

POWER PLANTS

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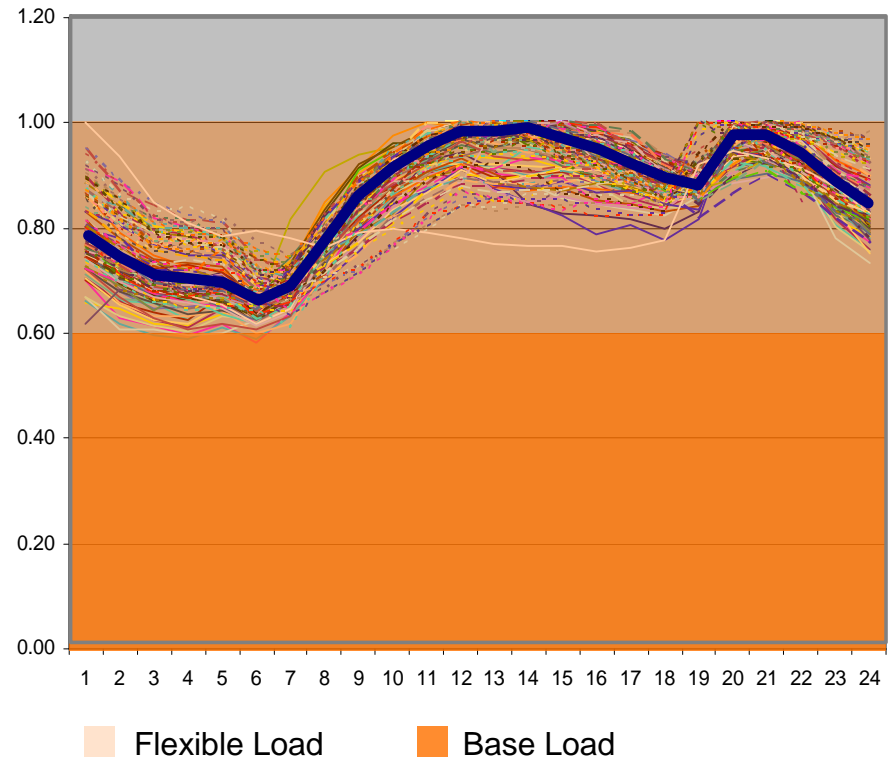
- Energy market review
 - Fundamentals
 - Impact of recession
 - Changes

- Market situation
 - Customers
 - Offering activity
 - Competition

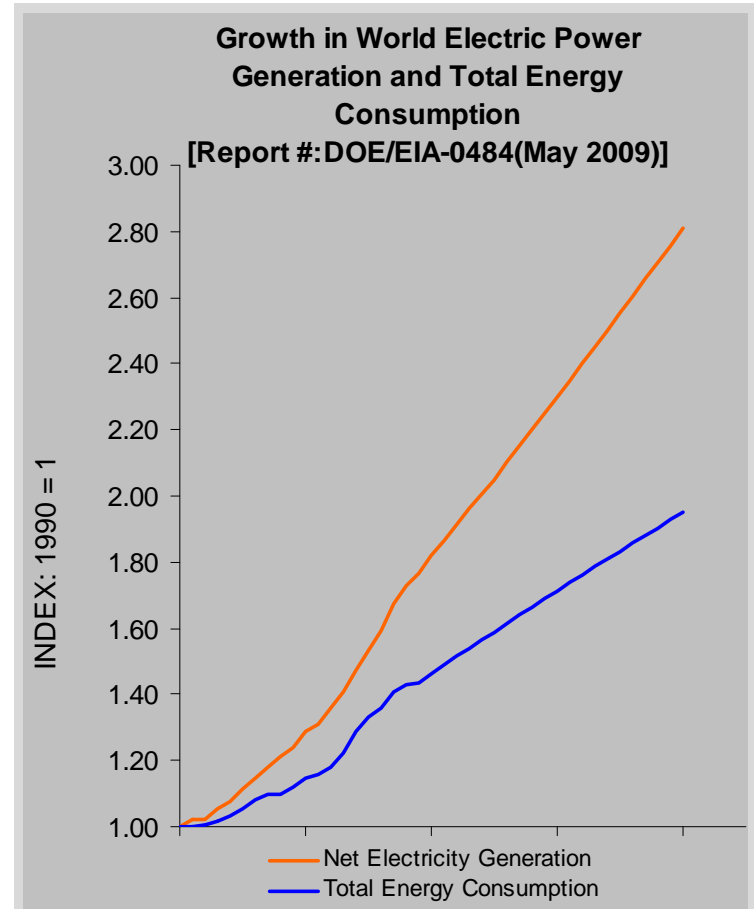
- PP strategy going forward
 - Main markets

