

Capital 2008 MarketsDay

18 NOVEMBER, HELSINKI, FINLAND

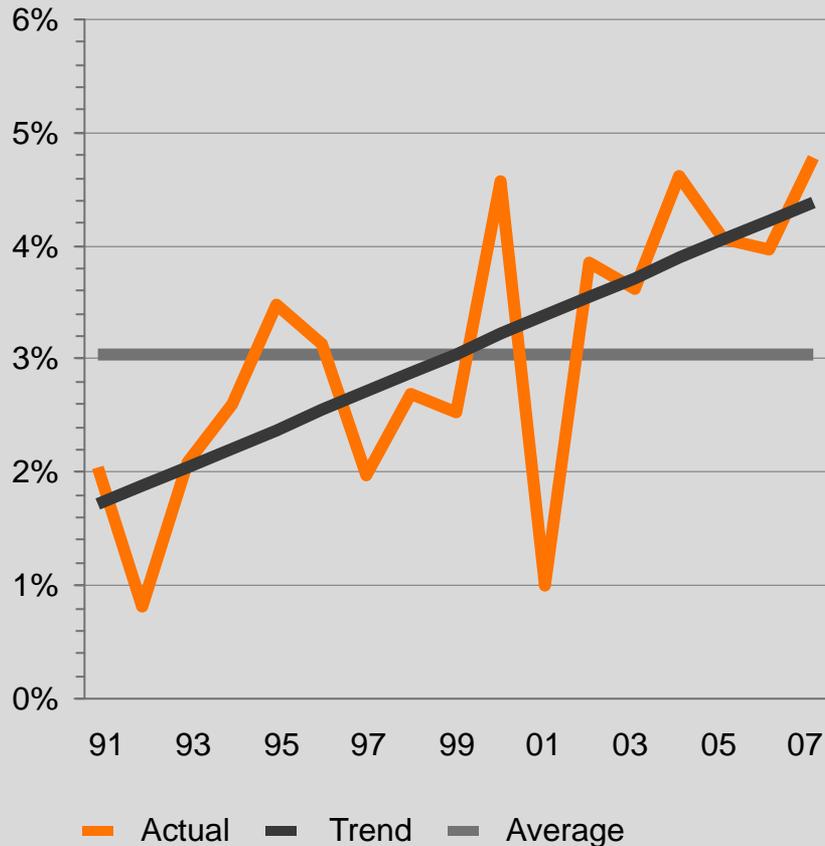
POWER PLANTS UPDATE

CHRISTOPH VITZTHUM, GROUP VICE PRESIDENT

1. Demand drivers
2. Wärtsilä's competitive advantages
3. New market focus and positioning
4. Why is it different this time?



Growth in Electricity Generation in the World



Economic development

- Electricity demand growth and economic growth correlate almost 1:1
- Impacts of a possible recession
 - Industrial sector demand may decrease
 - Domestic consumption will continue to grow unless the recession becomes long
 - Total consumption growth may cease but will hardly become negative
 - Construction of large long-lead time projects (coal, CCGT, nuclear) will slow down

- **Climate change**
 - Emission trading and other schemes target to reduce carbon emissions
 - Difficult to permit and build power plants with high carbon emissions (Coal)
 - Nuclear power and renewables gain ground
 - Wind power boom brings unforeseen grid stability challenges
 - Strong technology and business development on solar and biomass
 - New energy solutions and market positions are necessary for the power plant suppliers
- **Rising electricity prices**
 - Power plant construction costs have increased
 - General fuel price trend is up, coal prices have increased 50 % in 12 months
 - Emission (CO₂) costs are included in electricity price
- **Energy security**
 - Independence from (foreign) oil
 - Access to gas from several sources, LNG
 - Domestic energy supplies, renewables
 - Local / decentralized power

Fuel flexibility

- Ability to use available fuels
- Ability to use low cost fuels
- Ability to convert from one fuel to another
- Backup fuel capability

Operational flexibility

- Dynamic features
- Continuous base load

Delivery flexibility

- Scope of supply
- Competitive delivery times

High electrical efficiency

- Sustainable power generation and high fuel prices demand and favor high generation efficiency

Competitive capital cost

- Standardized solutions
- Modularity
- Professional delivery

Emission compliance

- Compliance with all norms, incl. California

Reliability & Availability

- Proven products
- O&M services

Local service

- Global service network close to most customers
- 24/7 service

Global EPC

- Wärtsilä is the only power plant contractor delivering EPC in the whole developing world
- Main enablers
 - Modular pre-fabricated power plant product. Minimized site work
 - 25 year experience from developing countries

High Business Entry Barrier

- Prime mover development, 3-5 year R&D
- Modular, standardized power plant products
- Global sales and service network
- Global experience in project management
- 40,000 MW reference base





”We provide superior value to our customers with our distributed, flexible, efficient and environmentally advanced energy solutions, which enable a global transition to a more sustainable and modern energy infrastructure.”

