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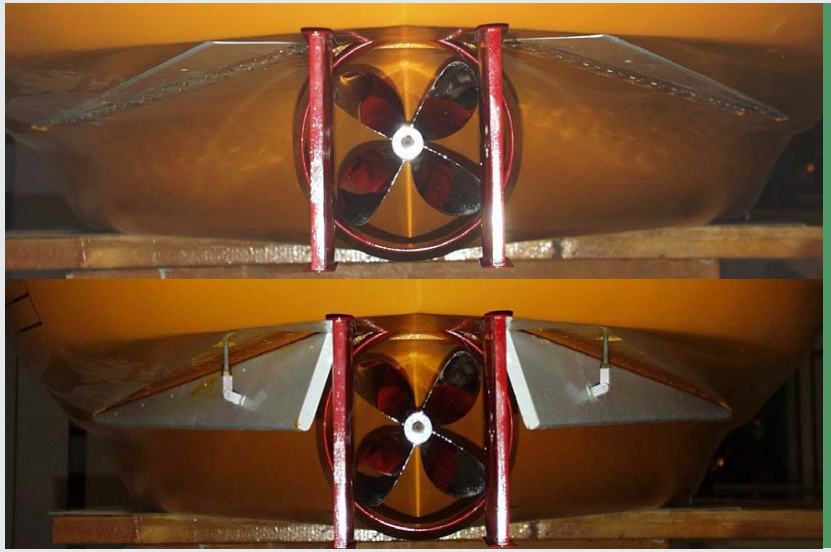
CENTRALE COMMISSIE VOOR DE RIJNVAART



Parallel Workshop 3 - Propulsion-related measures to reduce the CO_2 emissions from inland navigation

Henk Croo

Commissioner of Belgium to the CCNR

Strasbourg, April 12th, 2011

Presentation 1: Inland navigation engines

Options for the minimizing CO_2 emissions from inland navigation engines by reducing fuel consumption and using alternative fuels

Peter Scherm, EUROMOT

Main messages of presentation

- Reduction potential limited
- Alternative fuels limited / incompatibility concerns
- Balance between fuel efficiency and air pollution reduction

Presentation 2: LNG as fuel

LNG as a fuel for inland navigation – challenges and solutions

Bert de Vries, Holland Shipbuilding Association

Main messages of presentation

- CO_2 reduction 15% → 25%
- Supply chain to be established
- Safety issue
- Training and education issue

Presentation 3: Diesel-electric propulsion

Reduction of CO_2 emissions by diesel-electric propulsion system for an existing cargo vessel

Claus-D. Christophel, Torque Marine IPS

Main messages of presentation

- CO_2 / fuel reduction: 26%
- Power reserve for conventional propulsion
- A modular diesel-electric propulsion system offers a better power balance
- Safety issue

Presentation 4: Diesel-electric propulsion

Reduction of CO_2 emissions by diesel-electric propulsion system for a new built cabin vessel

Peter Andersen, e-powered marine solutions

Main messages of presentation

- Fuel consumption diesel power is 20% less
- Integrated diesel electric system
- Safety issue
- Shore connection
- Hybrid concept

Presentation 5: Heat recovery

Reduction of CO_2 emissions by heat recovery from inland navigation engines

Marcel Flipse, Voith Turbo

Main messages of presentation

- Up to 12% fuel reduction
- Exhaust energy is fed to a steam engine
- Emission reduction

Parallel Workshop 3: Propulsion-related measures to reduce the CO_2 emissions from inland navigation

Main conclusions

- Reduction potential of engines very limited
- LNG offers CO_2 reduction possibilities
- Diesel-electric propulsion offers CO_2 reduction possibilities
- Combination of different measures
- EU reduction targets cannot be reached with propulsion related measures alone
- Safety issue – technical requirements to be modernized