- Wärtsilä Strengths

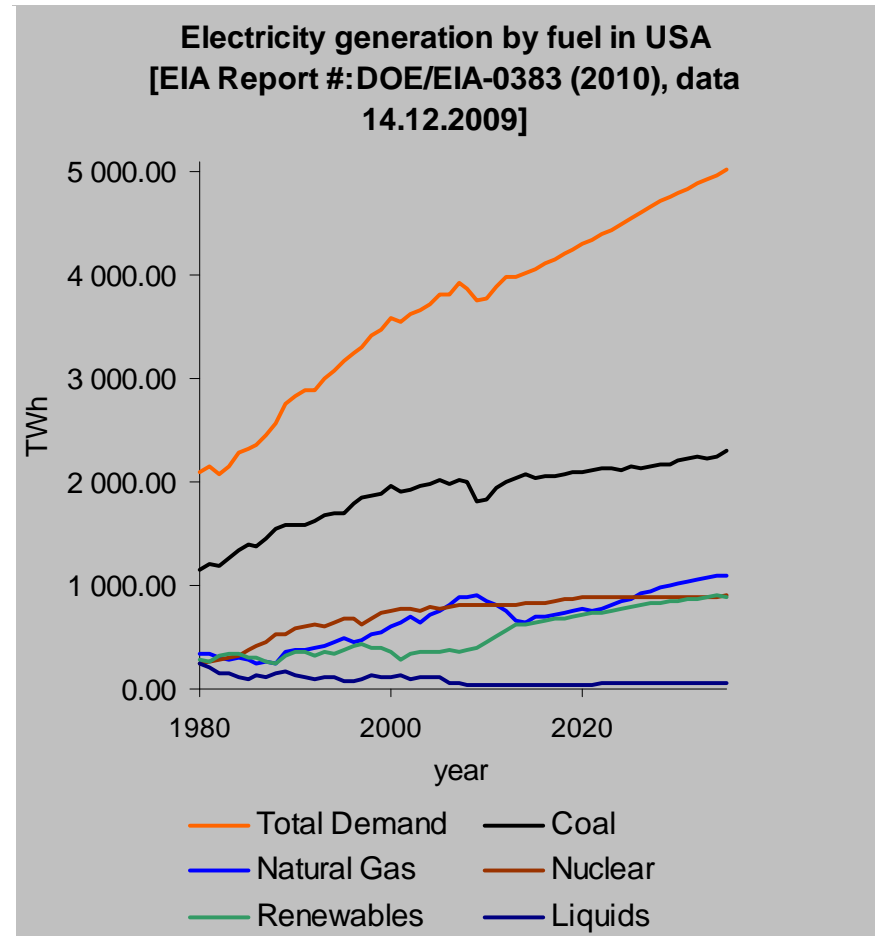
Daily Load Profile
May-September 2009



- Overall energy consumption is expected to continue to increase
- Electricity demand is projected to grow faster than primary energy demand
 - Industrialisation in emerging countries
 - More consumers have access to electricity
 - Electric vehicles - better overall efficiency, saves primary energy
 - Heat pumps - better overall efficiency, saves primary energy



- Overall electricity consumption reduced 4.6% from 2007 peak to 2009 low
- Expectation for 2010 is 1% growth
- Biggest loser was COAL generation, typical BASELOAD generation which is associated with industrial output
- Small impact on GAS generation
- In mid term GAS generation role will change towards supporting the growth of WIND generation, and due to control issues, new regulating capacity needs to be built (Grid stability and peaking)
- Domestic SHALE GAS is expected to increase GAS generation in longer term

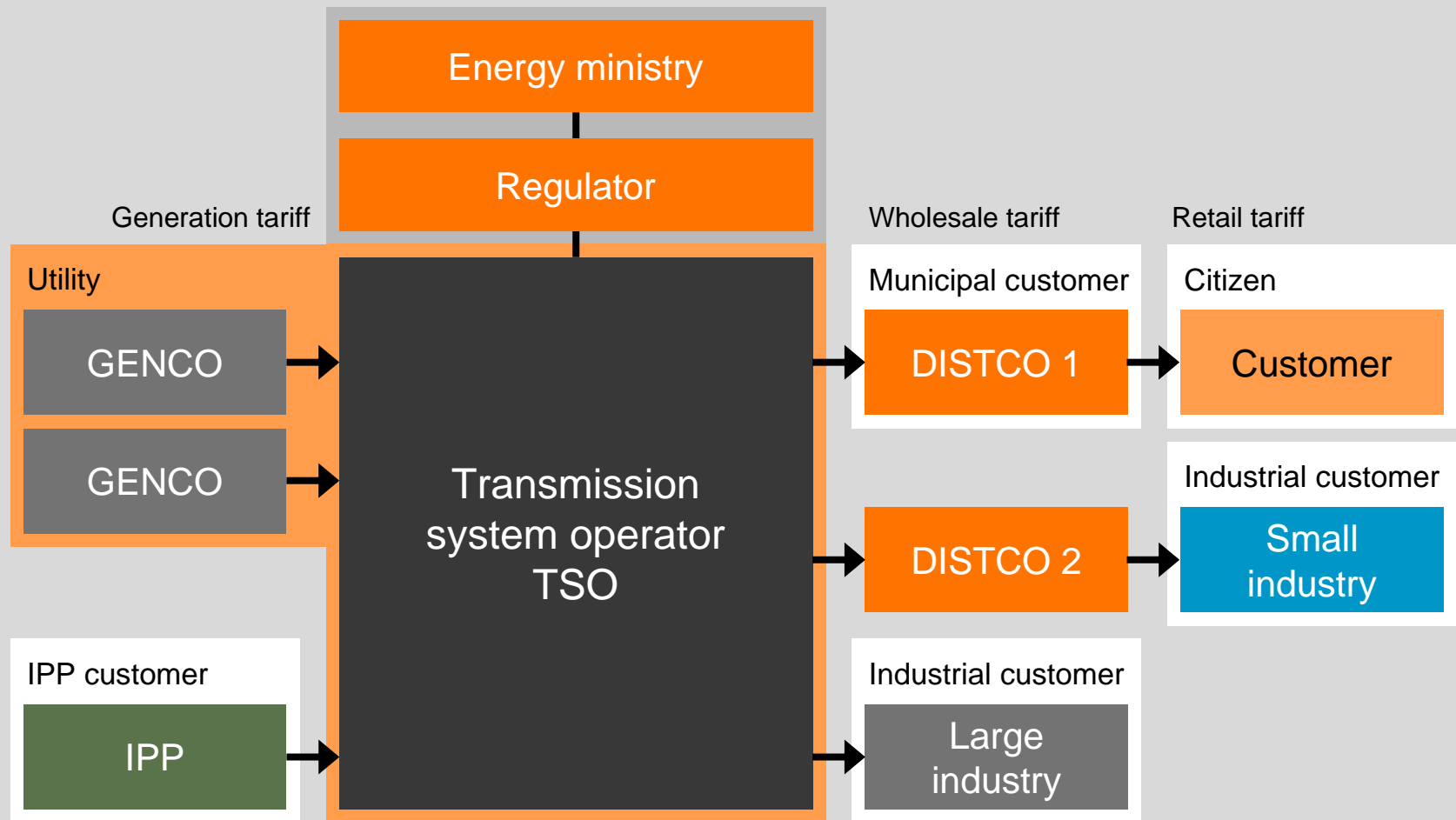


- Energy business deregulation & privatisation
 - Decentralisation
 - Transparency in electricity generation and transmission prices
 - The varying tariff models emerge to replace averaged tariffs
 - The Real Cost of Power - True value of energy and capacity becomes visible
 - Grid stability market gains ground
 - IPP's revenue models change
 - Capacity vs. Energy – roles of different power generation solutions
 - Baseload – lowest cost of kWh
 - Intermediate – flexible power
 - Peaking – lowest Capex