- We take an active role in improving the world through active market development
- We focus on products and services, businesses and projects that provide unquestionable environmental benefits, and make economical sense
- We position ourselves as the active ENABLER of
 - Renewables (Wind, Solar, Hydro) and
 - Other sustainable and modern energy solutions, including
 - Distributed power
 - Nuclear power safety
 - Grid stability
 - Energy security



Wärtsilä's has 4 "legs" with different customers and industry cycles

1. OIL power plants
2. GAS power plants
3. Renewable power plants
4. OIL & GAS industry applications



1. HFO power plants

- 2 separate markets:
 - Islands and remote areas:
Market steady due to non availability of other practical fuel options
 - Large grids: Market demand depends more on oil price as the projects often compete with other fuel and power generation options
- Wärtsilä's market share developed favorably to 49 %
- Competition: MAN

LFO power plants

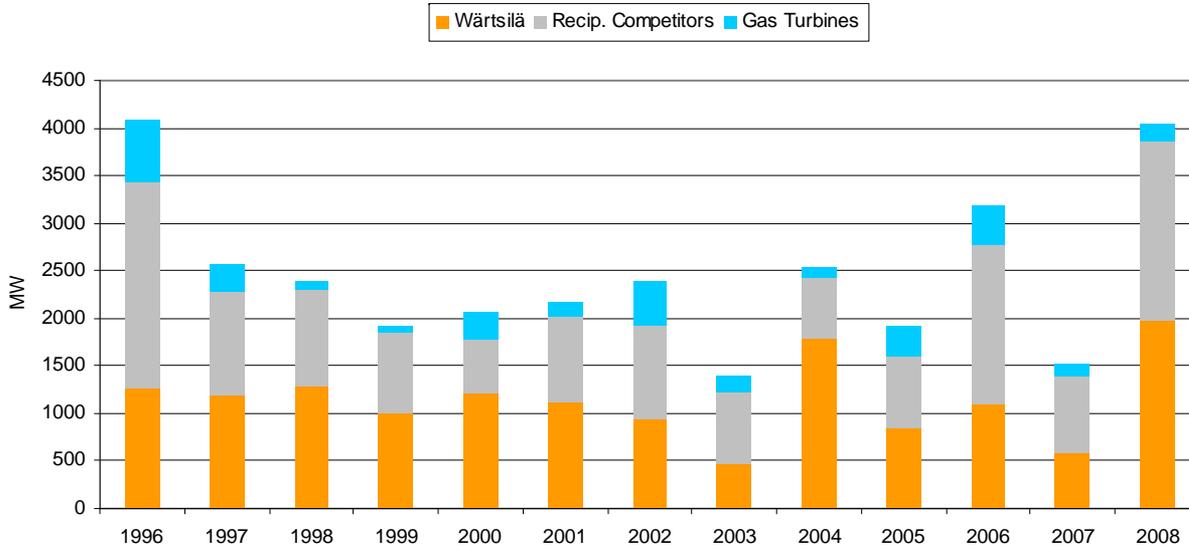
- Demand steady despite high oil prices. Mainly stand-by applications
- Reserve capacity constraints in Europe open a new market segment

LBF power plants

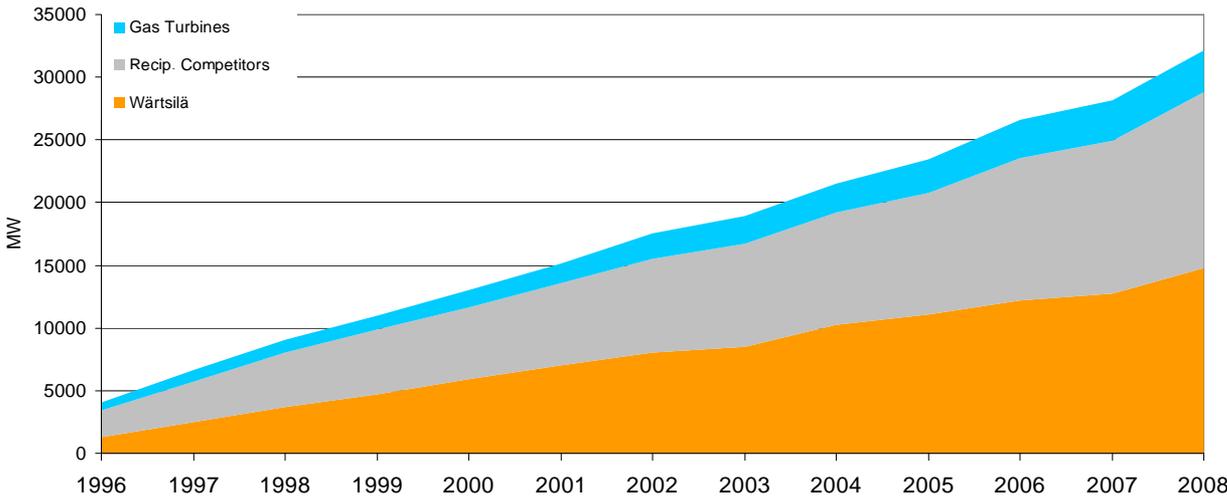
- Prices for existing LBF have increased and slowed down the demand
- New fuels are being developed

