

My Internship Experience at RWE

20 July – 14 August

Introduction – Who Am I?

- My name is Tobi Ellis
- I am a T-Level Engineering Student at East Coast College on their Lowestoft Campus.
- I am nearing the end of my internship with RWE as part of the EEEGR Coastal Energy Internship Programme.
- This is my second internship that I have completed during this summer alone.
- An interesting fact about me is that I compete at a national level within circuit powerboat racing.



My Personal Objectives



Project Scope to Final Delivery

- **Week 1 — Introduction & Understanding**
 - Induction
 - Meeting the team
 - Learning about RWE
 - Understanding my project
- **Week 2 — Research & Development**
 - Gathering information
 - Speaking to relevant people
 - Beginning analysis/project work
- **Week 3 — Project & Report**
 - Main analysis
 - Developing findings
 - Writing my report
- **Week 4 — Conclusions & Presentation**
 - Finalising the project
 - Completing the report
 - Reflecting on what I had learned
 - Presenting my findings

My Main Project

Improving the Efficiency & Sustainability of Offshore Wind O&M Infrastructure

RWE Grimsby O&M Hub Case Study

1. PROBLEM

How can offshore wind O&M facilities and their associated port infrastructure operate more efficiently and sustainably?

- Assessed the full O&M system, not just the building.
- Focused on **energy, buildings, vessels, port equipment, waste, water and travel**.
- Used **RWE Grimsby O&M Hub** as the case study.

2. RESEARCH

Established what best practice currently looks like

- Benchmarked current offshore wind and port practices.
- Reviewed **RWE, ORE Catapult, DNV, IEA, IMO, UK Government** and academic literature.
- Examined emerging solutions including **electrification, shore power, solar PV, BESS and digital O&M**.

3. ANALYSIS

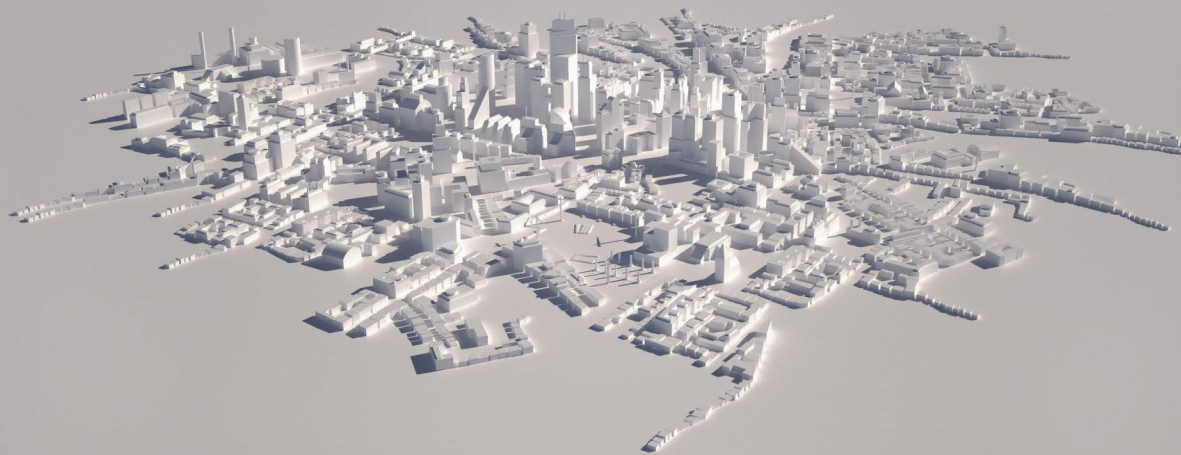
- **Compared industry best practice with Grimsby's future needs**
 - SWOT, maturity and gap assessments.
 - Carbon / operational hotspot assessment.
 - Impact vs. implementation prioritisation.
 - Technical, environmental and commercial feasibility screening.
 - Developed a phased implementation roadmap.

4. KEY FINDINGS

- The largest opportunity is the wider O&M system—not incremental building improvements
 - **Highest-value areas identified:**
 - **Marine logistics & vessel efficiency**
 - **Digital optimisation and better operational data**
 - **Port and fleet electrification**
 - **Integrated energy infrastructure**
 - **Shore-power feasibility**
 - **Circular procurement & inventory optimisation**

5. RECOMMENDATION

- **Evolve Grimsby towards an Integrated Smart & Low-Carbon O&M Hub**
- **Measure → Optimise → Electrify → Integrate → Decarbonise**
- Prioritise operational optimisation first, then use verified site data to justify larger investments such as **PV, batteries, electric plant and shore power**.



Overview of My Report

Report Journey

- 1. Introduction → Project scope and objectives
- 2. Industry Baseline → Energy, buildings, ports, waste, water and travel
- 3. Grimsby Case Study → Current strengths, gaps and data requirements
- 4. Analysis → Sustainability impact, feasibility and operational value
- 5. Roadmap → Quick wins, enabling investments and strategic projects
- 6. Recommendations → Practical pathway for improving the Grimsby O&M Hub

3 Key Findings

- **Marine Operations**
 - Vessel movements, fuel use and port-side activity represent some of the **largest remaining opportunities for operational decarbonisation**.
- **Data Before CAPEX**
 - Better baselines for **energy, vessels, equipment, waste and transport** should inform major investments such as BESS and shore power.
- **Integrated Smart O&M Hub**
 - Grimsby's existing infrastructure and digital capabilities provide a strong foundation to integrate **energy, maintenance, vessels and logistics**.

- **Report Outcome**
- **A prioritised pathway for RWE Grimsby:**
- **Measure → Optimise → Electrify → Integrate → Decarbonise**

Key Findings / Results

Skills I Developed

Challenges & What I Learned

Overall Reflection

