

# PROCUREMENT OPPORTUNITIES ASSOCIATED WITH SPECIFIC PRODUCT CATEGORIES



Piping, Fittings &  
Valves



Pipelines, Hot Bends  
& Cladding



Drilling Equipment



Drilling Fluids



Electric Submersible  
Pumps (ESP) & Cable



Instrumentation,  
Controls & Telecoms



Electrical



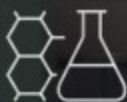
Offshore Structural  
Materials



Mechanical  
Equipment & Parts



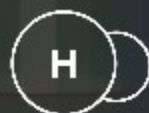
Maintenance, Repair  
& Operations



Chemicals



Technology



Green Hydrogen  
Supply Chain



**Manufacture Components  
using Additive Manufacturing  
(3D printing)**

**Manufacture robots and  
drones for inspection and  
operations**

**Manufacture cost competitive  
methane detection devices**

**Produce algal oil in the UAE**

**Produce biofeedstock**

**Manufacture absorption  
chillers**

**Manufacture Mobile Solar  
Systems**

**Manufacture Battery Energy  
Storage Systems (BESS)**

**Manufacture Sustainable Drilling  
Fluids Including Local Sourcing  
of Plant Based Products**



# Technology

Manufacture Components using Additive Manufacturing (3D printing)



## Overview

Opportunities to manufacture components using additive manufacturing (3D printing) in the UAE:



### Opportunities

- Produce by demand, reduce inventory and shelf cost
- Reduce lead time
- Reduce Carbon Footprint
- Capacity to be produced directly in remote locations



### Applications

- Produce in UAE for ADNOC and local market high variety of metallic and non-methanic components like spare parts
- Manufacture components in remote locations for urgent or planned needs, like for example support in major Shutdowns, onshore or offshore

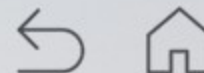


### ADNOC Standards / Specifications Requirements

- API and International Standards

# Technology

Manufacture robots and drones for inspection and operations



## Overview

Opportunities to manufacture robots and drones for inspection and operations in the UAE:



### Opportunity

- Joint-technology commercialization/IP
- New market in UAE
- Develop new Oil & gas solutions
- Asset integrity management
- Cost optimization



### Applications

- Autonomous operations
- Emission monitoring and control
- Remote inspection
- Logistics and delivery



### ADNOC Standards / Specifications Requirements

- ATEX certification
- Cyber security standards compliance

# Technology

Manufacture cost competitive methane detection devices



## Overview

Opportunities to manufacture cost competitive methane detection devices in the UAE:



### Opportunities

- Align with the UAE climate change and sustainability objective
- Joint-technology commercialization/IP
- New market in UAE
- Address global warming problems
- Develop new Oil & gas solutions
- Asset integrity management
- Cost competitive



### Applications

- Early gas detection
- Future prediction
- Corrective actions
- Actionable insights



### ADNOC Standards / Specifications Requirements

- ATEX certification

# Technology

Produce algal oil in the UAE



## Overview

Opportunities to produce algal oil in the UAE:



### Opportunities

- The UAE is among the most feasible locations globally to cultivate algae sustainably
- Algal fuels are carbon negative/neutral
- Algae can contribute to the water-food-energy nexus in the UAE



### Applications

- Production of biodiesel and sustainable aviation fuel
- Residual algal biomass can be utilized as fish/animal feed, or gasified to produce carbon neutral e-fuels



### ADNOC Standards / Specifications Requirements

- As per ADNOC Requirements



# Technology

Produce biofeedstock



## Overview

Opportunities to produce biofeedstock in the UAE:



### Opportunities

- Agricultural bio-feedstock require arable lands and freshwater, which are scarce resources that are strategic for local food production
- Sustainable production of bio-feedstocks will enable new applications in the UAE



### Applications

- Sustainable bio-based drilling fluids
- Bio-energy with carbon capture and storage (BECCS)
- Biofuels



### ADNOC Standards / Specifications Requirements

- As per ADNOC Requirements

# Technology

Manufacture absorption chillers



## Overview

Opportunities to manufacture absorption chillers in the UAE:



### Opportunities

- Thermal-driven chillers can utilize abundant waste-heat in our assets
- Additional cooling can enhance plants operations, enhance carbon capture solutions, and reduce power consumption in our assets
- Cooling is the lead energy consumer of electricity in the UAE



### Applications

- Generate cooling from waste heat in our assets
- Generate cooling from solar-thermal and/or geothermal energy



### ADNOC Standards / Specifications Requirements

- As per ADNOC Requirements



# Technology

Manufacture Mobile Solar Systems



## Overview

Opportunities to manufacture mobile solar systems in the UAE:



### Opportunities

- No mobile solar manufacturers within UAE
- Substantial forecasted demand in ADNOC remote operations
- Wide range of applications across ADNOC Group



### Applications

- Drilling rigs
- Live wells
- Remote fleet for operations (Upstream/Downstream)



### ADNOC Standards/Specifications Requirements

- American National Standard Institute (ASTM E927-19)
- IEEE standard 1562:2007
- ISO 9060
- IEC 61215

# Technology

## Manufacture Battery Energy Storage Systems (BESS)



### Overview

Opportunities to manufacture Battery Energy Storage Systems (BESS) in the UAE:



#### Opportunities

- No batteries Manufacturers within UAE
- Substantial forecasted demand in ADNOC remote operations
- Wide range of applications across ADNOC Group



#### Applications

- Drilling rigs
- Live wells
- Remote fleet for operations (Upstream/Downstream)



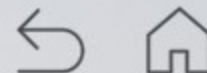
#### ADNOC Standards/Specifications Requirements

- Natl Environment Management Authority (NEMA)
- Intl Electrotechnical Commission (IEC)
- UL Standard
- Modular, Fast-charging, High Energy, Mobile packaging for field operations



# Technology

Manufacture Sustainable Drilling Fluids Including  
Local Sourcing of Plant Based Products



## Overview

Technology Readiness Level-5 (Requires Development)

Opportunities to manufacture mobile solar systems in the UAE:



### Opportunities

- Current oil base mud uses diesel
- OBM is used in all ADNOC wells
- Utilize the material for other applications



### Applications

- Utilize the material for other applications
- Lubricants



### ADNOC Standards/Specifications Requirements

- API
- ADNOC Drilling Standards