- Drive towards CO₂ neutral power generation
 - Renewables, wind power, bio fuels, hydro
 - Nuclear renaissance
 - Emission trading, CO₂ costs – a major new cost variable for generating companies
- Generally rising energy prices
 - Primary Fuels & Electricity
 - OpEx becomes more important than Capex
 - Higher energy prices favor high efficiency generation





- **Utilities**
 - Western utilities have seen a reduction in power demand, which initially resulted in slowdown for developing new generation
 - Political pressure is high to develop more wind and biofuel applications– continuing dialogue with western utilities for regulating power and LBF plants
 - Utilities in emerging countries continue to pursue power generation projects due to power deficit – at varying pace in different geographic areas
- **Industrial customers**
 - Industrial segments such as cement, mining and textile were impacted by recession – recovery expected in larger scale only when the economic growth recovers at large



IPP's

- Lack of available financing 2009 slowed down the progress of IPP projects
- Financing is slowly beginning to become available, but the current market situation enables IPP developers to enhance IRR for projects by optimizing fuel supply agreements, EPC agreements and Power Purchase agreements to offset the higher cost of financing – tendency to take more time to close projects

Oil & Gas customers

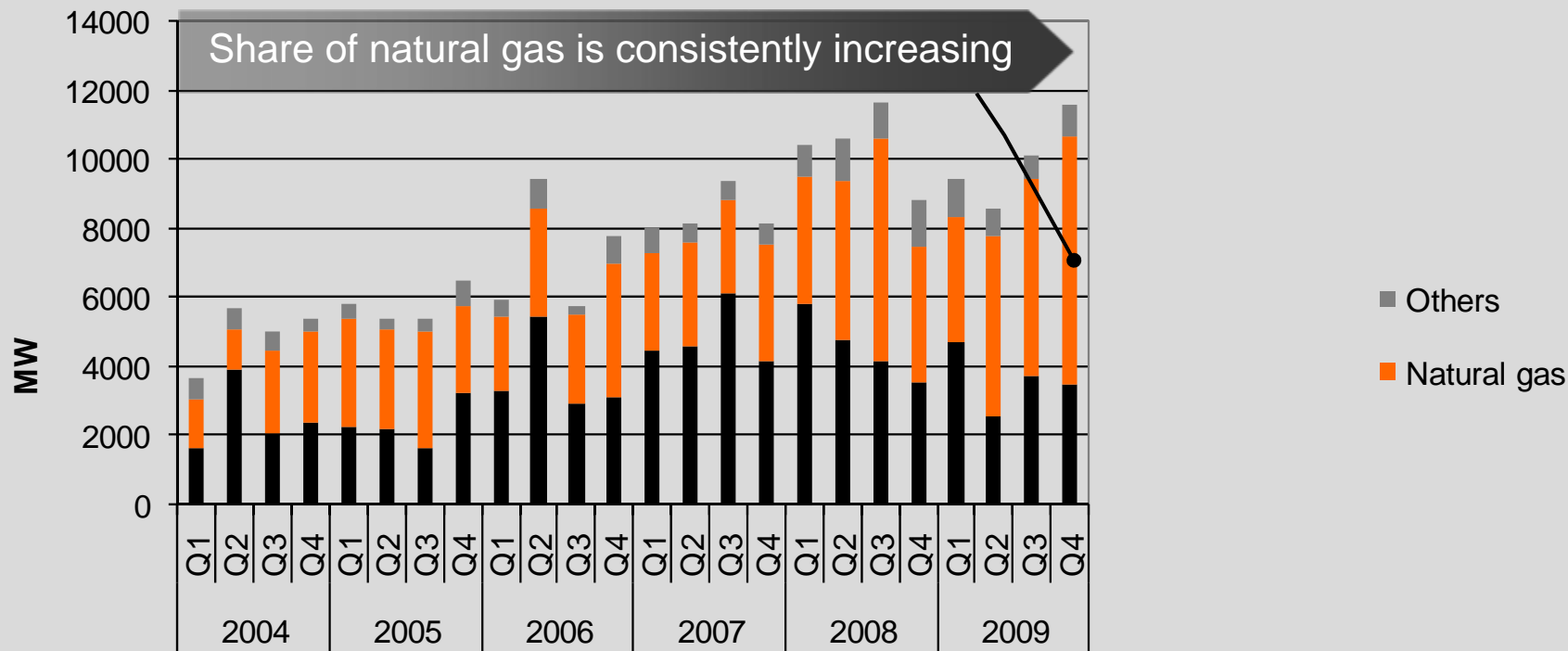
- Oil field development is mainly focused on Offshore fields
- New gas pipeline development activity is high (Nordstream, Southstream, Nabucco, Gas shale in USA, gas development in India etc.)