HFO Power Plants / 1-60 MW Engines

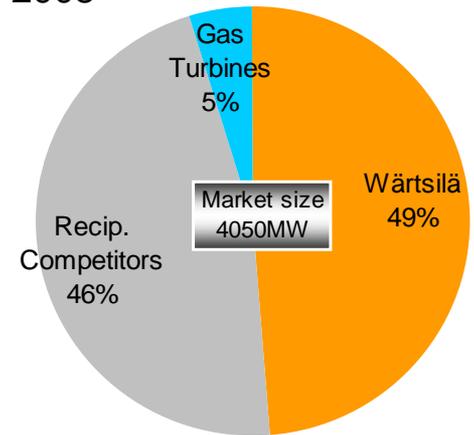
HFO Power plant market (incl. crude)



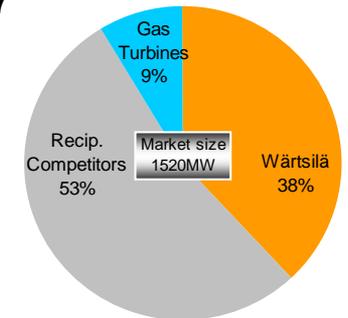
Cumulative power plant market since 1996



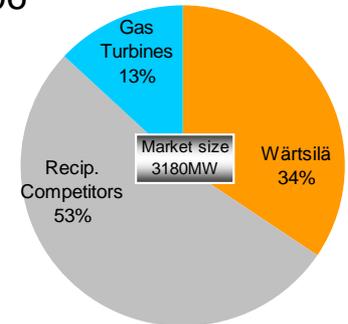
2008



2007



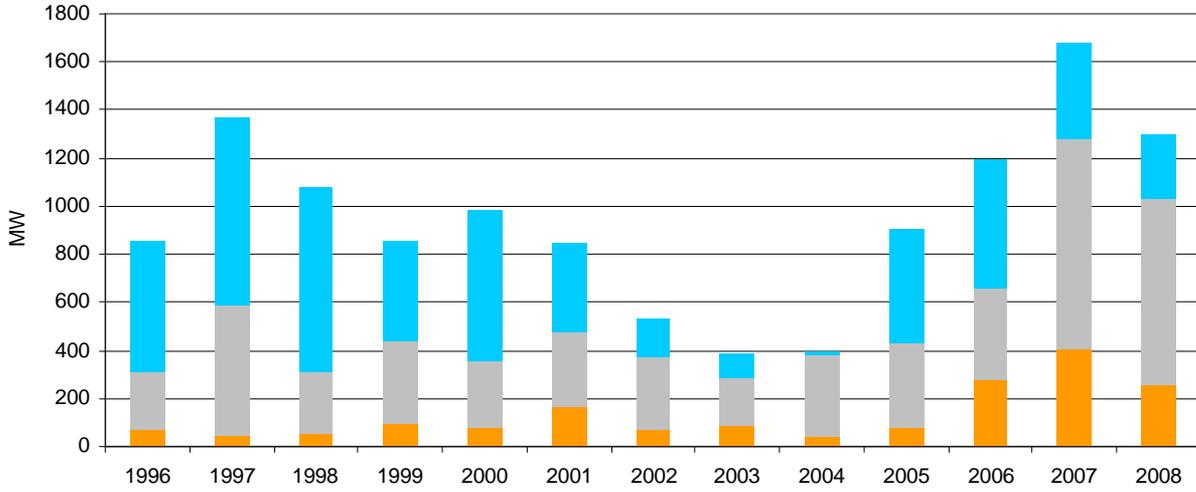
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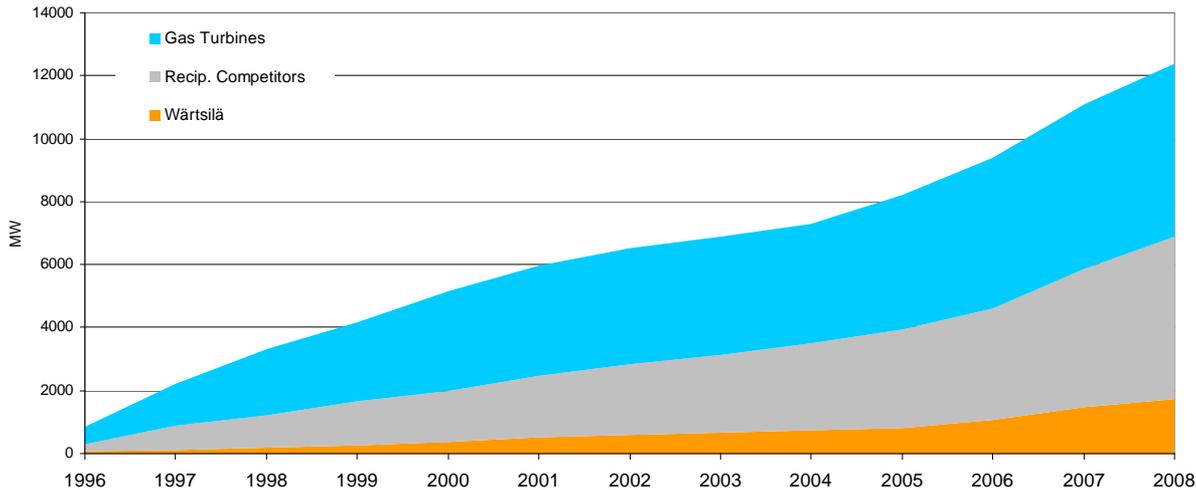
LFO & LBF Power Plants / 3.5-60 MW Engines

