Setting the Stage
UAE leadership announces Net Zero by 2050
Setting the Stage
United Nations Sustainable Development Goals

1. No Poverty
2. Zero Hunger
3. Good Health and Well-Being
4. Quality Education
5. Gender Equality
6. Clean Water and Sanitation
7. Affordable and Clean Energy
8. Decent Work and Economic Growth
9. Industry, Innovation and Infrastructure
10. Reduced Inequalities
11. Sustainable Cities and Communities
12. Responsible Consumption and Production
13. Climate Action
14. Life Below Water
15. Life on Land
16. Peace, Justice and Strong Institutions
17. Partnerships for the Goals
Abu Dhabi Ports Group is now mandated to report to ADQ on ESG performance

ESG performance attracts investors
C. GHG Emissions

6. Commitment

6.1. Does the company follow carbon management policies? Please explain.

7. Measured Deployed

7.1. Describe significant initiatives implemented to control/reduce the carbon footprint of the company.

8. Key Performance Indicators (KPIs) and targets.

8.1. Please fill in the table below and define the scope of coverage for the figures provided. Please include targets, if any. If this data is not readily available, then we will calculate it for you. If it is available, please clarify and provide the calculation sources for the figures.

<table>
<thead>
<tr>
<th>Key Performance Indicators (KPIs)</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct GHG emissions (Scope 1) (tons of CO₂eq)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indirect GHG emissions (Scope 2) (tons of CO₂eq)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Indirect GHG emissions (Scope 3) resulting from business travel (tons of CO₂eq)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total GHG emissions (tons of CO₂eq)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GHG emissions intensity (tons of CO₂eq/employee)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:
LCA Data – Compliance and Verification

Department of Thermal Physics, Sanitary Systems and Environment
SD-666 Warszawa, Warszawa 21

DECLARATION № 031/2015

IT hereby confirms that the software:
360optimi® and One Click LCA™ developed by Bionova Ltd

has been audited and verified to be compliant with the following standards:
EN 1997-8 Sustainability of construction works - Assessment of environmental performance of buildings. Calculation method
ISO 24931-1 Sustainability in building construction - Framework for methods of assessment of the environmental performance of construction works
- Part 1: Buildings
ISO 21929-1 Sustainability in building construction - Sustainability indicators
Part 1: Framework for the development of indicators and a core set of indicators for buildings

Conformity with the above standards was verified in consideration of the data quality requirements of the following standards:
ISO 14040 Environmental management – Life cycle assessment: Principles and framework
EN 15804 Sustainability of construction works. Environmental product declarations.
Core rules for the product category of construction products

The software was found to be in conformance with the provisions and requirements of listed international standards

This declaration is valid from the date of issue for the year in which it is signed and 5 full calendar years after that.
Sustainability Measures

Project Shamal – Topside Works
Overall Masterplan
Sustainability Measures

Biggest opportunity to reduce GHG emissions was from the following:

• Solar PV onsite.
• Cement replacement of concrete.
• Shore to Ship Power (Cold Ironing)
Solar PV – Rooftop and Carport Systems

1. Roof Solar PV for Workshop Building and Admin Building
2. Solar carport system for parking area

<table>
<thead>
<tr>
<th>PV System</th>
<th>Power Output (kW)</th>
<th>Energy Produced (kWH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admin Building</td>
<td>272.00</td>
<td>415,738.00</td>
</tr>
<tr>
<td>Workshop Building</td>
<td>90.00</td>
<td>137,560.39</td>
</tr>
<tr>
<td>Carport</td>
<td>450.00</td>
<td>716,216.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>812.00</strong></td>
<td><strong>1,269,514.39</strong></td>
</tr>
</tbody>
</table>

Emission Savings: 15,996 Metric Tons CO2e over 30 Years
Concrete Block – Interlock Paving and Blockwork

1. GGBS Concrete for Substation Hollow Block
2. GGBS Concrete for Interlock Paving

<table>
<thead>
<tr>
<th></th>
<th>Volume (m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interlock Paving</td>
<td>70,000</td>
</tr>
<tr>
<td>Concrete Blockwork</td>
<td>30,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100,000 (m³)</strong></td>
</tr>
<tr>
<td><strong>Emission Savings</strong></td>
<td><strong>3,325 Metric Tons CO₂e</strong></td>
</tr>
</tbody>
</table>

- Passenger vehicles driven for one year
- Tree seedlings grown for 10 years
- Homes’ electricity use for one year
Building Structural Elements and Pavement Structure

1. GGBS Concrete for CBM5 Layer
2. GGBS Concrete for Concrete Structural Elements

<table>
<thead>
<tr>
<th>CBM5 for pavement and Concrete Structural Elements</th>
<th>Volume (m3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBM5</td>
<td>270,000</td>
</tr>
<tr>
<td>Concrete for Buildings, Beams, and Miscellaneous Structures</td>
<td>80,000</td>
</tr>
<tr>
<td>Total</td>
<td>350,000 (m3)</td>
</tr>
<tr>
<td>Emission Savings</td>
<td>12,000 Metric Tons CO2e</td>
</tr>
</tbody>
</table>
Shore to Ship Power (Cold Ironing)

Calculation:
1) Energy: Energy: $1200\text{KW} \times 24\text{Hrs} \times 365\text{ Days} \times 3\text{ barges} \times 0.6\text{ Factor} = 18,921,600\text{ KWh}$
2) GHG Emissions from Grid: $18,921,600\text{ KWh} \times 0.42\text{ KG CO2/KWh} = 7,947\text{ MT CO2e/year}$

Savings: $13,198 - 7,947 = 5,251\text{ MT CO2/Year}$
Savings: $157,530\text{ MT CO2 over 30 Years}$
## Summary of Carbon Savings

<table>
<thead>
<tr>
<th>Summary</th>
<th>GHG Savings (Metric Tons CO2e) over 30 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar PV</td>
<td>15,996</td>
</tr>
<tr>
<td>Concrete Block – Interlock Paving and Blockwork</td>
<td>3,325</td>
</tr>
<tr>
<td>Building Structural Elements and Pavement Structure</td>
<td>12,000</td>
</tr>
<tr>
<td>Shore to Ship Power (Cold Ironing)</td>
<td>157,530</td>
</tr>
<tr>
<td>Total GHG Savings</td>
<td>188,851</td>
</tr>
</tbody>
</table>
1. First Net-Zero Energy Building for AD Ports (less than 500 net zero commercial buildings worldwide)
2. First Estidama 3-Pearl Project (188 3-Pearl projects in the UAE)
3. First project to use significant amounts of concrete with recycled content (30% for project)
Thank you

adportsgroup.ae
@abudhabiports