



# Wave Energy in An Binh:

Blueprint for Climate Resilient Islands

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# 1. Background on An Binh Island

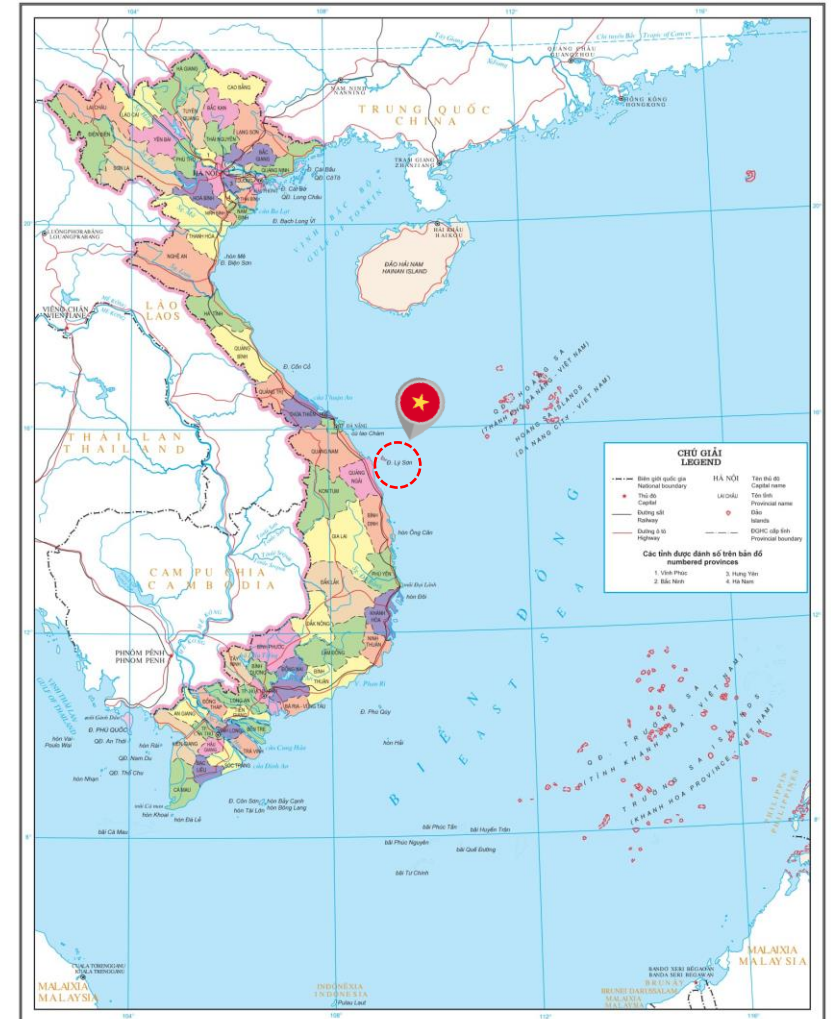


Vietnam's coastline stretches **3,260km** from **the East Sea to the Gulf of Tonkin**, and contains high wave energy potential.



An Binh Island is located in the **northwest** of Ly Son District, Quang Ngai Province, Vietnam

BẢN ĐỒ HÀNH CHÍNH QUỐC CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM  
ADMINISTRATIVE MAP OF SOCIALIST REPUBLIC OF VIETNAM



# 1. Background on An Binh Island



## Power Supply:

Diesel Generators: 2 x 110kVA

Solar Power System: 96kWp



## Population:

≈ 500 people



## Area:

0.69 km<sup>2</sup>



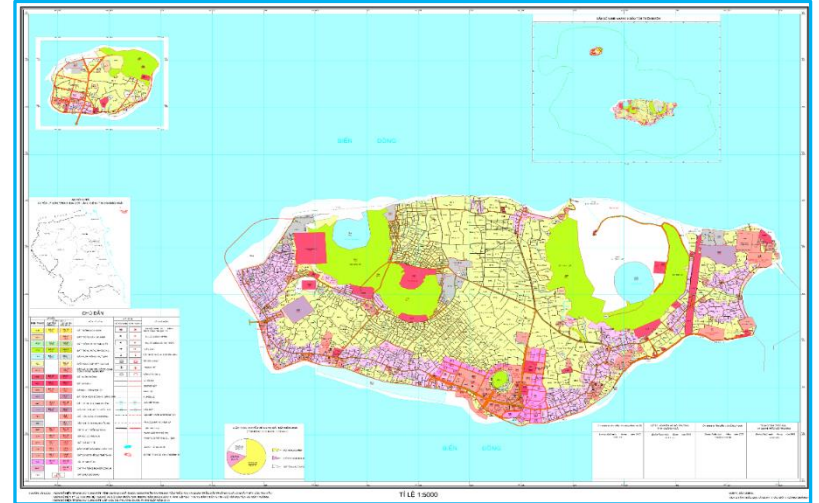
## Main economic activities:

Fisheries and Tourism



## Rainy season:

September - December





## 2. Carbon Free Island Initiative



Boost local socio-economic development



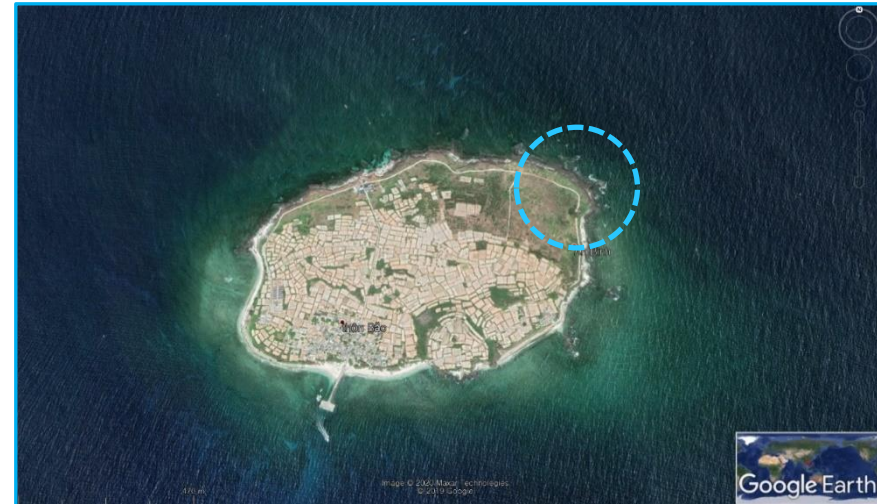
Reduce diesel pollution



Ensure energy security

ENGINE contributes to this 5-party initiative as the technology provider of a wave power system.

Completion target: second half of 2021



**ENGINE**

MOU between Quang Ngai Province, SK Innovation, DOOSAN VINA, Vin Group & ENGINE in Nov 2019 (left)  
Project site - An Binh Island (right)

### 3. Wave Resources in An Binh Island

Month	Wave Height (m)	Mean Period (s)	Wave Energy (kw/m)
All Year	1.1	5.5	7.67
Jan	1.6	6.3	13.39
Feb	1.4	6.0	9.96
Mar	1.2	5.6	6.81
Apr	1.0	5.1	4.08
May	0.7	4.7	2.38
Jun	0.6	4.4	1.49
Jul	0.5	4.9	1.33
Aug	0.5	5.2	1.34
Sep	0.7	5.4	3.05
Oct	1.4	6.1	10.53
Nov	1.8	6.5	17.12
Dec	2.0	6.7	21.80





## 4. INWave™ in An Binh Island: Technology

- **Easy-to-install, economic onshore type WEC**
- **Clean energy to replace diesel**
- **Ready for commercialization**

