



Be secured sailing into 2020 - and beyond

Andrzej Smoleński
Alfa Laval Polska Sp. z o.o.

Alfa Laval na statku

– 18 różnych urządzeń



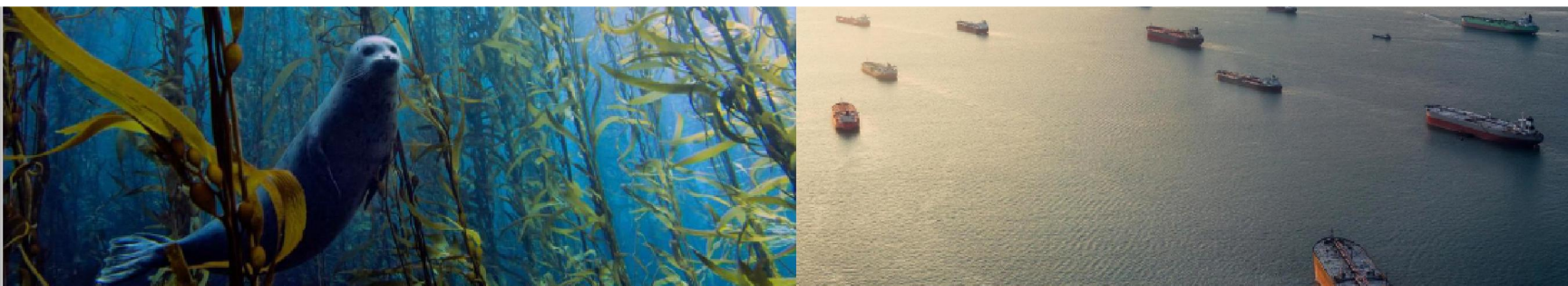
Klienci



- Stocznie
- Armatorzy

Współpraca

- Biura projektowe
- Uczelnie



„We stand here at one of the most historic moments in IMO"

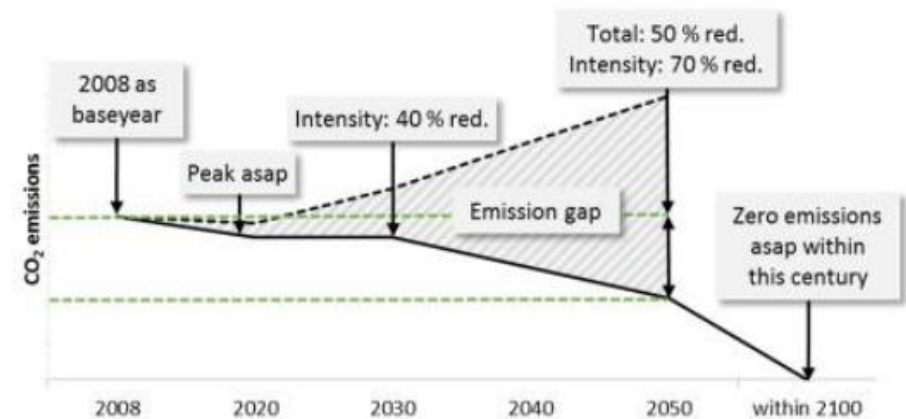


Kitack Lim
IMO Secretary General
Londyn, 13.04.2018

IMO's GHG emission reduction strategy



- The carbon dioxide intensity on board is expected to decrease by:
 - i. implementation of the next phases of the Energy Efficiency Index (EEDI) for newly built ships and ships in operation
 - ii. reduction in CO₂ emissions, by more than 40% on average, by 2030
 - iii. greenhouse gas emissions by at least 50% by 2050 compared to 2008, while seeking their gradual withdrawal by the end of the century, in line with the vision in line with the Paris Agreement.



Less than a year to IMO revised G8

– Alfa Laval PureBallast 3 is ready



- It's now a matter of months until the IMO revised G8 guidelines take effect. If you sail outside of United States waters, these guidelines affect you. On 28 October 2020, the vast majority of the world's ports will close to new ballast water treatment systems installed without meeting IMO revised G8 requirements. So don't be caught out.

