



Mehr Sicherheit.
Mehr Wert.

"Integral energy optimization using TÜV SÜD Energy and Media Efficiency Standard (EME) – Machine and Plants Certificate"

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TÜV SÜD Industrie Service, Energiesysteme

We can assist you
in these areas



Civil engineering

Materials technology

Electrical and building
services engineering

Environmental technology

Machine and plants engineering

Steam and pressure engineering

Energy and Technology

20-20-20 Goals



20 % CO₂-Emission

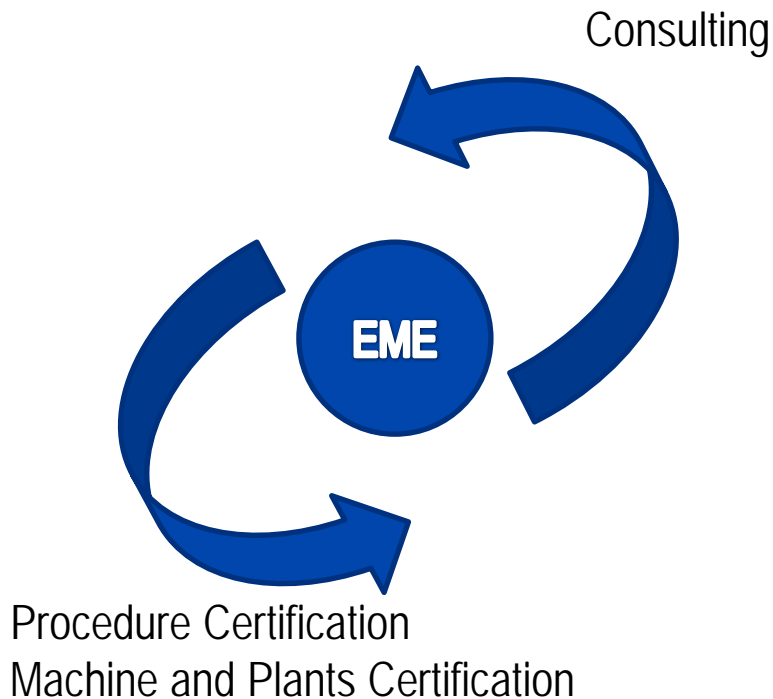


20% Implementation renewable energies



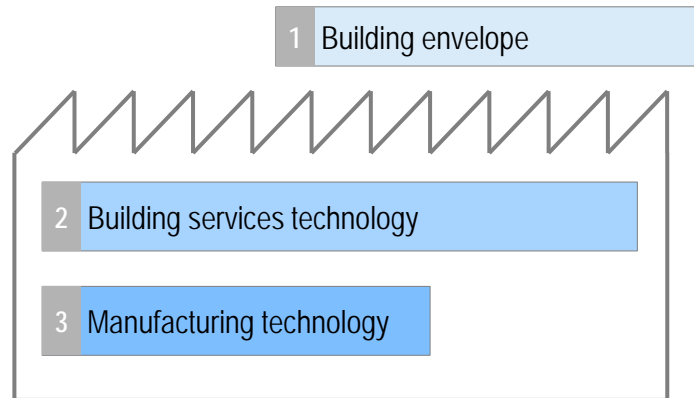
20 % Improvement of energy efficiency

EME = Energy and Media Efficiency



- Independent Energy and Media assessments
- Identification of energy saving potentials
- Complementary methodologies:
 - Consulting: a win for the company.
 - Certification: a win for the product or procedure and an assurance for the clients.

An integral energy optimization
applying TÜV SÜD EME-Standard
EME = Energy and Media Efficiency



- ▶ Finding integral and holistic efficiency potentials
- ▶ Includes the whole production: Manufacturing technology, building services technology and building envelope
- ▶ Provides rational cost-effective optimisation potential



EME: Procedure Certificate

TÜV SÜD EME-Octagon

- A voluntary certification mark issued by the TÜV SÜD Group
- A decision making aid for consumers
- A mark of confidence in the quality of a product or the service quality of an organisation
- An opportunity for our customers to emphasise individual product features



EME: Machine and Plants Certificate

NEW!!!



What EME is...

- a TÜV SÜD developed procedure to analyse plants and machines
- Standard of evaluation: Best available technique (BAT)
- Applicable to complex plants and machines and their interactions, it is not a classification
- Evaluation of the energy and media efficiency using soundly engineering science knowledge
- Systematic and total identification from the energy saving and energy efficiency potentials
- Development of rational and cost-effective optimisation strategies

Where EME helps...

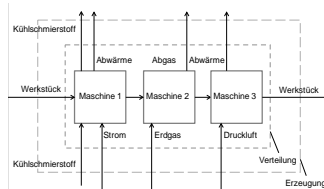
- ▶ a standard procedure, that takes in account cross-system structures
- ▶ Compliance with European and local norms and laws for the specific industrial branch
- ▶ Comparison with lead companies in terms of comprehensive branch intern Benchmarking
- ▶ Identification of best available technology for the particular Industry in close collaboration with the clients

