

***Introduction about RE development in  
Ninh Thuan province and its contribution  
to the province's socio-economic  
development***

***Ninh Thuan, April 2022***

Ladies and gentlemen!

According to the forecast, the energy demand in the coming years will continue to increase while the fossil fuels are being exhausted. Thus, RE development is becoming a global energy development trend.

Viet Nam has made commitment in the COP26: *“Viet Nam will capitalize on its advantage in renewable energy and take stronger measures to reduce greenhouse gas emission. To this end, we will make use of our own domestic resources, along with the cooperation and support of the international community, especially from the developed countries, in terms of finance and technology, including through mechanisms under the Paris Agreement, in order to achieve net-zero emissions by 2050.”*



With great support from the National Assembly, the Government and central ministries and departments have been promoting the rapid socio-economic development of Ninh Thuan in the past years, especially after the Government's introduction of Resolution 115/NQ-CP dated 31/8/2018 on implementation of a number of special policies on provision of assistance for Ninh Thuan province in socio-economic development, settlement of business and people's life during 2018 – 2023 which is a key leverage for the breakthrough of the province's socio-economic development.



In order to effectively and continuously untap the potential and further use of the available energy resources (wind, solar PV energy) in the province and in the context of the recent Politburo's Resolution 55-NQ/TW dated 11/02/2020 on orientations of the Viet Nam's National Energy Development Strategy to 2030 with an outlook to 2045, on this occasion of the Technical Working Group meeting on RE, I would like to present to you the *“Introduction about RE development in Ninh Thuan province and its contribution to the local socio-economic development”*.

***The presentation will cover 5 sections***



## I. RE development potential of Ninh Thuan province:

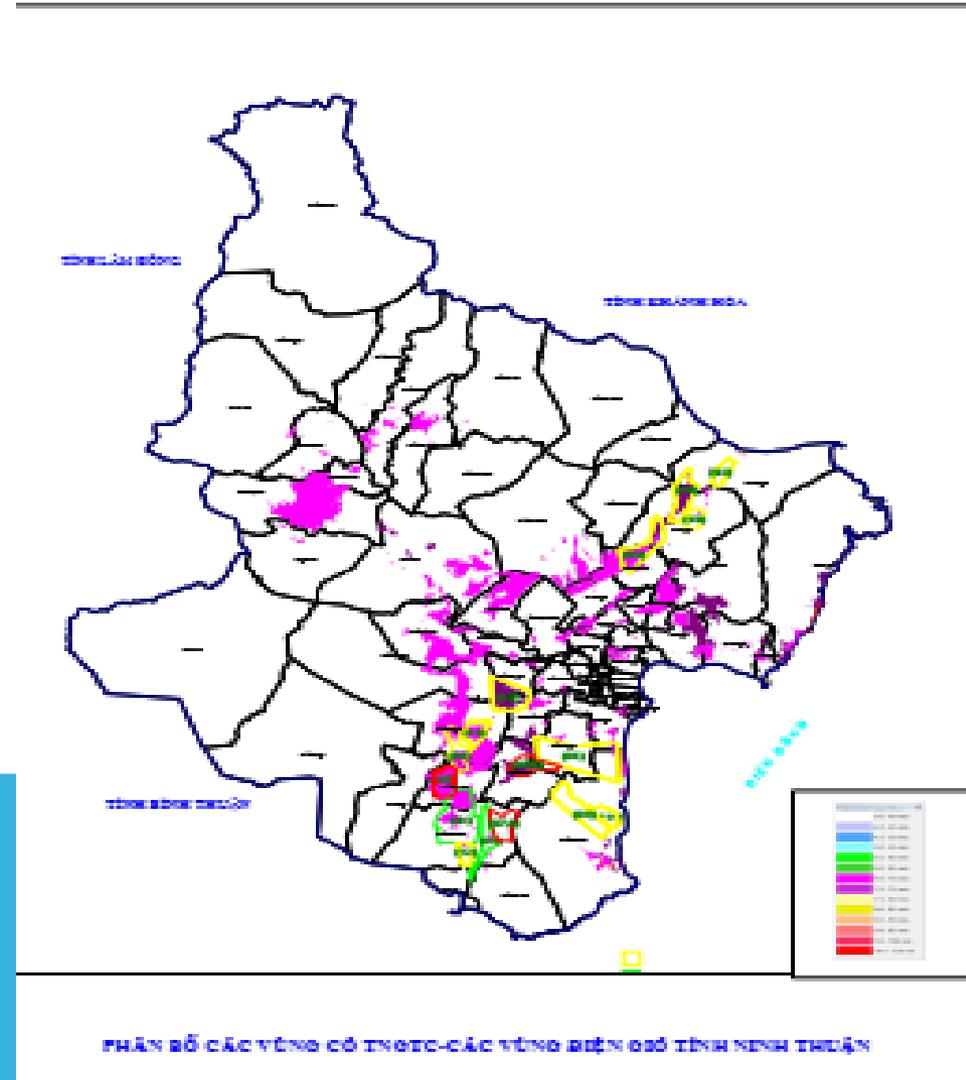
Ninh Thuan is one of the provinces with high RE (wind and solar energy) development potential, naturally characterized by **wind speed ranging from 6.4 – 9.6 m/s (average speed of 7.5m/s)**, higher than any provinces of the country, and blowing throughout ten months of the year, creating favorable conditions for wind energy development and stability for wind turbines operation. The solar irradiance ranges from **1,780-2,015 kWh/m<sup>2</sup>/year** with very slight irradiance difference among seasons of a year. **The total sun hours a year reaches 2,500-3,100 hours/year**, which is the highest of the country, greatly facilitates the effective development of solar PV projects.