LFO Power plant market (including bio-oils)

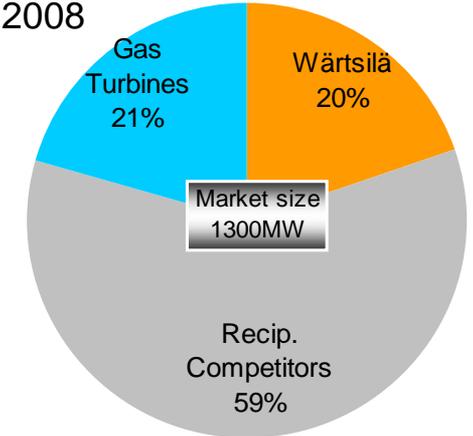
■ Wärtsilä ■ Recip. Competitors ■ Gas Turbines



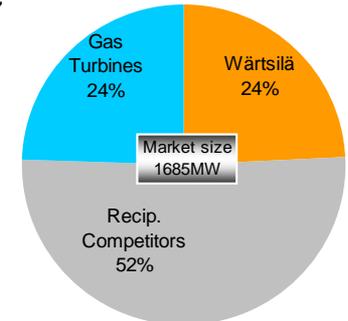
Cumulative power plant market since 1996



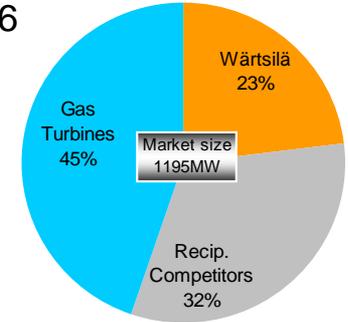
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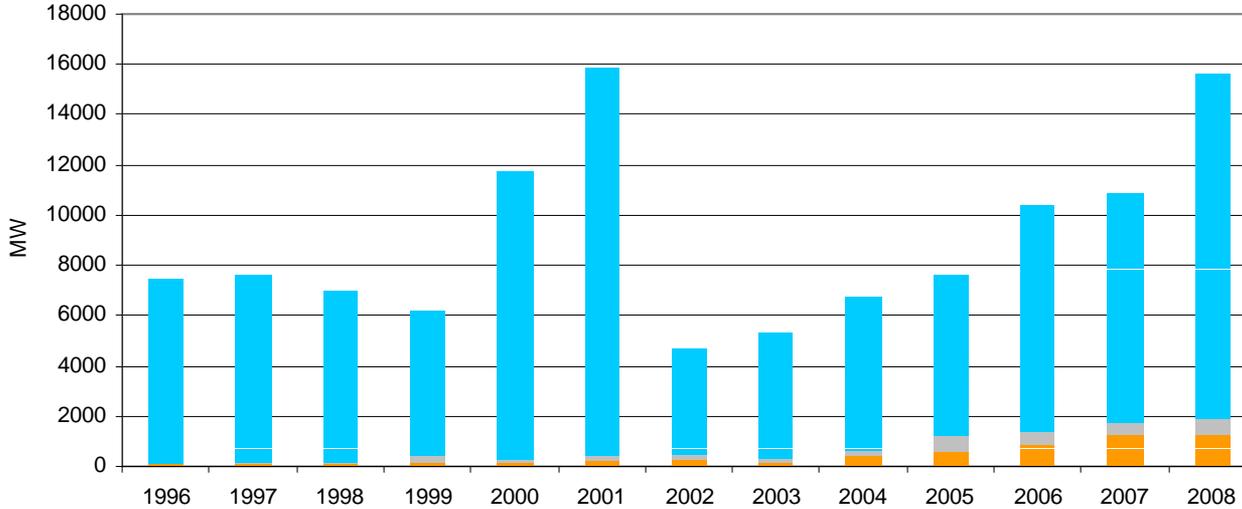
2. GAS power plants