Video Clip : <https://youtu.be/wixETauAvlQ>

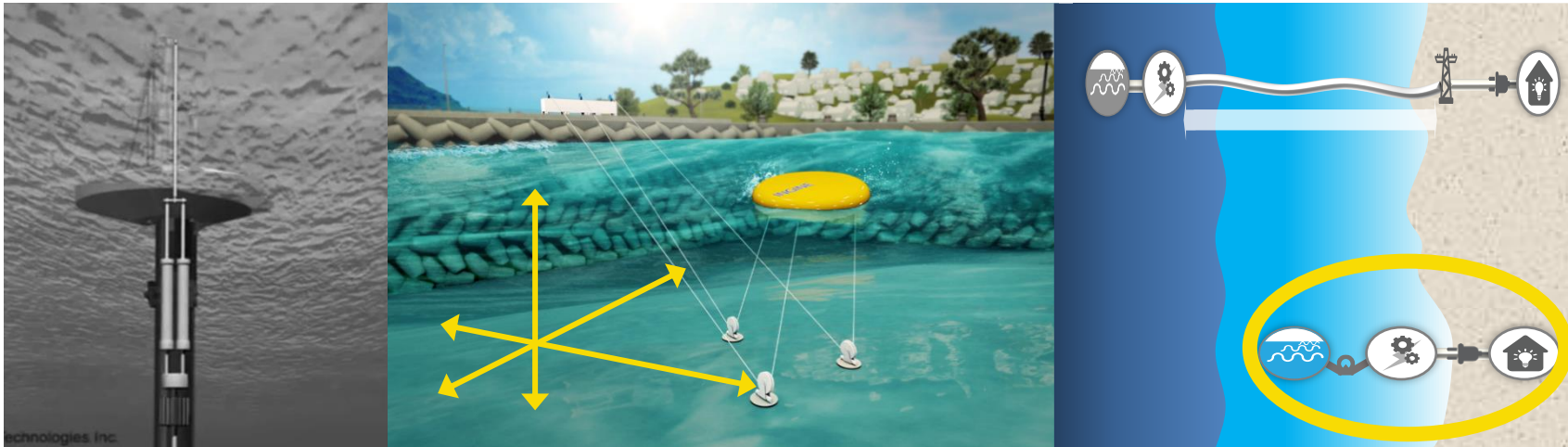
\*WEC: Wave Energy Converter

## 4. INWave™ in An Binh Island: Key Features



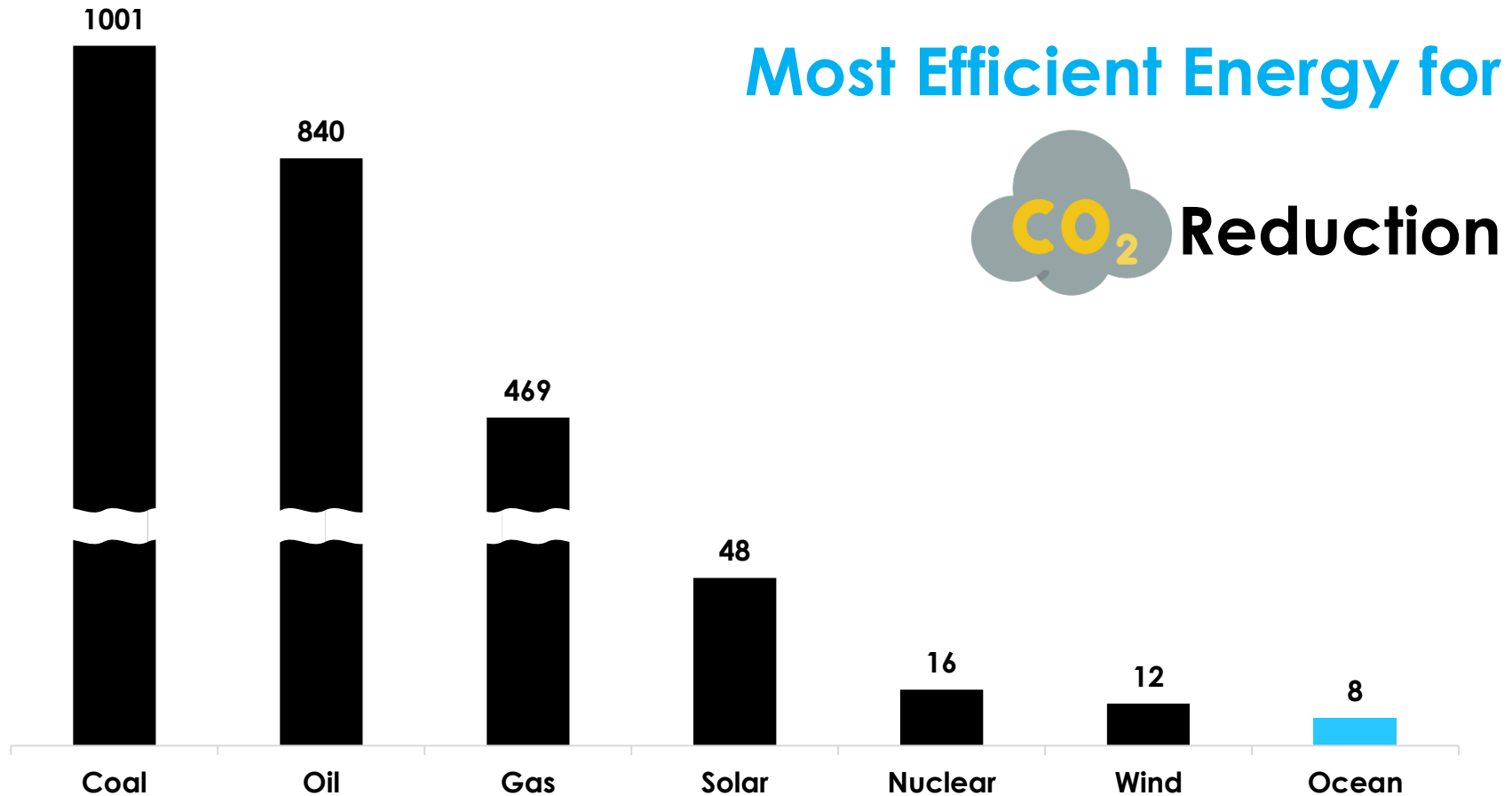
**Mid size INWave™ with the capacity of 50kW**