Baseline Study

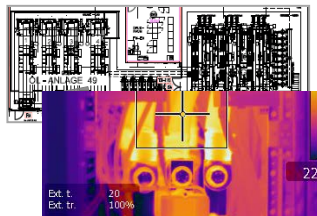
Energy Audit

Energy Saving Potential

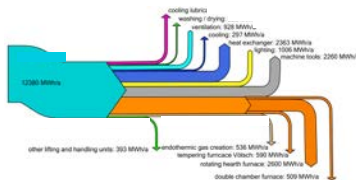
Structuring



On-site Workshops



Energy flows



Components

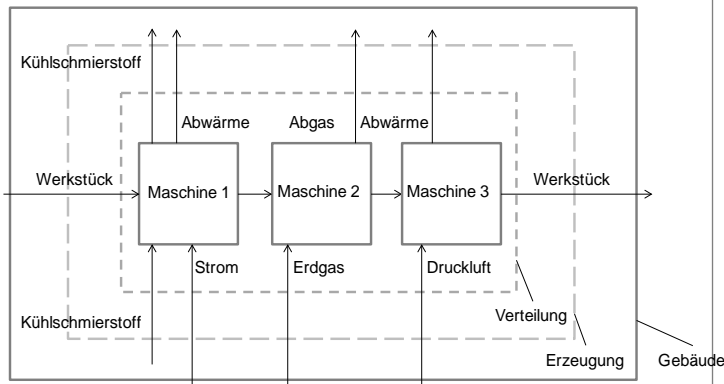


Systems

- 80:20 - Analysis
- Identification of Quick Wins
- Pinch-Point Analysis
- Quantification
- Feasibility
- Priorisation
- ROI-Estimation

The analysis will be carried on on-site, working together with the machine operators and experts at the client

Structuring



Tasks:

Structuring and modeling of the system according to

- Logical units
- Organisation structures
- Material und Media flows
- Energy flows

1. Machines
2. Energy flux (all media)
3. Cooling lubricant- plants
4. Compressed-air systems
5. Motors
6. System level (interactions)
7. Heating, ventilation and air conditioning
8. Power supply

Results:

- Agreed process units
- Definition of principle mass- and energy flows
- Agreed boundaries

On-site workshops



Tasks

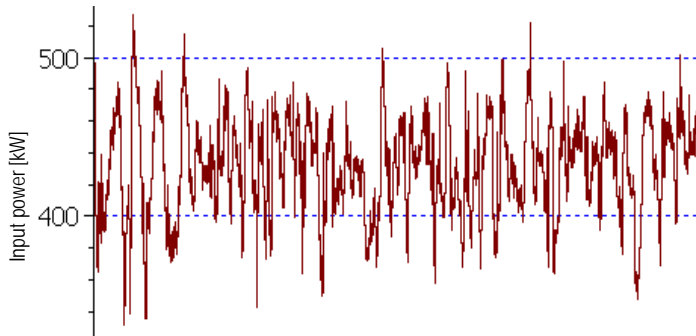
- Definition of workgroups
- Participation of all relevant stakeholders, i.e machine designers, machine operators, machine services, maintenance, etc.
- On-site inspection of representative machines / facilities



Results:

- Identification and quantification of main loads
- Discussion of possibilities to use heat recovery, etc.
- Identification of Best Available Technology

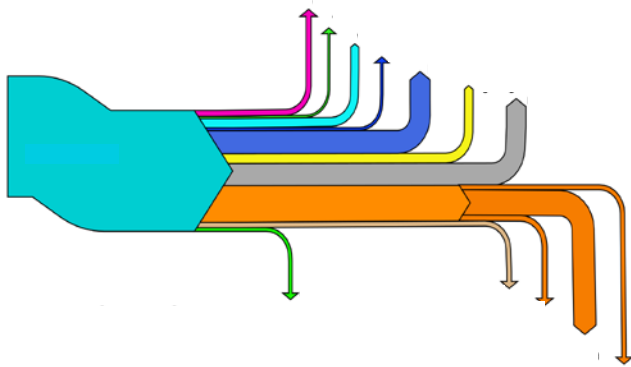
Energy saving potentials



Tasks:

Calculation and evaluation using

- Extrapolation from partial or total measurements
- TÜV SÜD control measurement



Results:

- Energy balances for defined systems
- Sankey-Diagrams with itemized energy-consumptions [MWh/a] for each process unit for electricity, heat, gas or other forms of energy

Analysis – Example of evaluation at the individual components



Electric gear

Are all of the following criteria for the electric gear fulfilled?	3.5		
Documentation:			
Evaluated:	Yes/No/n.a.		
All significant motors (>500W) which are not in continuous use can be used for energy recovery?			
In case of machine halt or breakdown, will the gear be automatically stopped?			
Will the moving mass be minimised (above all in case of "Stop and Go" operation)?			
Are the losses by friction minimised?			
Are all electrical gears controlled?			
Comments:			
Defective / Potential for improvement:			
Evaluation:	1	2	3

Prerequisites for certification

- Informative documentation
- Maturity of energy efficiency
- Pronounced energy awareness of the staff involved
- Installations and systems as modern and efficient as possible
- Energy-efficient technologies



Benefits of certification

- Expert and impartial assessment by a recognized certification body
- Standing out from competition
- Transparency and trust for clients





EME: Procedure Certificate

The TÜV-SÜD Octagon stands for:

- Performance and Durability
- Quality and Safety
- Energy efficiency



Machine and Plants Certificate

NEW!!!

TÜV SÜD Industrie Service is your partner for energy efficiency



We network our team of experts to improve your energy efficiency

Vielen Dank für Ihre Aufmerksamkeit! / Thanks for your attention!



Für weitere Fragen stehen wir Ihnen gerne zur Verfügung / We are available to answer all your further questions:



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