- 2 separate markets
 - Developing world:
 - Strong gas infrastructure construction expands the markets to gas power plants and gas conversions.
 - Distributed power model due to lack of grid capacity
 - Wärtsilä position very strong
 - Competition: GE-Jenbacher, CAT, gas turbines
 - Industrialized world
 - Traditionally industrial CHP and large CCGT's
- Wind power growth opens up a new market for dynamic resources
 - Reciprocating engines are the best technology option
 - Wärtsilä position: Strong Contender
 - Competition: Aeroderivate gas turbines
- Resistance against new coal based power opens doors for
 - Nuclear power
 - Decentralization of peaking & reserve capacity with small gas power plants

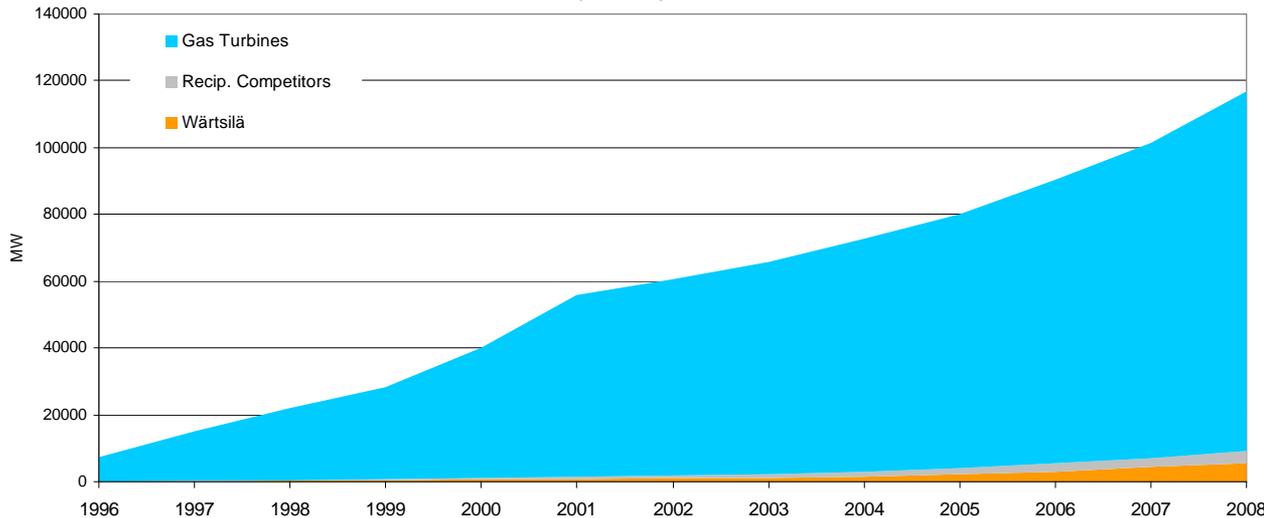
GAS Power Plants / 3.5-60 MW Engines

GAS Power plant market (incl. Dual)

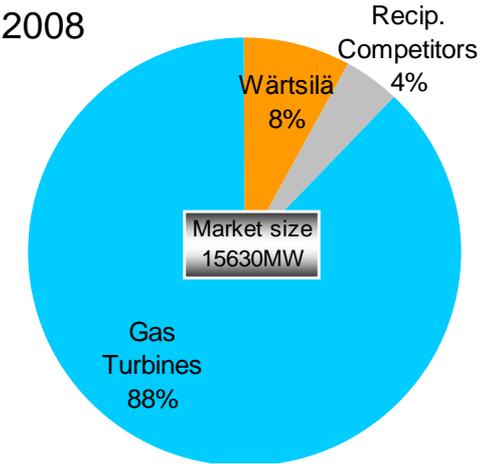
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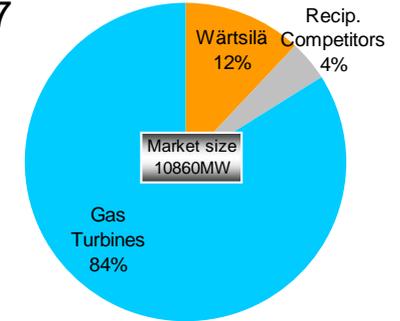
Cumulative power plant market since 1996



