

### How energy efficiency drives demand for compressed air solutions



Atlas Copco Capital Markets Day, December 1, 2010  
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*Sustainable Productivity*



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### Compressed air is used almost everywhere



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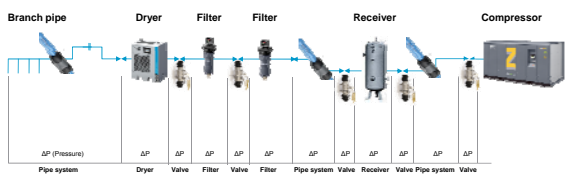
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### Air treatment

- Different solutions are required, based on need
- Pressure drops occur in all steps of the compressed air system



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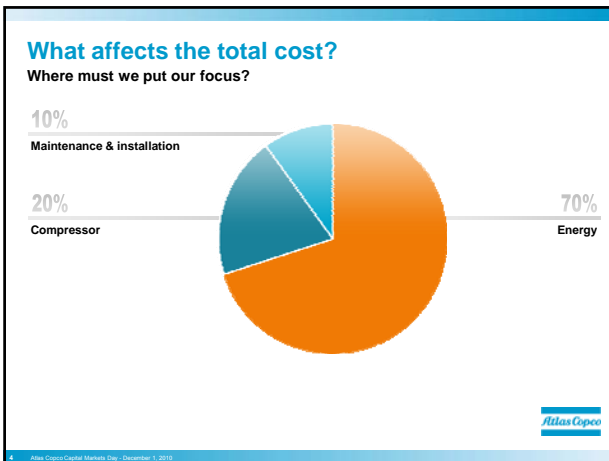
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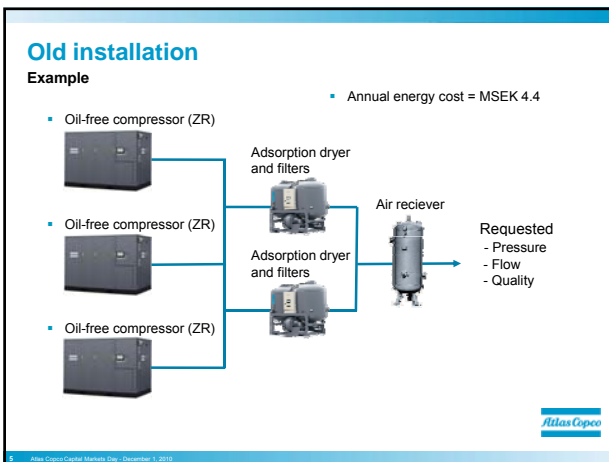
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### How to design a new installation?

Analysis of the current situation – simulations of alternative solutions

| Equipment logging                 | Air Scan  |
|-----------------------------------|---|
| Measurement of Air consumption    | Measurement of Air consumption<br>Flow<br>Power<br>Air leakage<br>Air quality |
| <p>Variation</p> <p>Base load</p> |   |

