SKILLSEA

Green Skills 1

How can you benefit from the Green Skills 1 Package?









Outline

What was the problem?

What was the solution?

What was our experience?

How can you also benefit?



What words do you associate with a career at sea?





The Problem

- "Tradition" and "Adventure"?
- "Digital Transformation", "Environmental Protection" and "STEM"?
- For a lot of seafarers, they might not naturally think of those concepts when they think about their career at sea, but those are the skills that industry now is looking for.



Shipping is the cleanest mode of transport

Shipping is also the biggest source of marine pollution



Source of food

60% of population live in coastal areas

Phytoplankton produce oxygen

Oceans regulate climate



The Problem

- St Fleetwood Nautical Campus in England, we have trained seafarers for over 125 years and it is not unusual to see alumni of the organisation return to help train the next generation.
- Solutions We are lucky to have long experienced seafarers wanting to 'give back' to an industry that gave them a lifelong career.
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Green Skills 1

S High-level green skills for seafarers, focusing on decarbonisation.

Solution This educational package was aimed at seafarers with around 6 months of maritime education or sea experience or equivalent shore-based employment experience

Mow would you explain the maritime industry's decarbonisation agenda to a new seafarer with almost no industry context?

Solution What would you pick as the most important elements?





One year ago, I would not have known where to begin!







The Solution

- S At Fleetwood Nautical Campus, we were lucky enough to be involved in piloting the Green Skills 1 Educational Package (EP).
- S At the heart of the EP is the 'toolbox'
 - Course Specification
 - Outline of Programme
 - Constructive Alignment
 - Sample Lesson Plans
 - Directions to latest research and online materials





Sample Coverage

Taught to UK Cadets with 6 months maritime education or experience





Emissions projected to increase from about 90% of 2008 emissions in 2018 to 90-130% of 2008 emissions by 2050



Figure 1 – Projections of maritime ship emissions as a percentage of 2008 emissions

Commercial and Regulatory Context



The Good News...and the Bad News

"2008 to 2014 – emissions reduction (CO2) in spite of growth in demand (UNCTAD), and therefore a period of rapid carbon intensity reduction that enabled **decoupling of emissions from growth in transport demand**"

"these marginal improvements will not be sufficient to meaningfully decrease overall carbon-dioxide emissions as specified in the IMO target of reducing total annual greenhouse gas emissions by at least 50 per cent by 2050 compared with levels in 2008. Achieving these targets will require radical engine and fuel technology changes"

Source: IMO (2020) Forth IMO GHG Study 2020, Available at <u>https://www.imo.org/en/OurWork/Environment/Pages/Fourth-IMO-Greenhouse-Gas-Study-2020.aspx</u>. (Accessed: 29 July 2021), p. 3.



IMO Measures

- **Target:** by 2050 50% reduction in GHG and 70% reductions in CO2
- **Research:** four GHG emission studies
- **Data Collection:** from ships on oil fuel consumption
- **EEDI, SEEMP:** in 7 years, reduced carbon intensity by 20% for new ships, certain types – by 50%
- **EEXI, CII:** measures for existing vessels to reduce carbon intensity by 40% by 2030 compared to 2008







Operational Measures

Improved fleet planning/ logistic-based measures

- Weather Planning: Make use of wind and currents
- Voyage Optimization: Just in Time, Slow Steaming



Technical Measures

- Energy Efficiency by design
- Hull shape, Propellers, Efficient Engines
- Low-carbon Fuels
- Energy Storage, Biofuels, Sails
- Renewables: Solar, Wind, Tidal Energy
- Cold Ironing

Market-based Measures





MAKE POLLUTION TOO EXPENSIVE (SHIFT THE COST-BENEFIT ANALYSIS)

TWO MAIN TYPES: EMISSION TRADING AND CARBON LEVY SCHEMES



Our Experience







Experience with the EP

Solution Students of the term of term o

The EP gave structure and highlighted key areas to addressThe EP signposted latest up-to-date resources and materials







Experience of the Students

- Solution The students had a range of backgrounds and experiences
- S Attendance was mandatory for most of the candidates
- Solutions The course was delivered as real-time online lessons
- Solution The students were engaged throughout
- Solutions The students reported that the course had opened their eyes to aspects of the maritime industry they hadn't previously considered





How Can You Benefit?







Solution The EP is an education and industry collaboration

- It is freely available to anyone
- S You can use it in educational contexts

Solution Section 18 You can also use it in the workplace

It is flexible for your needs





Do you think that Green Skills matters for your setting? Do your people need to know more about Green Skills?