Oil production investments are rapidly growing

- Moderate demand increase
- High depletion rate

Source: EIA – Oil Production
Gas production investments are growing even faster

- Cleanest fossil fuel
- 250 years of proven reserves
- Price

**Source:** OECD/EIA, 2011

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Our opportunity in oil & gas

- Drilling
- Treatment
- Transportation
Oil & Gas drilling

- Drilling mud treatment: cleaning and cooling
- Process & potable water production
- Environment: wastewater and oily water treatment

Oil & Gas drilling

Mud treatment

Drilling mud decanters

Drilling mud coolers
Drilling trends
Increase in offshore drilling

- Offshore drilling expenditure grows with 6.6% per annum (2009-2015)
- More deep-sea drilling

Global Offshore Drilling Expenditure, 2000-2015

Source: GBI Research

Age profile of the semi-submersible fleet (mid-2011)

Source: ODS Petrodata

Drilling trends
Drilling for unconventional gas

- Unconventional gas
  - shale gas
  - tight gas
  - coalbed methane

Source: EIA, U.S. Energy Information Administration

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Unconventional gas
U.S. example

U.S. Dry Gas Production

U.S. dry gas trillion cubic feet per year


History 2008 Projections

Net imports
Shale gas
Associated with oil
Coalbed methane
Tight gas
Non-associated offshore
Non-associated onshore
Gas imports

Source: EIA, Annual Energy Outlook 2011

Where could it happen in the future?

Legend
- Assessed basins with resource estimate
- Assessed basins without resource estimate
- Countries within scope of report
- Countries outside scope of report

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Our opportunity in oil & gas

Oil & Gas treatment

- Removal of water and impurities
What does it mean for Alfa Laval?

Many heat exchanger positions

Alfa Laval wins SEK 90 million natural gas order in the Middle East

Alfa Laval - a world leader in heat transfer, separation, and fluid handling - has received an order from a Japanese engineering company to supply heat exchangers for a new gas-to-liquid natural gas project in Qatar. The order value is approximately SEK 90 million and delivery is due in early 2012.

Treatment trends

Heavy crude oil

Vast majority of remaining oil reserves is heavy crude oil

Total World Oil Resources: 9-13 Trillion bbl

Source: IEA

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Treatment trends
From insight to actions

Market input
- Canadian oil sands
- Heavy oil worldwide
- Offshore demands

Versus conventional separators
- less heat
- less chemicals
- less space and weight

Versus Direct Competitors
- less cost
- meet industry requirements

Treatment trends
Environmental legislation
Environmental legislation
Tar sands

- Ban on increasing the pollution by 2014
  - 50% reduction of the pollution in 2011
  - No increase of fine tails in the ponds by 2014
- Cleanup the legacy: 170 km² MTF of polluted area
  - It requires about 100 large decanters to run for 10 years to deal with the legacy

Cleanup technology
Tar sand pond

Alfa Laval wins SEK 60 million water treatment order in Canada

Alfa Laval - a world leader in heat transfer, centrifugal separation and fluid handling - has won an order to supply newly developed equipment for cleaning of industrial wastewater in Canada. The order value is approximately SEK 60 million and delivery is scheduled for 2012.
Our opportunity in oil & gas

Pipe line transportation
Gas transportation by compression
Transportation
Gas pipeline protection

* MEG – Mono ethylene glycol treatment

Pipeline protection
Typical MEG regeneration process
Transportation
Oil

- Alfa Laval’s traditional product portfolio
- Inert gas systems added through the acquisition of Aalborg Industries

Transportation trends
FLNG – Floating LNG

7B$ 2016

Expenditure ($ billion)

- Liquafaction
- Import

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Typical oil & gas requirements

- Safety
- Explosion proof
- High pressure
- Compact and small footprint
- Reliable performance
- Global service infrastructure with offshore compliance

Conclusions

- Need for continued investments to maintain the balance between demand and supply
- High oil price gives opportunity to invest
- Alfa Laval has the products, the presence and the know-how