**Given the potential and the advantages regarding RE development, Ninh Thuan has made following RE development plans:**

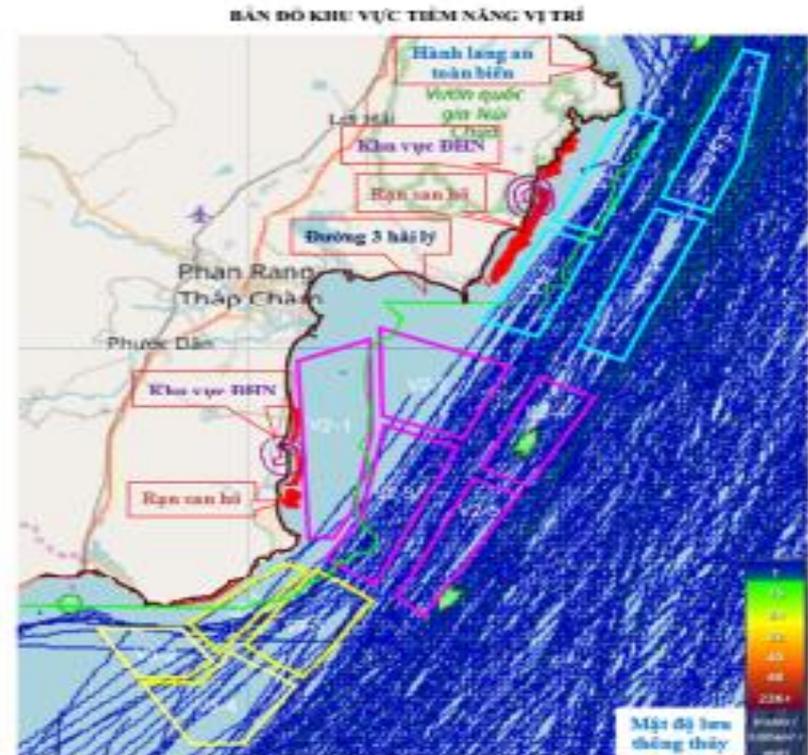
**(1) Onshore Wind Development Plan:**

According to Ninh Thuan's wind energy development plan for the 2011 – 2020 period and outlook to 2030 (approved by MOIT in the Decision 2574/QD-BCT dated 23/4/2013), around **1,429 MW** (up to 2,000MW with application of modern and new technology) **will be added by 2030**, of which: 90 MW will be developed by 2020, accumulative capacity will be 220 MW by 2025 and 1,429 MW by 2030.



