



VESSEL RECYCLING AND CIRCULAR ECONOMY WORKSHOP

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A CIRCULAR ECONOMY INNOVATIVE PROJECT



"INNOVATIVE SCRAPPING OF SHIPS IN DENMARK"

"FROM WASTE TO VALUE: CREATING CIRCULAR ECONOMY,
INNOVATION HUBS FOR VESSELS RECYCLING IN DENMARK"

EXPLORE THE ECONOMIC, TECHNOLOGICAL & ORGANIZATIONAL FEASIBILITY OF EFFECTIVELY CREATING **CIRCULAR ECONOMIC** INNOVATIVE HUBS AROUND “VESSEL” RECYCLING IN KEY MARITIME AREAS IN DENMARK

- ✓ SOUTH-EAST ASIA BANGLADESH, INDIA, PAKISTAN....
- ✓ CSR
- ✓ REPUTATION
- ✓ BRANDING ISSUES
- ✓ COMPLIANCE WITH FORMAL INSTITUTIONAL AND REGULATORY MEASURES (EXISTING & EXPECTED)
- ✓ DOMESTIC NEED FOR EMPLOYMENT AND COMPETITIVE ADVANTAGES WITHIN A SUSTAINABLE MARITIME ENVIRONMENT.





WHAT ARE WE TRYING TO SOLVE?

WHY IS IT IMPORTANT?

Scrapping/decommissioning of

- x vessels
- x oilfields/oil-platforms at Sea

Presently no sustainable loop-closing circular economic solution.

1.

PRESENT STATE OF THE ART

- ✓ Health & safety occupational hazard (SEAsia)
- ✓ Serious pollution issues
- ✓ Low level of recycling in high value products.
- ✓ Initiatives ongoing in Europe tied to large harbours
- ✓ **But overall assessments not done**
- ✓ Automatization still at very low level.
- ✓ European alternatives are not economically competitive to SEAsia
- ✓ Development of regulatory frameworks call for more sustainable solutions.

Beyond
Vessels, platforms
& shipping companies



STAKEHOLDERS/CUSTOMERS THE WHOLE MARITIME SECTOR





WHAT MAKES THIS UNIQUE?



It has not been done or assessed in full scale esp. post the EU-regulation (effective from end of 2018)

Creation of new Knowledge

- ❖ Dynamic Circular Economy hubs
- ❖ Employment opportunities
- ❖ Occupational health and safety measures
- ❖ Demonstration for business solutions

A GLOBAL CHALLENGE

DK shall build up a **competitive advantage** by investing in **commercial & technological knowhow** in **sustainable vessel recycling**



STAKEHOLDER ADVANTAGES



- ✓ New Value Creation for Ports & maritime industry
- ✓ New specialized knowledge in recycling beyond traditional uses of recycled material (e.g., steel reuse)
- ✓ International market for sustainable vessel recycling
- ✓ Market leaders can profit from transferring proprietary knowhow.

STAKEHOLDER ADVANTAGES (CONTINUED)....

✓ Shipping industry benefits via

✓ Becoming cost-competitive in the world-shipping market

✓ Adopting high-quality scrapping alternatives (instead of beaching under questionable conditions)

✓ Improving CSR profile

✓ Society benefits via

✓ high-paid, knowledge intensive jobs

✓ augmentation of labor through **automated** Vs. non-automated scrapping processes contributes

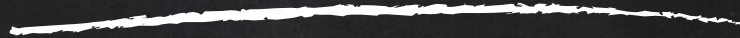
✓ additional social welfare.



VALUE GENERATION PRICE BENCHMARKS:



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The development of technological solutions
& institutional developments cannot be
achieved without public funding

VALUE CHAIN & CONSORTIUM

Harbours

ship-own
ers

Shipyards
Scrapyards

Recycling
facilities



Well established basis for consortium through Blue SDU, CBS Maritime, Blue Denmark, CMSS, Maritime Alliance, Lindø shipyard & Lindø Offshore Renewables Center (LORC), Frederikshavn (+?! Poul Nyrup Rasmussen)

CONSORTIUM (INITIAL)



Confirmed:

Copenhagen Business School (CBS Maritime: Henrik Sornn-Friese, Thomas Roslyng Olesen, Cristiana Parisi, Juliana Hsuan), **University of Southern Denmark** (Blue SDU: Despina Andrioti, Melina Kourantidou, Olaf Chresten Jensen), Gemba Seafood Consulting/Gemba Innovation (Kasper Aalling Teilmann), Njord Law Firm (Christian Benedictsens-Nislev), **Port of Esbjerg**

Tentative:

Marcod / Port of Frederikshavn / Orskov Yard (Christine Lunde), Litehauz (Frank Stuer-Lauridsen), PJ Diesel Engineering (Rasmus Elsborg-Jensen)

KEY SUCCESS FACTORS

Modern, competitive, safe
decommissioning of ships & platforms
with
minor health, environmental &
economic inefficiencies

*Coordinated by experienced people, with strong
institutional set-ups and clear success criteria*

MAJOR RISKS

First mover advantage
Vs
Time & Competition



THANKS!

Want to know more?

Take a look at my blogpost on Scrappy Thoughts

<https://mereconomics.com/2018/05/08/scrappy-thoughts/>

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