Nuclear customers

- The number of nuclear power generation projects is increasing rapidly



Quoted MW per Fuel Type



- General comments
 - Pricing pressure exists, but so far competition has been healthy and clear price dumping has not occurred
 - The potential use of excess marine engines in power markets has not surfaced in significant volumes
- Competitor landscape
 - HFO: MAN, MaK (Caterpillar)
 - GAS: GAS TURBINES (GE, Rolls-Royce, Alstom etc)
 - GAS: MAN, Rolls-Royce, Kawasaki
 - Oil&Gas: Solar (Caterpillar), MAN, GE
 - Nuclear: S.E.M.T. Pielstick (MAN), MTU

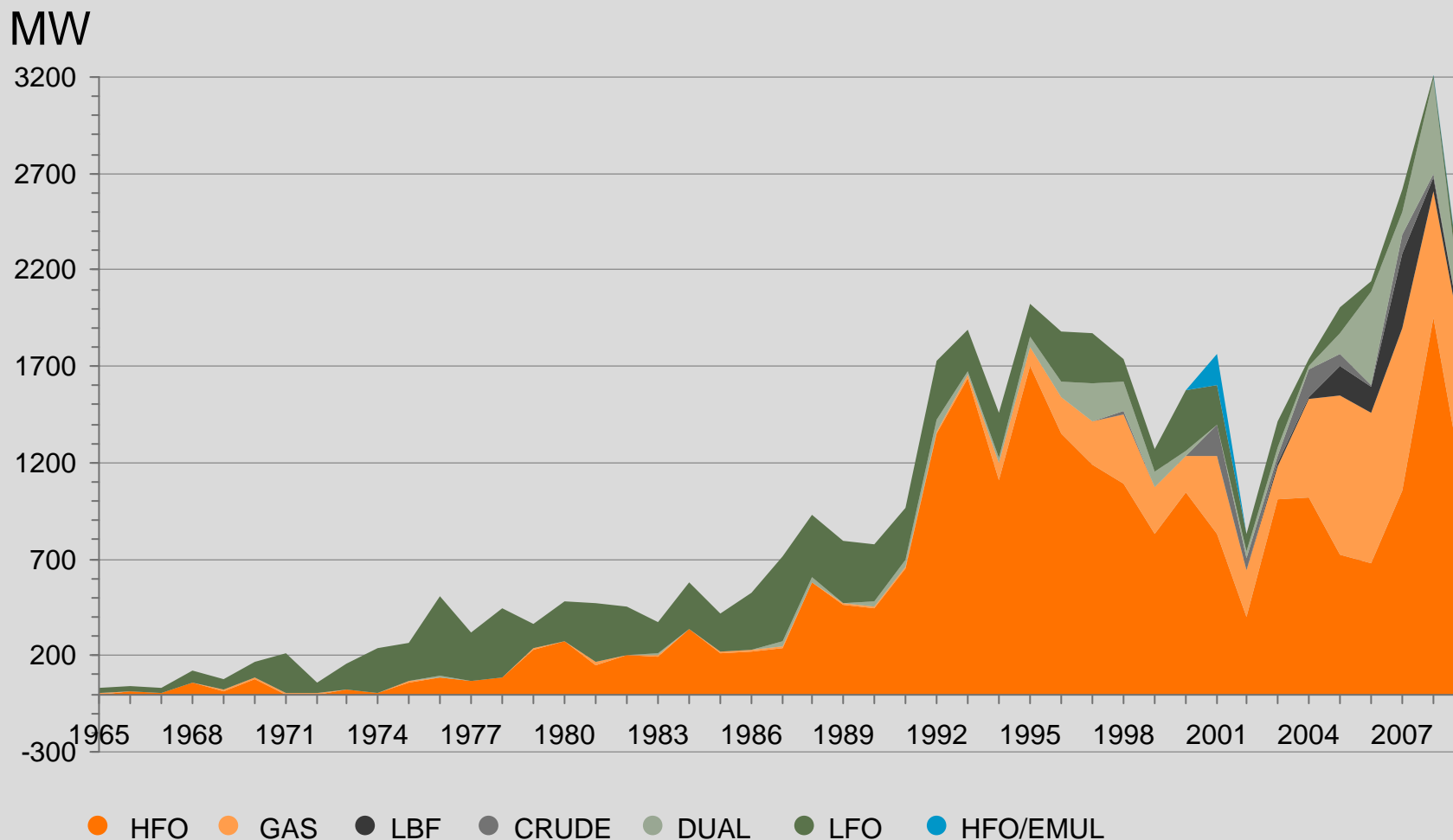


Standing on "4" legs

- Maintain our leading position in HFO power plants by enhancing our value proposition
- Grow strongly in large gas power plants by taking market share from gas turbines and gas combi-cycles
- Grow in power plants based on renewables by enabling a wide fuel range
- Grow in oil and gas and emergency power applications by introducing our value proposition to the industry globally



Power Plants fuel history, since 1965 (OI-MW)



- **HFO market size has been 2 – 4 GW/ year**
 - HFO market is driven by the fact that liquid infrastructure is the most convenient and in some cases the only way of developing energy infrastructure: islands, remote areas, no need for pipeline infrastructure, fuel is available widely on the market
 - HFO is an ecologically sound alternative, despite its reputation
 - Almost 45% electrical efficiency in distributed power generation far exceeds the average generation efficiency of for example Europe (~38%)
 - The stringent WB guidelines require local emissions management in a sustainable way



- **Wärtsilä advantages**

- Wärtsilä is the leading supplier of HFO power plants
- Wärtsilä is the only supplier with global EPC capability experience
- Wärtsilä has the best knowledge of the varying HFO qualities available on the market, which gives us a pole position
- Wärtsilä fuel flexibility offers a unique platform for HFO plants, which can be converted to natural gas when it becomes available