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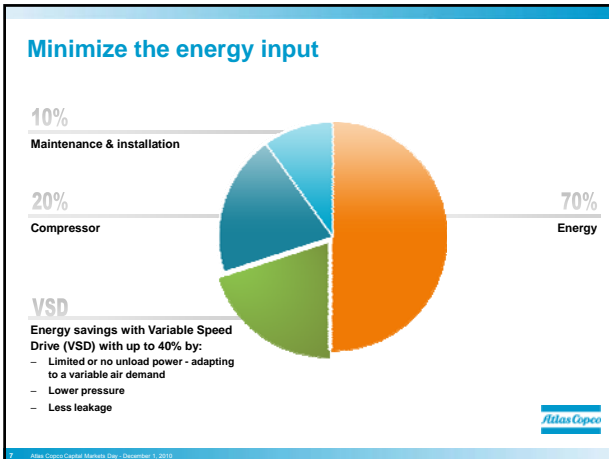
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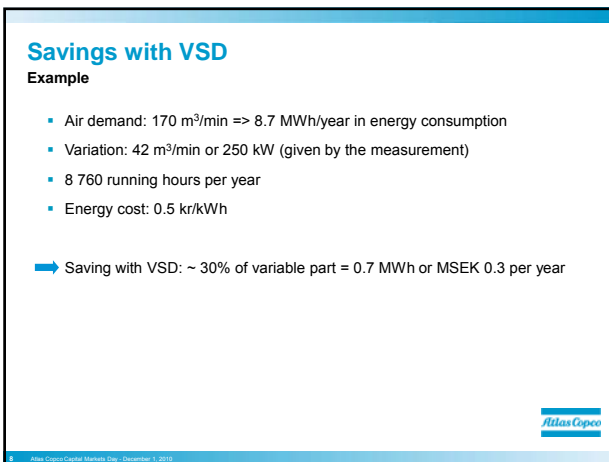
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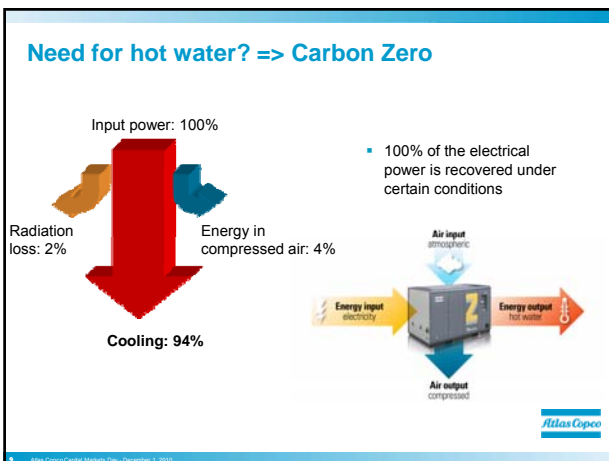
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### Savings with energy recovery

**Example**

- Air demand: 170 m<sup>3</sup>/min => 8 MWh/year with VSD
- Recoverable energy (ZR): 94% (100%) with a temperature up to 95°C
- Energy cost: 0.5 kr/kWh

➔ Possible yearly saving of MSEK 3.8, if there is a need for energy (hot water)



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### Conclusions – how do we minimize energy?

- VSD compressor in the installation
- Smart choice of dryer
- Limit the number of filters
  - Oil-free air => no oil filter
- Energy recovery
  - If there is a need for heat
- Optimize the service
  - Reduces pressure drop => energy
  - Reduces risk for break downs => more up time



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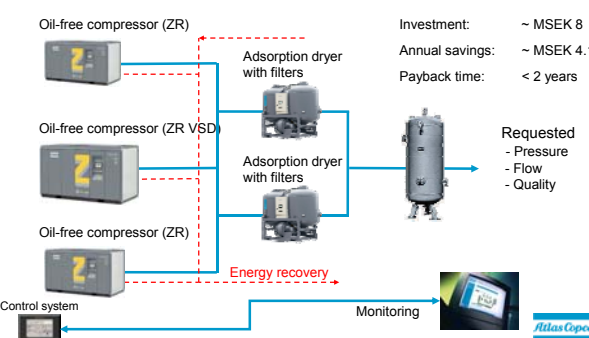
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### The new installation

**Example**




Oil-free compressor (ZR)  
Oil-free compressor (ZR VSD)  
Oil-free compressor (ZR)

Adsorption dryer with filters  
Adsorption dryer with filters

Investment: ~ MSEK 8  
Annual savings: ~ MSEK 4.1  
Payback time: < 2 years

Requested  
- Pressure  
- Flow  
- Quality

Control system  
Monitoring



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**What is important for an industrial producer?**  
**Why choose Atlas Copco?**

- Minimized production losses
  - maximize up time => highest quality possible
- Lowest compressed air cost possible
  - energy efficiency => latest innovations
- World class service
  - highly trained technicians, geographical coverage => back-up when needed
- World class support
  - problem solving when urgent => access to highly trained technical support locally
- A partner that takes responsibility
  - stable supplier => strong financial situation
- One partner
  - total solution provider
- Atlas Copco will remain First in mind – First in choice® in all areas!



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**Committed to sustainable productivity.**



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