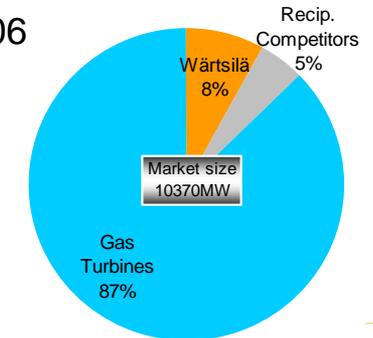
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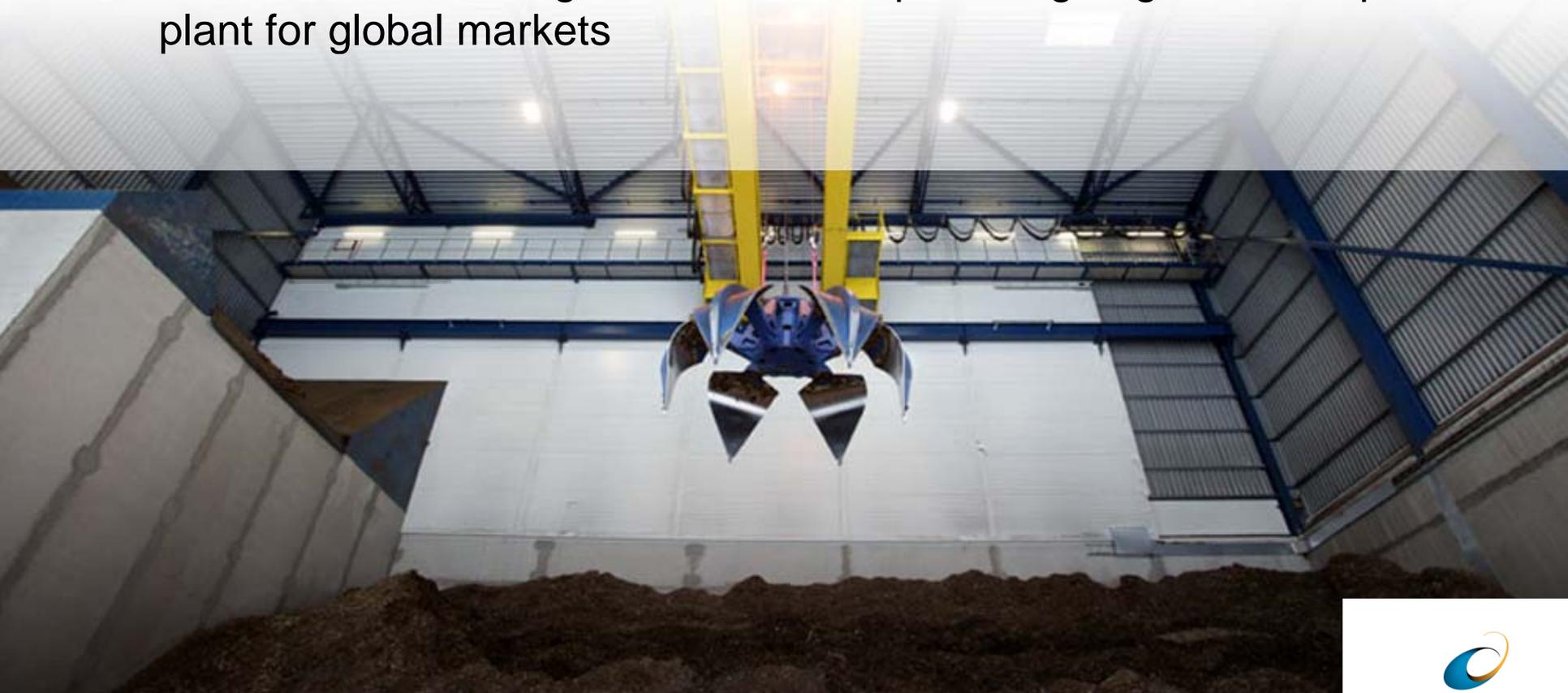


2006



3. Renewable power plants

- BioPower serves the market within Europe and other subsidized regions
- R&D for small scale gasification & reciprocating engine based power plant for global markets