Market size

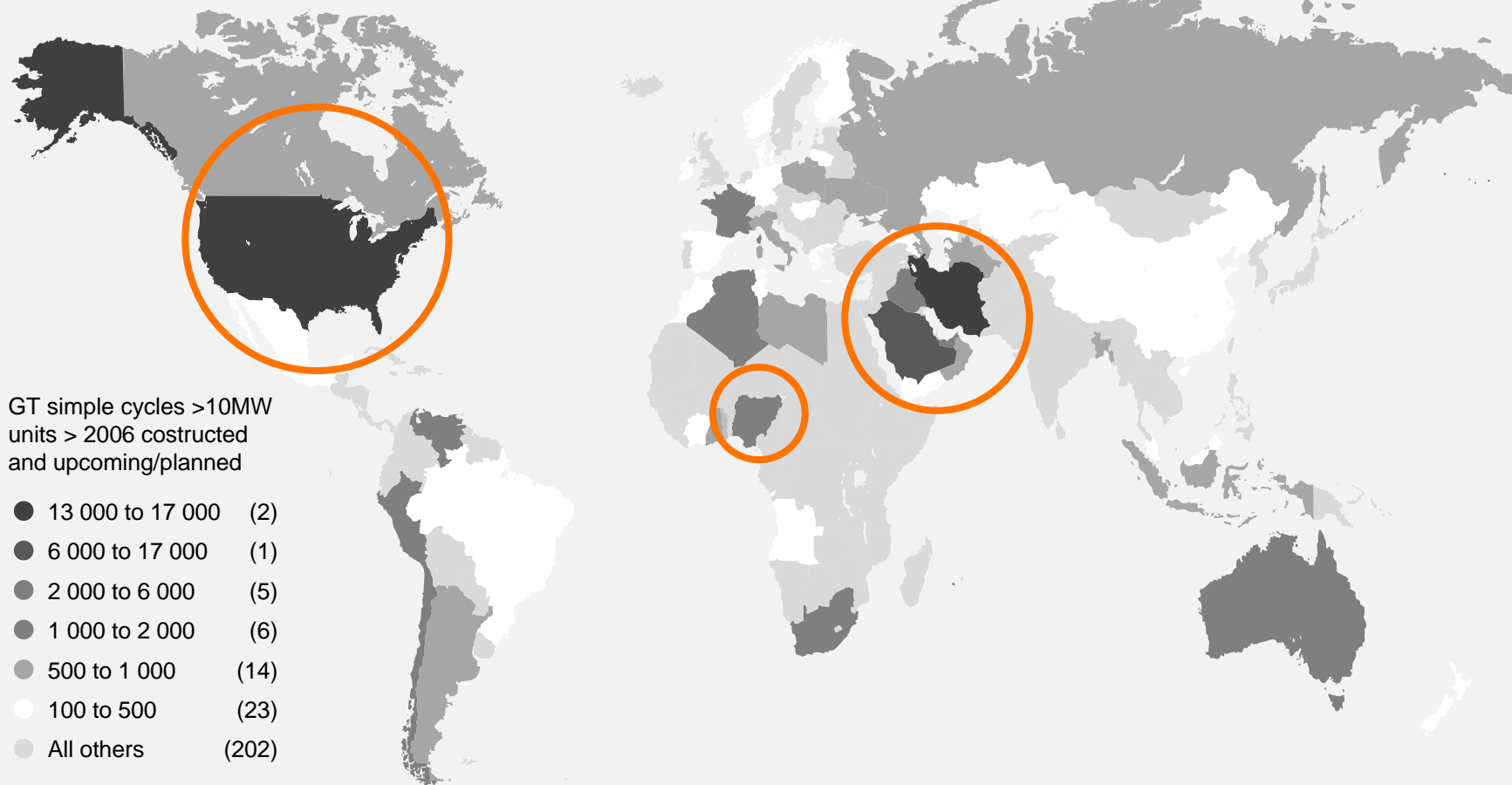
- Total market for GAS generation is 60 – 80 GW/year – the market is there
- Typical applications today are simple cycle GT's for peaking and combined cycle GT's for baseload operation
- Markets are developing towards intermediate power generation, managing capacity and load for the varying daily load cycles and new energy sources

We challenge the convention with our technology

- Highest simple cycle efficiency on the market
- The best fit for current market need for – the intermediate load
 - Operational flexibility and high efficiency meet in one package
- Proven track record for plants up to 300MW
- Modular power plant concept that offers cost efficiency, fast project execution and reliability

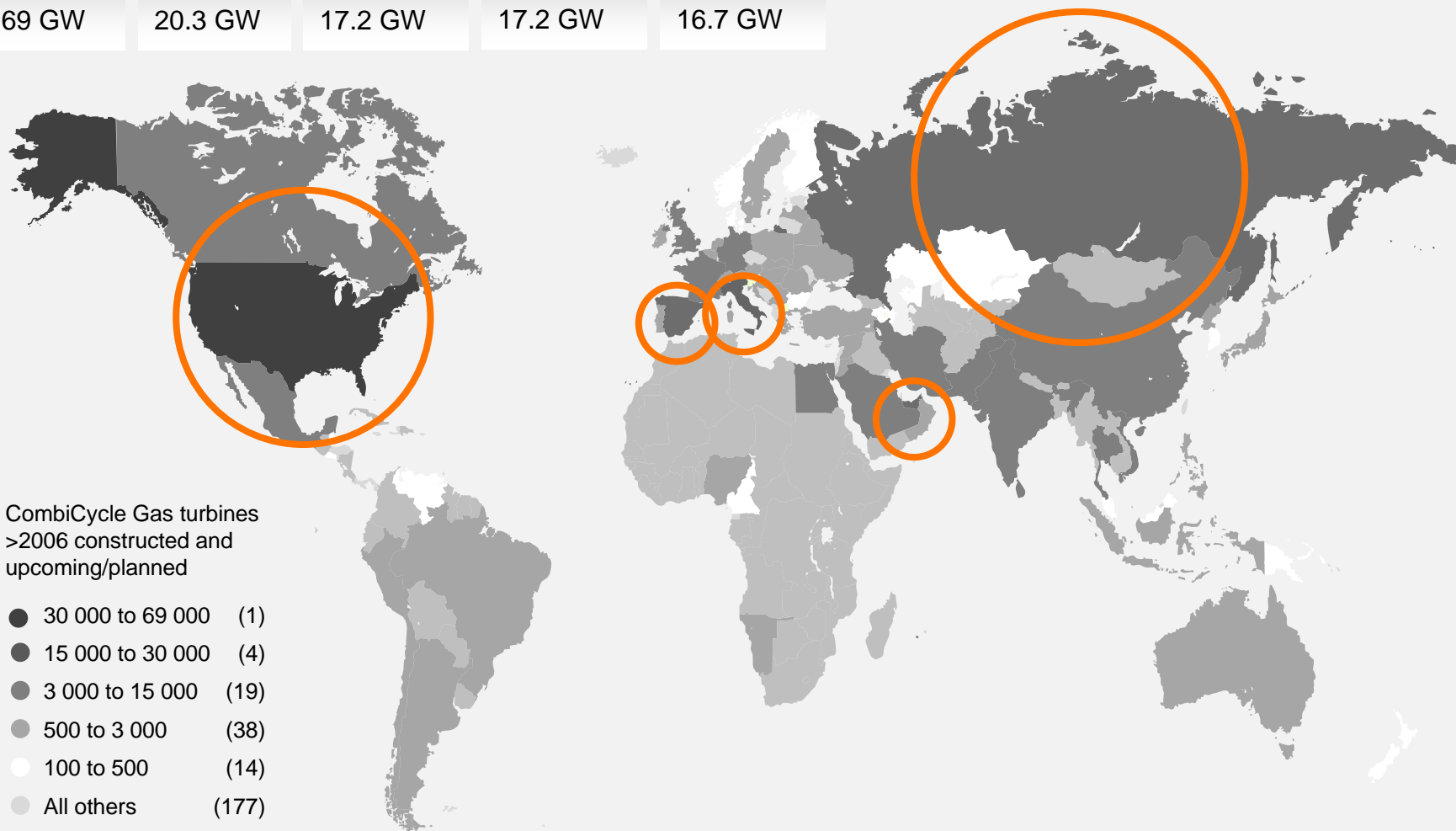
Simple cycle GT market 2006-2008 (cumulative)