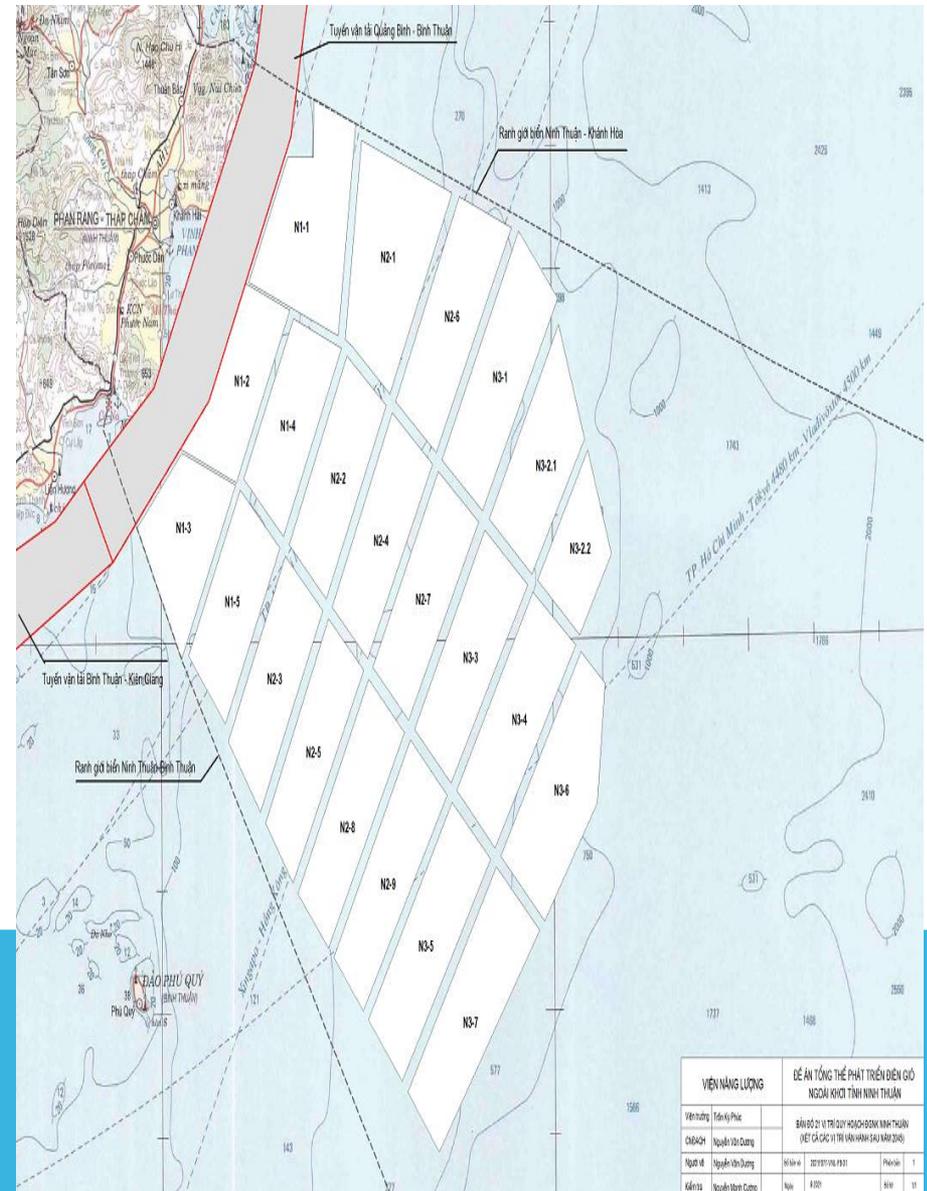
## (2) Nearshore Wind Development Plan:

According to Ninh Thuan's nearshore wind energy development plan for the period 2021 – 2030 and outlook to 2045 (submitted to MOIT/ Prime Minister at the Report ref. 118/TTr-UBND dated 16/7/2020), around **4,380 MW** will be developed by 2030 (of which the installed capacity will be 1,220 MW by 2020 and 3,160 MW by 2030)



Tiềm năng vị trí	Tiềm năng công suất (MW)	Tiềm năng vị trí	Tiềm năng công suất (MW)	Tiềm năng vị trí	Tiềm năng công suất (MW)
Mũi Đả Vành đến Hòn Bè	300	Từ Thới đến Mũi Núi	1.200	Mũi Dinh đến Cà Ná	300
Khu vực 1-1	100	Khu vực 2-1	400	Khu vực 3-1	120
Khu vực 1-2	100	Khu vực 2-2	200	Khu vực 3-2	150
Khu vực 1-3	250	Khu vực 2-3	100	Khu vực 3-3	250
Khu vực 1-4	250	Khu vực 2-4	230	Khu vực 3-4	200
		Khu vực 2-5	230		
<b>Tổng cộng</b>			<b>3.200</b>		

**(3) Offshore Wind Development Plan:** According to Ninh Thuan's Offshore Wind Development Master Plan (submitted to MOIT/ Prime Minister at the Report ref. 247/TTr-UBND dated 26/9/2021), the capacity will be 21,000 MW by 2045 (of which: 2,000 MW will be added by 2030, 6,000 – 11,000 MW will be added in the 2031-2035 period, and a cumulative capacity of 21,000 MW will be reached as planned in the 2036-2045 period).





