operating energy costs** at little to no additional investment costs locked in at the very initial stages of a factory lifespan.

The key is to make **energy efficiency changes** to your plant while the new plant is only in the design phase so the **energy consumption of the factory is reduced to its minimum** from the beginning.

Our experience has shown many times that while every architect and design team these days have gained valuable knowledge in energy efficiency in the design of factory buildings, **employing a specialist can significantly further reduce operating costs** that easily cover the additional required investment in only several months and generate further savings.

What can you achieve?

- ▶ Reduced long-term energy expenses
- ▶ Decreased long-term energy intensity
- ▶ Improved long-term operational efficiency
- ▶ Improved long-term operations and maintenance

Example

Typically, the designers are forced to make the design least cost in investment phase, yet with fulfilling specific defined needs. This leads to a decisions such as to install eg. a 300 000 € heating and ventilation system that consumes 15 000 € a year more than a similar system with better controlling features even though the better system would cost only 20 000 € more, so the return on investment is only over one year and then it saves significant amount of money.

The key is to ensure the adjustability of factory's systems to current needs, that vary in time: the design of the factory must allow for adaptability – which is often in contrast with the designer's assignment: to design the plant so that it will suit best conditions expected at the beginning of the plant's operating life.

Who is it for?

EDR is much recommended for companies planning on **large expansions or new developments of industrial facilities**.

In our experience it is important to have the EDR process **as soon as possible after the main design decisions** have been taken. As the construction time nears there is a growing reluctance to change anything in the building design.

Usual EDR process and timing

Stage 1: Kick-off and data collection (week 1)

- ▶ Building – Constructions (Layouts, Technical Descriptions)
- ▶ Services + appliances - (Layouts, Technical Descriptions)
- ▶ Production (Layouts, Technical Descriptions)
- ▶ Expected plant / processes utilization schemes

Stage 2: Available data assessment (week 2)

- ▶ Establishing potential baseline of energy use

Stage 3: 2 days site visit (week 3)

- ▶ Meeting with plant management and the design team for new factory
- ▶ Factory tour, learning the processes and plans
- ▶ Discussing the industrial processes and potential energy savings

Stage 4: Design review report (within 14 days)

- ▶ Data evaluation and reporting
- ▶ List of identified saving opportunities and savings calculation for each of them

Stage 5: Follow-up assistance (suggested within 5 days)

- ▶▶ Incorporating clients feedback to the final report

References

Team members of HE Consulting have conducted several EDRs worldwide, including large factories in

- ▶ Brazil
- ▶ Australia
- ▶ Hungary
- ▶ Czech Republic



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