| | | | | |
|-------------------------|---------------------------|----------------------------------|--------------------------|-----------------------------|
| 1. USA 17.0GW | 2. IRAN 16.1 GW | 3. SAUDI ARABIA 6.7 GW | 4. IRAQ 5.7 GW | 5. NIGERIA 4.3 GW |
|-------------------------|---------------------------|----------------------------------|--------------------------|-----------------------------|



CCGT market 2006-2008 (cumulative)

| | | | | |
|------------------------|----------------------------|-----------------------------|--------------------------|----------------------------|
| 1. USA 69 GW | 2. SPAIN 20.3 GW | 3. RUSSIA 17.2 GW | 4. UAE 17.2 GW | 5. ITALY 16.7 GW |
|------------------------|----------------------------|-----------------------------|--------------------------|----------------------------|



CombiCycle Gas turbines
>2006 constructed and
upcoming/planned

- 30 000 to 69 000 (1)
- 15 000 to 30 000 (4)
- 3 000 to 15 000 (19)
- 500 to 3 000 (38)
- 100 to 500 (14)
- All others (177)



Microsoft Excel
Worksheet

Support table
Fuels included

Liquid biofuels – potential growth market

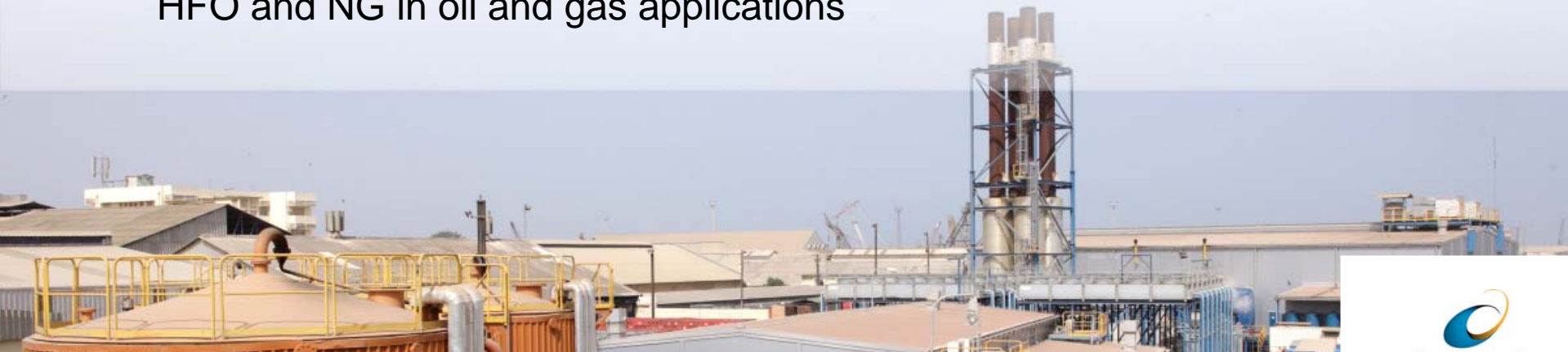
- Today liquid biofuels are not commodities, except for palm oil
- There is strong development towards new sources such as jatropha, various food industry process sidestreams etc.
- Wärtsilä has more than 800MW of LBF plants – the only supplier with substantial plant reference list

