THE GNOWIND ALLIANCE - POWER & JOBS FOR THE FUTURE
GNO, INC’S “GNOWIND ALLIANCE”

At over 130 members strong, GNO, Inc.’s GNOWind Alliance aims to develop coastal Louisiana as a global offshore wind energy hub.
The Alliance has five work-streams to help support the region’s industry cluster.

<table>
<thead>
<tr>
<th>Work-stream</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>COORDINATION</strong></td>
<td>To maintain an active flow of information pertaining to BOEM Task Force activities and commercial opportunities.</td>
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<td><strong>ATTRACTION</strong></td>
<td>To promote the region's value proposition to an international audience of OSW firms looking to expand to North America.</td>
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<tr>
<td><strong>INFRASTRUCTURE</strong></td>
<td>To evaluate OSW-specific infrastructure improvements and recommend financing tactics.</td>
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<td><strong>WORKFORCE</strong></td>
<td>To advise universities and technical schools on new curricula to respond to OSW-skills demand.</td>
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<td><strong>INNOVATION</strong></td>
<td>To facilitate the creation and scaling of new technologies and startups in OSW.</td>
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<td><strong>OFFSHORE OIL &amp; GAS</strong></td>
<td><strong>OFFSHORE WIND</strong></td>
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<tr>
<td>OFFSHORE MARINE VESSELS</td>
<td>✓</td>
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<tr>
<td>SCIENCE &amp; ENGINEERING JOBS</td>
<td>✓</td>
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<tr>
<td>PORT INFRASTRUCTURE</td>
<td>✓</td>
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<tr>
<td>EQUIPMENT MANUFACTURING</td>
<td>✓</td>
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<tr>
<td>OFFSHORE FIELD SERVICES</td>
<td>✓</td>
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US WIND PROJECTS ALREADY RELY ON LOUISIANA

Block Island Wind Farm made possible by LA companies
Lafayette-based Aries Marine Corp. and Galliano-based Falcon Global LLC are Louisiana liftboat operators that helped develop the nation’s first commercial offshore wind farm, Block Island. For that project, Metairie-based Keystone Engineering provided design assistance and Houma-based Gulf Island Fabrication built foundation jackets and piling.

LM Wind Power – Technology Center Americas
LM Wind Power, a unit of GE Renewable Energy, invested in a new Technology Center Americas facility to develop and test new techniques for designing and building wind turbine blades at its facility on the NASA Michoud campus outside of New Orleans, Louisiana.

Edison Chouest builds first Jones Act compliant SOV
Edison Chouest Offshore (ECO), Ørsted and Eversource announced the execution of a long-term charter agreement for the provision of the first-ever U.S. flagged “Jones Act” compliant Service Operations Vessel (SOV). The SOV will be engineered, constructed and operated by ECO as an integral part of the operation and maintenance of several offshore wind farms.
At the epicenter of the US offshore maritime sector, coastal Louisiana is the smart location for OSW market leaders.

- **Ranked 4th among all US states in net technical potential for OSW energy.**
  
  Source: National Renewable Energy Laboratory

- **A 70-year legacy in offshore maritime work rooted in safety and innovation.**

- **The largest port complex in the western hemisphere with ample site options.**

- **A low-cost business environment and top workforce training programs.**

- **Pro-business and highly coordinated government entities in support of OSW.**
Coastal Louisiana produces a vast quantity of OSW-relevant technical and professional talent through its network of higher education institutions.
OSW HAS GLOBAL IMPLICATIONS

Technological advancements allow OSW developers to install farms wherever there is moderate wind and coastal population centers.

Source: Ørsted
Countries around the globe have set aggressive targets for new OSW capacity that will result in an estimated $1 trillion of new capital investments.

**Offshore wind installed capacity and market outlook**

*Source: Global Wind Energy Council*
The cost of OSW-produced electricity has dropped drastically - by 67% in 10 years due to rapid technological advancement.


Source: GE Renewables
While wind speeds are favorable along each coast, other factors such as water depths, energy demand, and electricity costs influence feasibilities.

Source: NREL
Each coast has unique OSW opportunities.

Louisiana has a unique advantage given the Gulf shallow waters.

Source: NREL
The combination of shallow waters and moderate wind speeds places Louisiana fourth in net technical energy potential.


Source: NREL
The Edwards Administration paved the way for the exploration of offshore wind energy in the Gulf of Mexico with a Task Force request to BOEM.
LOUISIANA IS STARTING THE PROCESS

The Offshore Renewable Energy Task Force ensures local input and oversight throughout the planning and operation stages.

- **Task Force Request**
- **Planning & Analysis**
- **Leasing**
- **Site Assessment**
- **Construction & Operations**

**Launched June 14, 2021**
**Target Date: Q4 2022**
The GNOwind Alliance is executing strategic initiatives to communicate the regional value proposition while providing added valued to the industry.
Coastal Louisiana has a once-in-a-lifetime opportunity to dominate the next generation of marine energy jobs.
ECONOMIC IMPACT

If Louisiana captured 10% of the offshore wind market.

$8.2 BILLION CAPEX

7,400 OSW JOBS
15,400 INDIRECT JOBS

Source: Business Network for Offshore Wind
Green hydrogen is made from renewable electricity and water and creates zero CO2 (versus traditional hydrogen made from coal or natural gas); demand is expected to soar over 1,000% by 2050, per Goldman Sachs.
South Louisiana has a competitive advantage in a number of the most appealing opportunities on the Clean Hydrogen Ladder.

Unavoidable

A
- Fertiliser
- Hydrogenation
- Methanol
- Hydrocracking
- Desulphurisation

B
- Shipping¹
- Off-road vehicles
- Steel
- Chemical feedstock
- Long-term storage

C
- Long-haul aviation¹
- Coastal and river vessels
- Remote trains
- Vintage vehicles
- Local CO2 remediation

D
- Medium-haul aviation¹
- Long distance trucks and coaches
- High-temperature industrial heat

E
- Short-haul aviation
- Local ferries
- Commercial heating
- Island grids
- Clean power imports
- UPS

F
- Light aviation
- Rural trains
- Regional trucks
- Mid/Low-temperature industrial heat
- Domestic heating

G
- Metro trains and buses
- H2FC cars
- Urban delivery
- 2 and 3-wheelers
- Bulk e-fuels
- Power system balancing

Uncompetitive

1. Via ammonia or e-fuel rather than H2 gas or liquid
South Louisiana can become a global leader in producing and storing green hydrogen by leveraging its competitive advantages, using offshore wind as the clean power source, and employing its industrial base as the customer.
COMMON MISCONCEPTIONS

What everyone should know about offshore wind energy.

• “You can install wind turbines on decommissioned oil & gas platforms, right?”

• “Won’t hurricanes destroy wind farms in the Gulf?”

• “Offshore wind energy is too expensive to compete with natural gas.”

• “Offshore wind turbines kill massive amounts of migratory birds!”

• Unfortunately, that’s not possible. O&G platforms weren’t designed to support massive vertical structures.

• Actually, GE received the first typhoon certification paving the way for a GoM hurricane insurance market.

• Similar to solar, offshore wind energy is experience a rapid cost decline – production cost decreased 67% in 10yrs.

• Feral cats kill vastly more migratory birds that wind turbines and new installations factor in migratory flows.
Thank you

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