PureBallast Maintenance



“A ballast system in itself isn’t sufficient to remain compliant”

- *Peter Sahlén*

Compliance service package



Compliance package

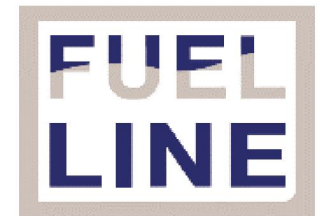
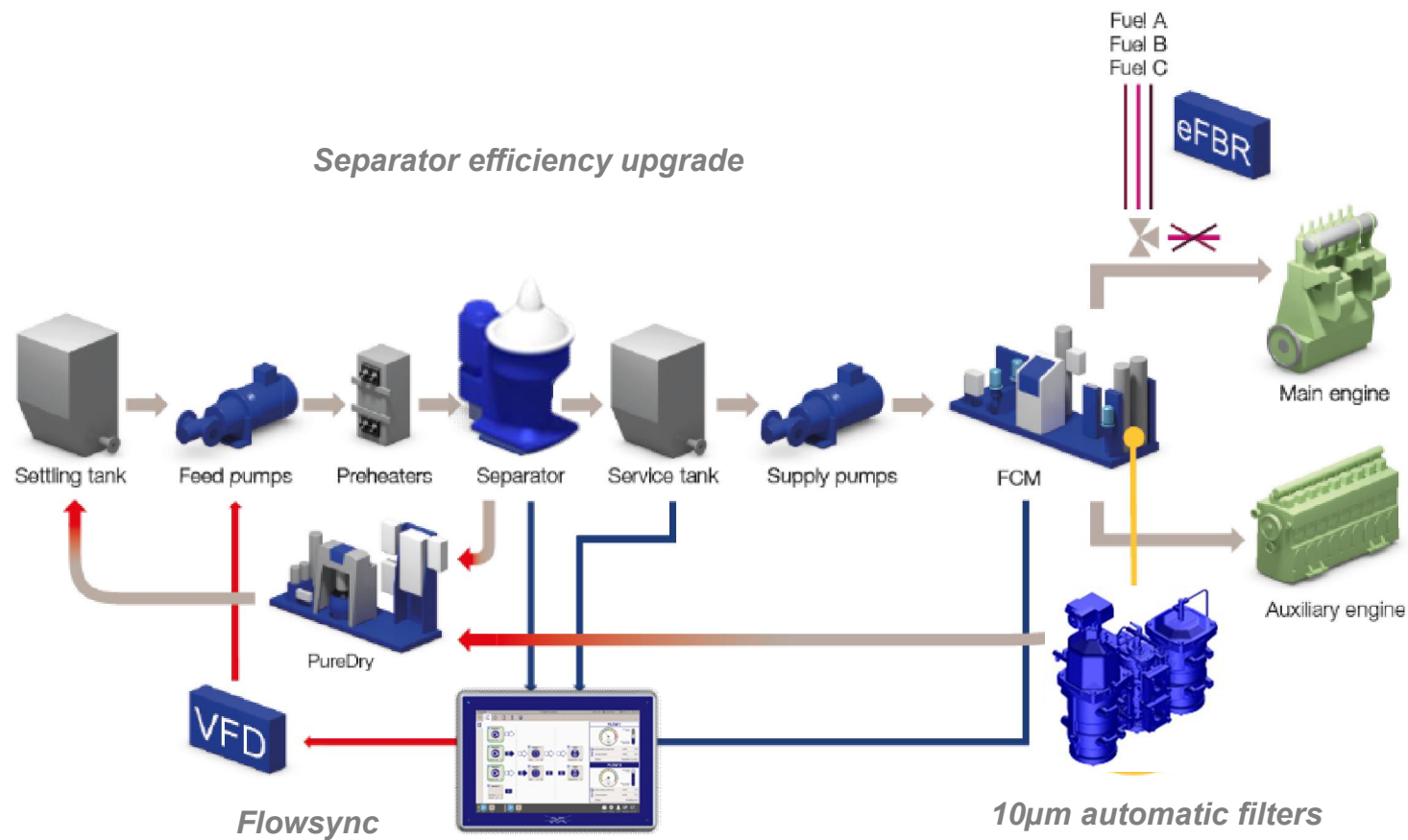
- Status check
 - Defined service of components
 - Calibration
 - Verification of system
 - Training of crew
-
- Release of Compliance Package 2.0

Engine protection & Efficiency



- Low-sulphur fuels place different demands on your engine's fuel line. The Alfa Laval Adaptive Fuel Line offers solutions to keep your engine safe – and boost your fuel efficiency.
- Knowledge and ships' preparation is needed to avoid problems with:
 - incompatibility
 - pour point
 - cathalitic fines

The Alfa Laval Adaptive Fuel Line



Adaptive Fuel Line web page
www.alfalaval.com/fuelline

Scan QR-code to get in contact!