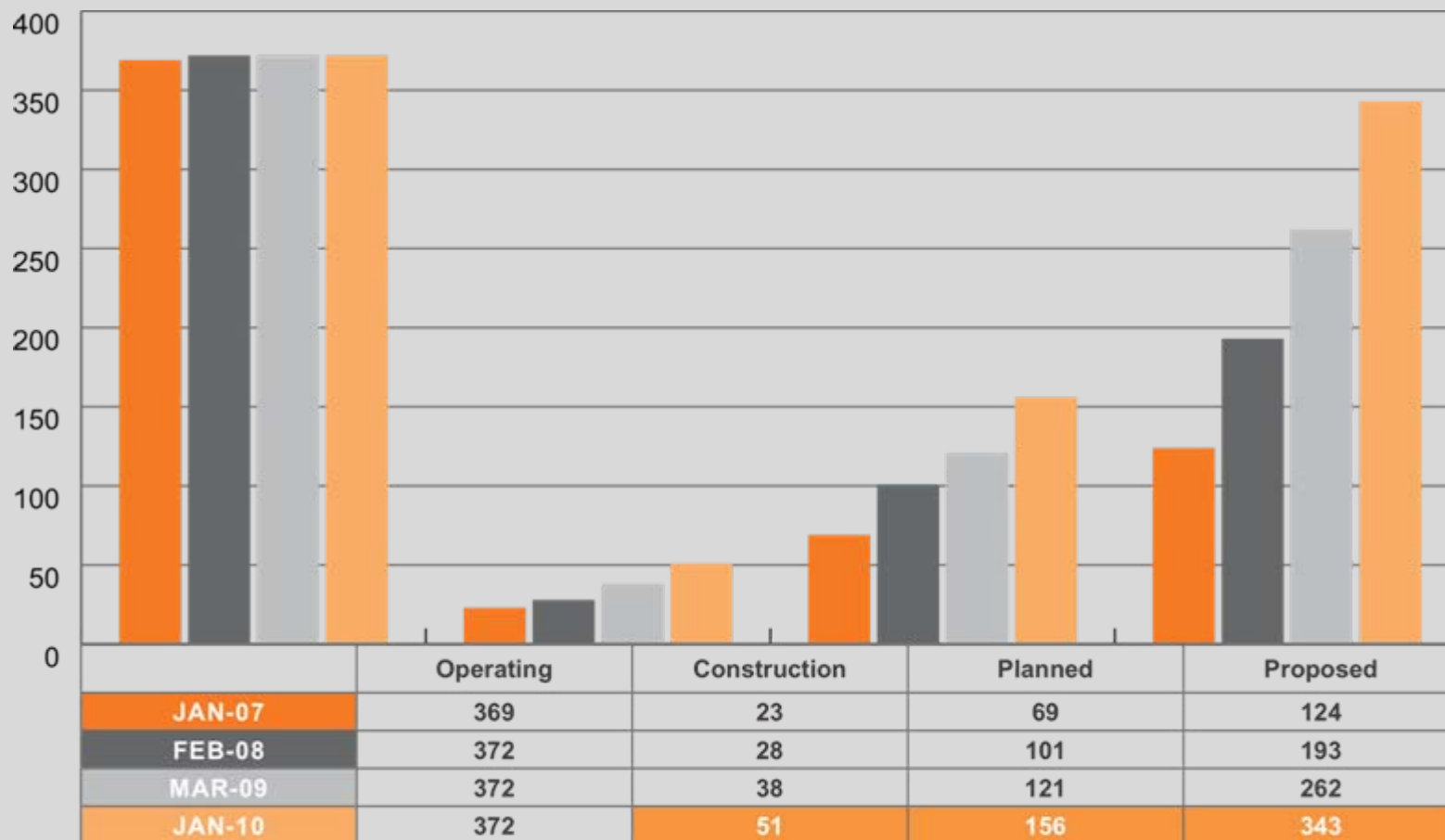
Nuclear

- Wärtsilä offers a portfolio of generating sets for nuclear applications
- New nuclear power plants are bigger than in the past, and the plants need bigger emergency sets – medium speed engines have the advantage

Oil & Gas

- Wärtsilä offers a comprehensive portfolio of solutions for field power, pumping and compression applications
- Wärtsilä fuel flexibility enables the use of Crude oil, flaring gases as well as HFO and NG in oil and gas applications





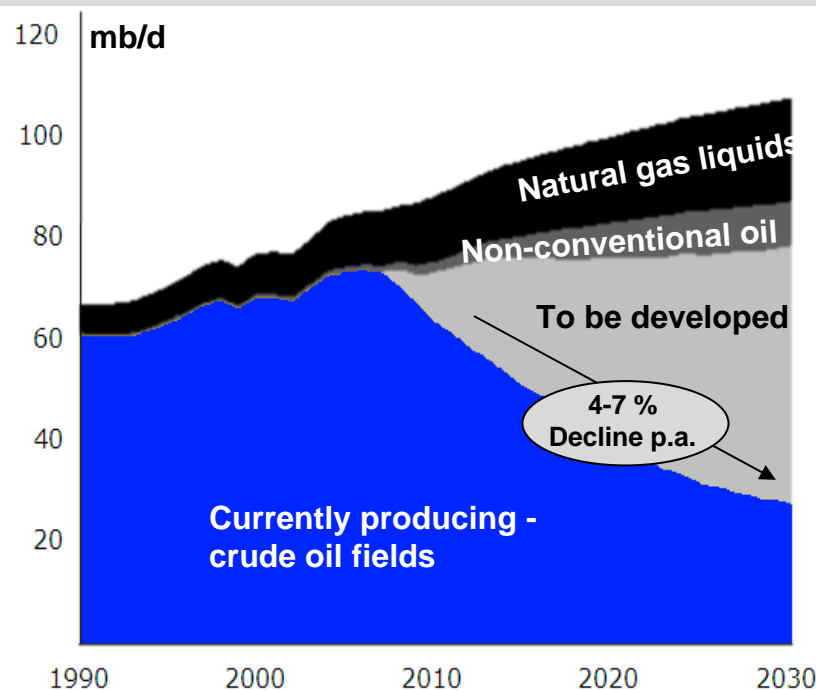
Total: 550GW 25% of world electricity demand today

Source: <http://www.world-nuclear.org>

Industry has moved back to buyers market – good time to build capabilities, risk for uncontrolled upswing after period of low investments