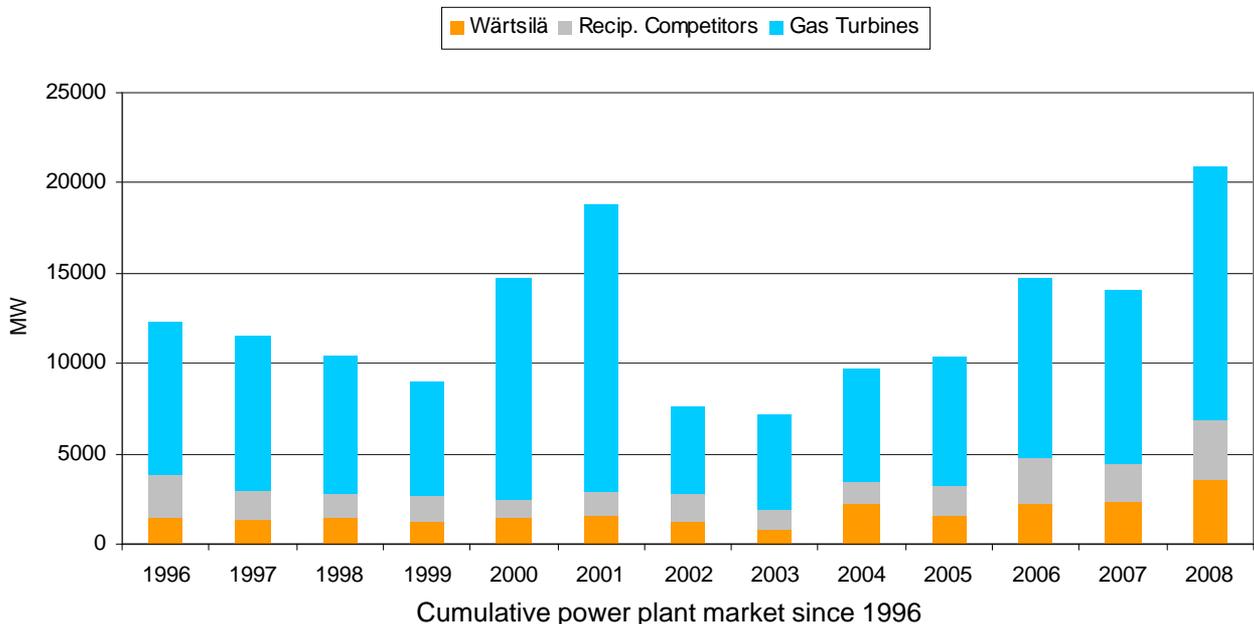


4. OIL & GAS industry applications

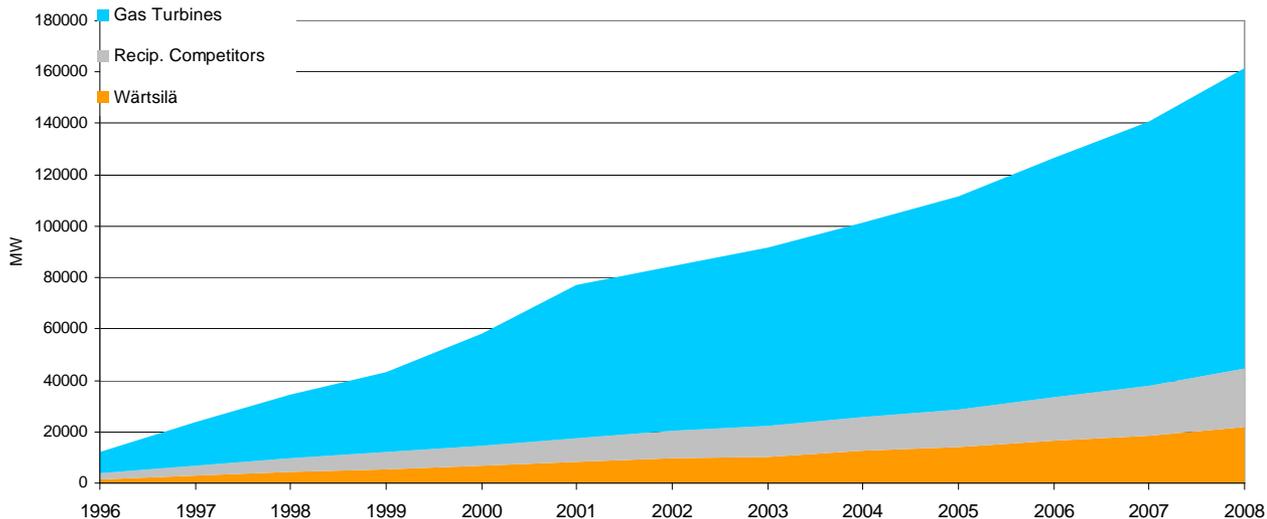
- Industry cycle different from electricity business
- High investments on exploration and transportation infra
- Wärtsilä a niche player in
 - Gas compression in selected markets
 - Field power applications in South America, Africa, Russia
 - Selected pumping applications world wide
- Expansion opportunities
 - Product capable to combust crude oil and flare gases directly without on-site fuel treatment
 - High efficiency engines with reciprocating compressor enable major savings in pipeline gas compression compared to traditional gas turbine & centrifugal compressor. W20V34 makes a totally new product size (12000 hp) available for this business

All fuels, Power Plants / Engines

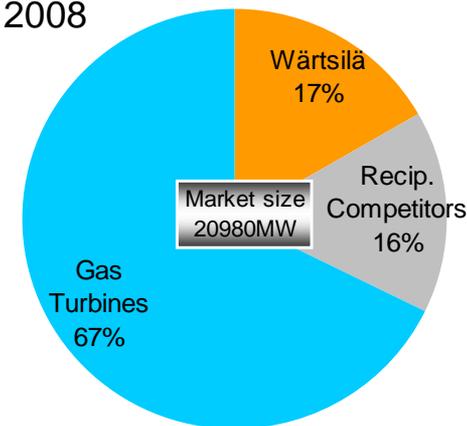
All fuels, Power plant market (HFO 1-60MW, LFO 3.5-60MW, GAS 3.5-60MW)



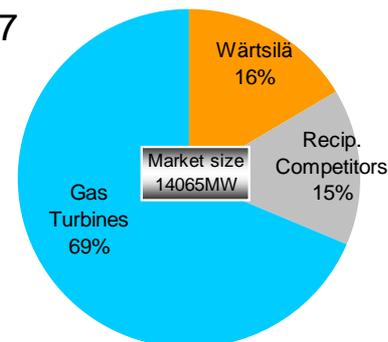
Cumulative power plant market since 1996