Prepare your boilers for compliant fuels



- If you choose low-sulphur fuels it will impact your boilers. With 100 years of boiler experience, Alfa Laval can help you adapt your boiler fuel line and prevent operational issues.

Avoiding steam balance risks

– Alfa Laval Aalborg solutions



The global average viscosity for VLSFO is expected to decrease to around 130 cSt in 2020. In some cases, however, VLSFO has been seen to have a viscosity as low as 10 cSt. ULSFO has similar viscosity ranges. This means that the heating demand for storage, separation and conditioning of these fuels is often lower than for HSFO.

- **Increasing the steam dumping capacity**

However, some of these fuels are also expected to be more paraffinic, which will impact the fuel's cold flow properties (such as its cloud point, cold filter plugging point and pour point). If the fuel's cold flow properties have high temperature values, the demand for heating increases drastically.

- **Waste heat recovery after the auxiliary engines**



Exhaust gas cleaning



- Using a SOx scrubber lets you meet global sulphur cap requirements while retaining your existing fuel economy. Alfa Laval PureSOx is the scrubber system at the forefront, proven effective in 10 years of operation at sea.

Connecting boilers to SOx scrubbers

– Alfa Laval Aalborg solutions



The increase and variation of back pressure on the boiler furnace can lead to combustion issues that may impact the scrubbing process. Moreover, a malfunction of the scrubber system may lead to furnace explosions or other hazards that pose safety risks for personnel and equipment.

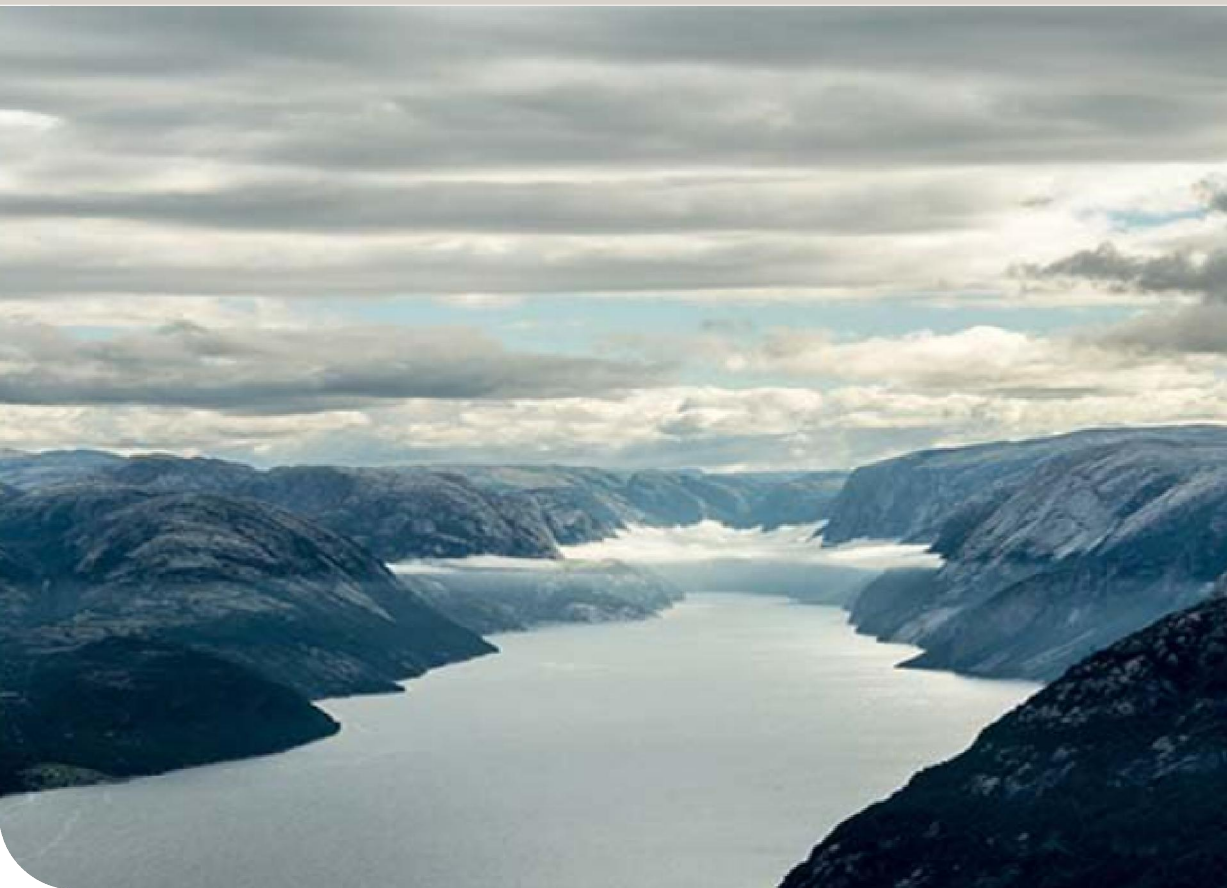
Back pressure solution:

- **Forced-draught (FD) fan application**
- **Induced-draught (ID) fan application**



Alternative fuels

– Alternative fuels



- As regulations change and environmental concerns grow, the range of fuel choices becomes ever larger. Alfa Laval can support you not only with traditional fuel expertise, but also with insights and solutions for emerging alternatives.

LNG as fuel



- A growing number and variety of vessels are turning to LNG as fuel. However, doing so requires effective boil-off gas (BOG) management. Alfa Laval has the expertise and solutions to ensure your safety – simply and economically.

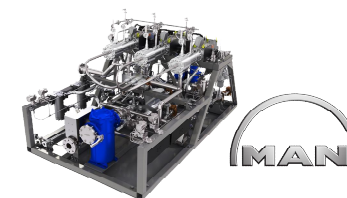
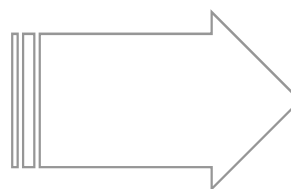
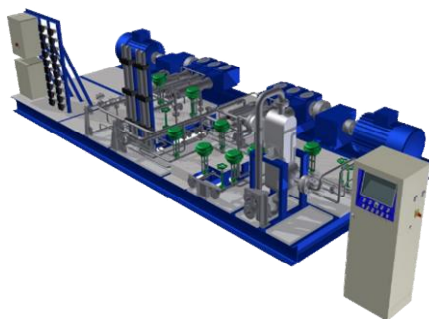
Rozwiązania dla LNG o wysokim ciśnieniu



LNG HP

- Projekt bloku paliwowego Alfa Laval, ze skraplaczem typu PCHE „spawanego dyfuzyjnie”

Projekt podstawowy
zatwierdzony w DSME

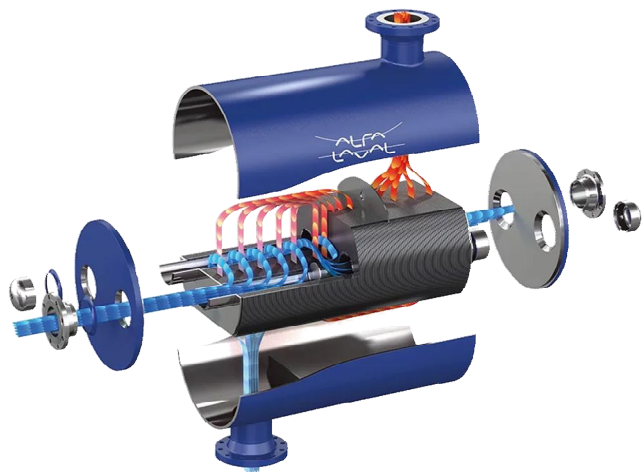


Rozwiązania dla LNG o niskim ciśnieniu

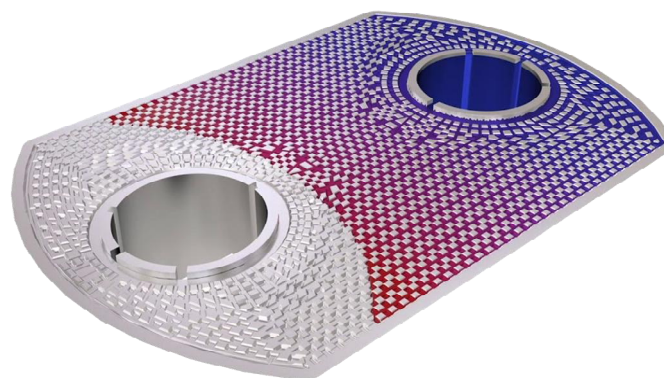


LNG_{LP}

- Projekty Alfa Laval oparte na wymienniku ciepła typu DuroShell



RollerCoaster
A patented plate pattern optimizes thermal efficiency with improved fatigue resistance, flow distribution and mechanical strength.