- Technology Readiness Level, **TRL 7**: Pre-commercialization
- Device: **Multi-Directional** Energy Harvesting
- Onshore converter: **Lower CAPEX / Maintenance costs**
- Easy market entry and **offgrid/micro-grid suitability**

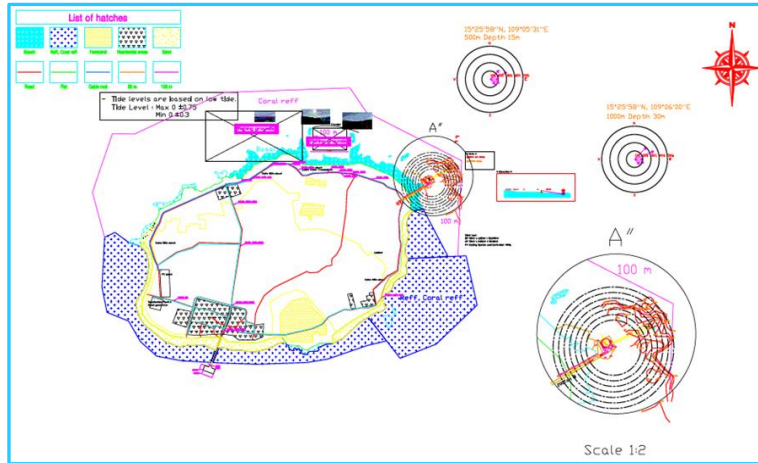




## 4. INWave™ in An Binh Island: CO<sub>2</sub> Reduction



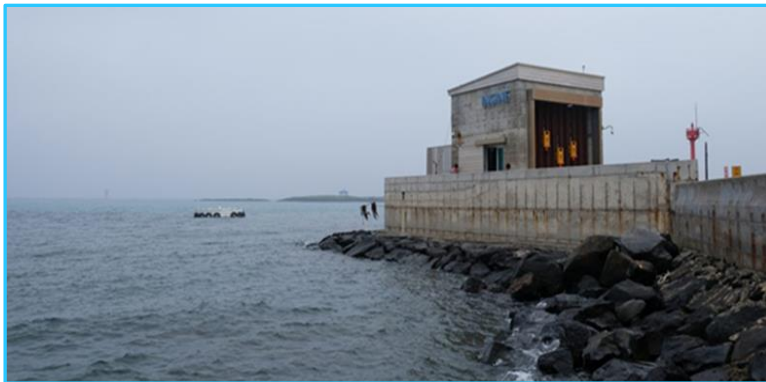
## 4. INWave™ in An Binh Island: Environment-friendly



Coral reef area avoided



Birds on INWave™ system's buoys of Jeju demo Plant



Breakwater preventing erosion

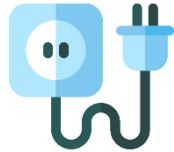


Marine life around INWave™ system's mooring of Jeju demo plant

## 5. Blueprint for Other Remote Islands



Coastal Water  
Efficiency



Free of Costly Submarine  
Power Transmission



High Stability and  
Scalability



Small Space  
Required

### INWave™

A blueprint for other remote islands to:

- achieve energy independence
- reinforce local development in a reliable, affordable, and clean way.



7 AFFORDABLE AND  
CLEAN ENERGY

ENGINE





# ENGINE

*Harness Nature Power Life*

## Thank you

For more information

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