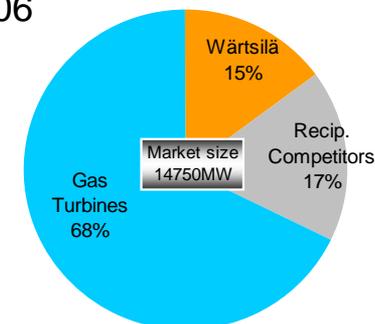
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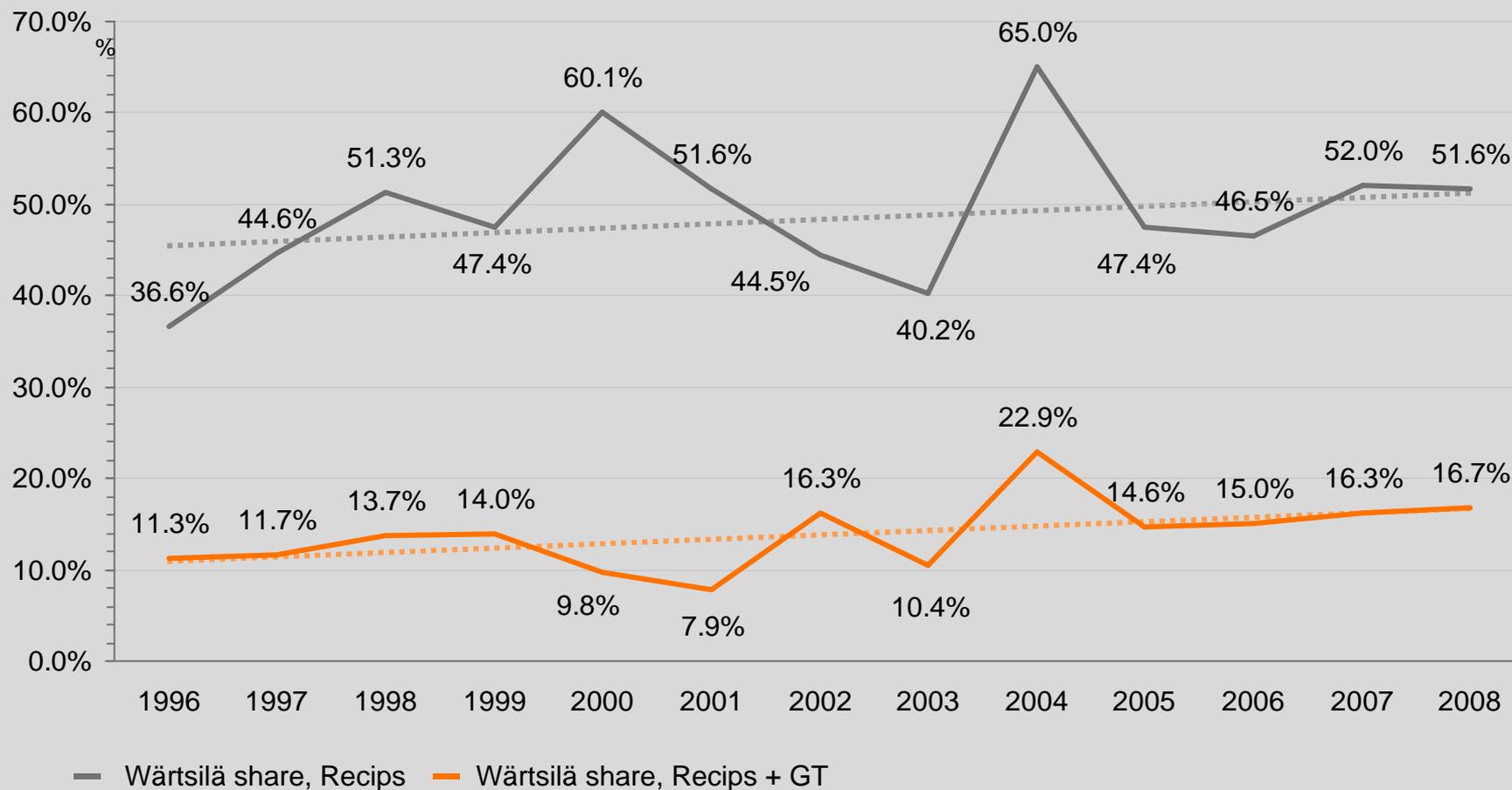
2007



2006



Market share changes, linear average



Wärtsilä's has 4 "Legs" with different customers and industry cycles

OIL
Power Plants

GAS
Power Plants

Renewable
Power Plants

OIL & GAS
Industry
Applications

- Opportunistic → Focused → New focus areas
- Standardized modular products enable customization
- Total accessible markets are growing due to
 - Coal projects are cancelled due to CO₂ concerns – replacement by gas, wind and nuclear
 - Mind set change in large (western) utilities
 - Load divided to segments served with different technologies
 - Grid capacity optimization → Locate peaking units inside the load pockets
 - Wind firming requires a new type of dynamic generation segment in the portfolio
 - Access to gas in developing countries due to gas infrastructure development



WÄRTSILÄ