Boiler technology offers an easier path to LNG propulsion

– Alfa Laval Aalborg solutions



In order to use LNG as fuel, vessels must be able to manage boil-off gas (BOG), the evaporated gas that can increase tank pressure. Alfa Laval is well known for BOG management on LNG carriers, where the:

- **Alfa Laval Gas Combustion Unit (GCU)**

safely burns BOG in compliance with the International code for Gas as Cargo (IGC). When it comes to using LNG for propulsion under the International code for Gas as Fuel (IGF), Alfa Laval is also managing BOG with dual-fuel Alfa Laval Aalborg boilers.

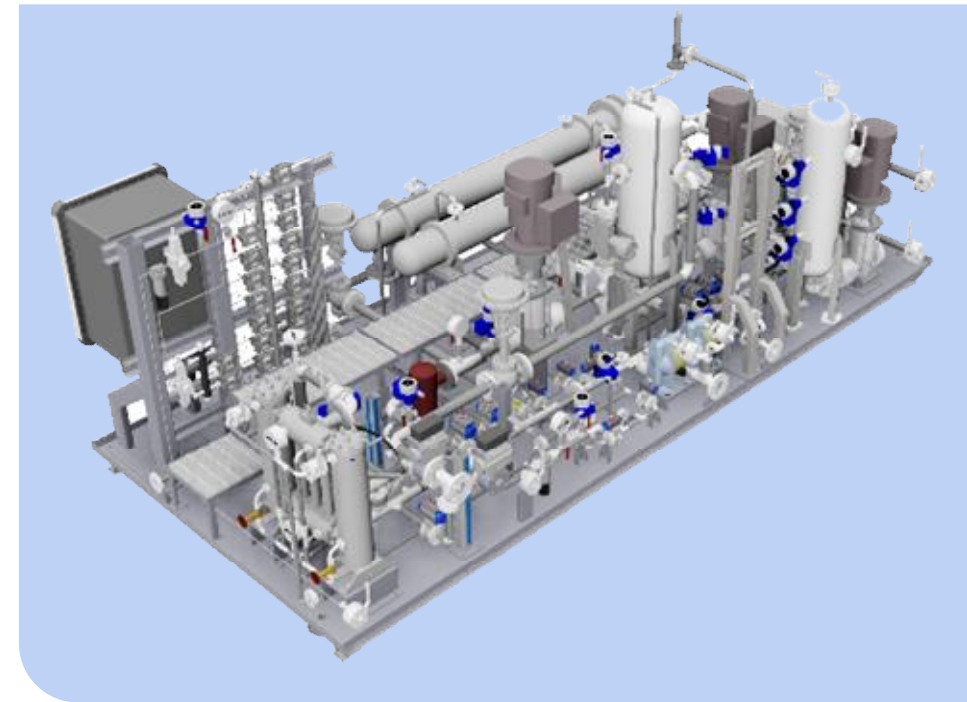


Getting to „0” GHG emmisson

– Alfa Laval emerging alternatives



- Scientific and market research shows that alcohols like eg. **methanol and biofuels** can be a good source of energy and effectively **reduce** greenhouse gas emissions into the atmosphere.
- **Ammonia and Hydrogen** are the fuels of the future to help **decarbonise** shipping. The alternative is also synthetic fuels obtained by chemical synthesis



Service



- No matter how you approach the global sulphur cap or other key challenges, service should be part of it. From retrofitting equipment to training crews in key operations like fuel management, Alfa Laval service experts provide the solutions, knowledge and **24/7** worldwide support to keep you going strong.

Alfa Laval Test & Training Centre



- Today's marine challenges will stretch far beyond 2020, and already there are new ones on the horizon. Through strong R&D and close cooperation with customers like you, Alfa Laval is hard at work bringing solutions into place.

Connectivity & digitalization

Data-driven services to safeguard compliance and economy





Dziękuję za uwagę

Alfa Laval - zawsze o krok do przodu