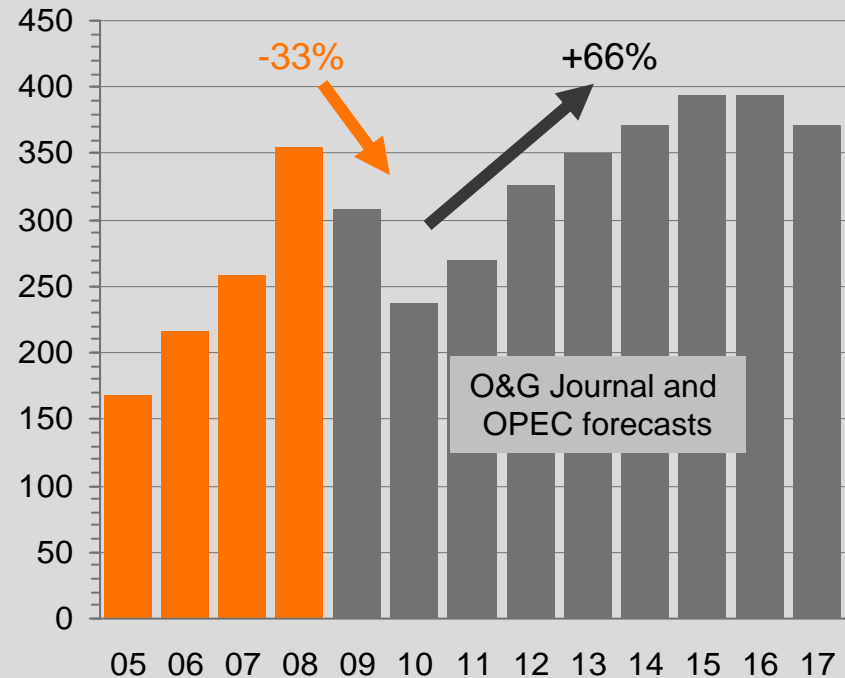
Oil production by source

Demand growth and declining output call for continuous new investments



Oil & gas upstream capex (€ bln)

Long-term sustainable level 400 bln €, short-term market expected to decline



FLEXIBILITY

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

Energy efficiency

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

SUSTAINABILITY

Emission compliance

- Compliance with all norms, incl. California

Competitive capital cost

- Standardised solutions
- Modularity
- Professional delivery

Reliability & Availability

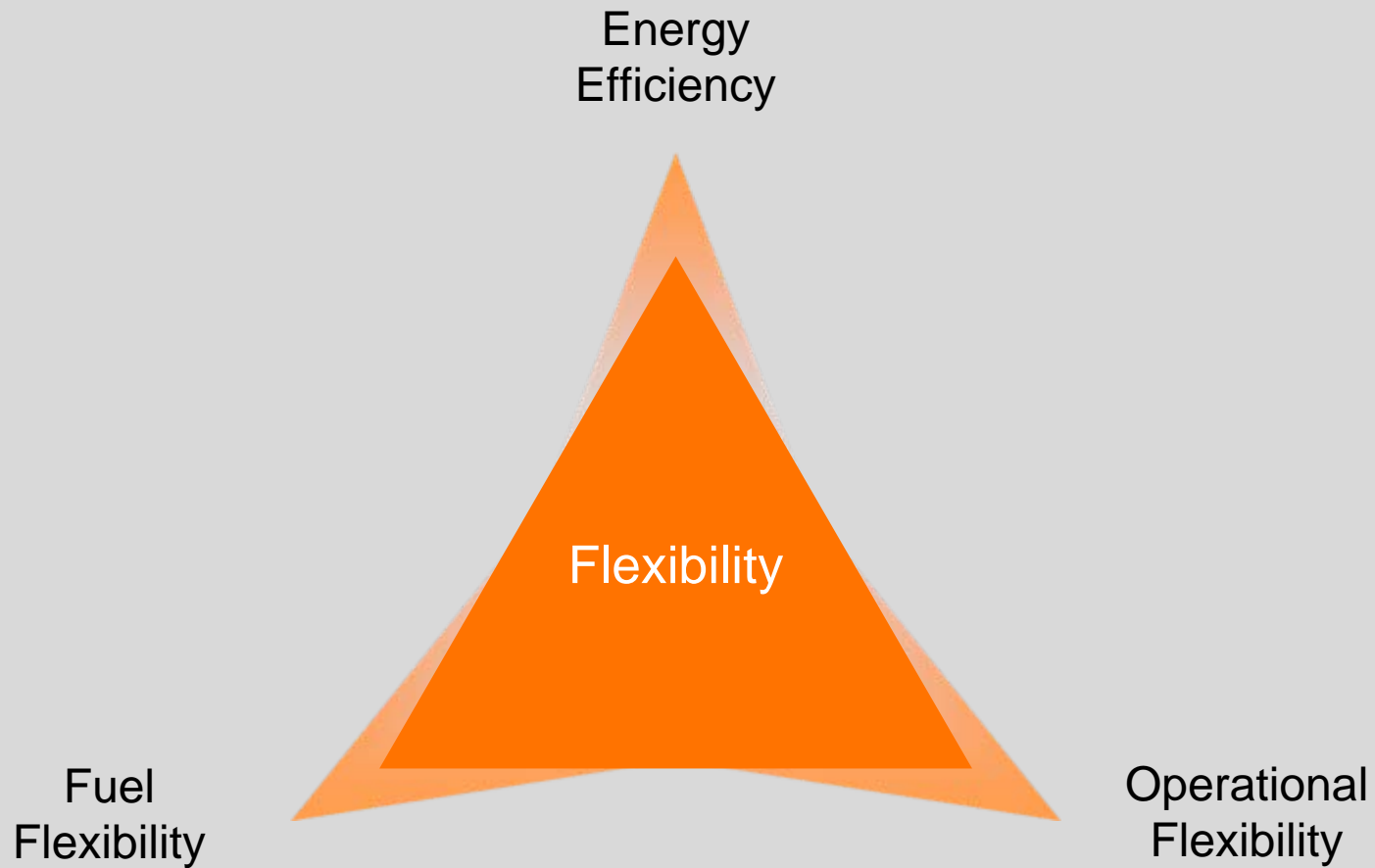
- Proven products
- O&M services

World class Project management capabilities

- Global EPC
 - Wärtsilä is the only power plant contractor delivering EPC in the whole developing world
- Main enablers
 - Modular pre-fabricated power plant product. Minimised site work
 - 25 year experience constructing in developing countries
- Scope of supply flexibility
- Competitive delivery times

Local service for lifecycle support

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



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