**(5) In addition, Ninh Thuan also has potential and advantages in developing other power sources such as:**

\* **LNG power: 6,000 MW** (in accordance with the Plan submitted to MOIT/ Prime Minister, in which 1,500 MW has been approved, the remaining capacity will be considered in PDP 8);

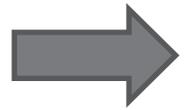
\* **Pumped storage hydro power: 3,600MW** (Bac Ai: 1,200MW; Phuoc Hoa 1,200MW; Ninh Son: 1,200MW);

Small and medium hydro power: around **362MW**;

\* **Nuclear power:** capacity of **4.600MW** (investment policy of the nuclear power project in Ninh Thuan province was ceased by the National Assembly at the Resolution 31/2016/QH14 dated 22/11/2016);

\* **Potential of other energy sources** (tidal energy, biomass, ocean wave, ocean currents, etc.): not yet explored and assessed.





In conclusion, the RE development potential in Ninh Thuan by 2030 would reach approx. **16,257 MW** (excluding the potential capacity in the periods after 2030, gas-fired power, pumped storage hydro power, small hydro power, nuclear power and other energy sources).

## II. Status of RE projects development in Ninh Thuan province

The introduction of **Decision 11/2017/QD-TTg** dated 11/4/2017 (previously) and **Decision 13/2020/QD-TTg** dated 06/4/2020 on incentive mechanisms to promote the solar power development in Viet Nam; **Decision 39/2018/QD-TTg** amending and supplementing a number of articles of the Prime Minister's **Decision 37/2011/QD-TTg** on incentive mechanisms for wind projects development in Viet Nam **has leveraged and attracted strong waves of investment in "Renewable energy" sector, turning Viet Nam in general and Ninh Thuan in particular to be the top place of RE development in the Southeast Asia.**

- \* So far, Ninh Thuan has attracted 51 RE investment projects (wind and solar power) with a total capacity of 3,262MW (16 wind projects/850MW and 35 solar projects/2,412MW); total registered capital = 84,176 VND billion which set a record in investment attraction for Ninh Thuan.
- \* By the end of 2021, 46 projects/3,078MW had been invested and completed construction in Ninh Thuan province (of which 35 solar projects/2,412MW and 11 wind projects/666MW). However, only 2,831MW reached COD and currently feeding into the national power grid; the remaining 247MW (including 154MW solar, 93MW wind) have been invested and constructed but COD hasn't been accepted due to the unavailability of FiT 2 for wind power and FiT 3 for solar power.

Besides, Ninh Thuan PPC accepted the policy on allowing project developers to conduct surveys and prepare dossier to supplement the inclusion of **26 projects/1,821 MW** in PDP in accordance with prevailing regulations. These supplemented projects have been submitted to MOIT for appraisal and are now pending approval.

In addition, **by the end of 2020, 3,656 customers in Ninh Thuan had rooftop solar systems under 01 MW/Total of 357,535.87KWp** which have connection agreements and completed construction. These systems had been accepted by Ninh Thuan Power Company and equipped with two-way meters.



### III. RE contribution to local socio-economic development

The support of the Government and Ministries has contributed to Ninh Thuan province's rapid socio-economic development; especially since the issuance of the Government's Resolution 115/NQ-CP dated 31 August 2018, which is a key leverage for the break-through of the province's socio-economic development. To be specific, **in the last 03 years of FY2016-2020, the province's budget revenue collection exceeded the target set by the Provincial Party Congress three years in advance**, of which RE sector significantly contributed to revenue collection and motivated the development of the province's real estate market, construction, services and commerce. This helped achieve the goal set by the XIII Provincial Party Congress (Sept/2015): *“Focusing on the development of processing industry and clean energy to create the driving force for economic growth and economic restructuring”*.



The operational projects contributed to the province's socio-economic development, specifically in 2021:

- The provincial GRDP was expected to reach VND 19,767.4 billion, increasing by 9.0%/yr in 2020
- The value added to industrial sector reached VND 4,762.9 billion, increasing by 38.06%/yr in 2020 and contributing 6.64% of the provincial GRDP

This is the highest growth rate in the north central and central coast regions.

The value added to power production and distribution reached VND 3,613.6 billion, contributing 6.84% of GDRP; 6,822 billion kWh/yr to the national power grid; collecting VND 1,258 billion of VAT/yr; providing stable jobs for around 1,150 local people. In addition, project developers contributed to social protection funds of the province (e.g. investments in transport infrastructure; supported the construction of schools and teaching equipment; supported Covid-19 fighting efforts; contributed to pro-poor funds and families under preferential treatment, among others).

## IV. Challenges

Beside advantages regarding development potential, mechanisms, policies and management, Ninh Thuan province is facing the following challenges:

- **No.1:** Among 46 invested and constructed projects/3,078MW, **only 2,831MW are COD accepted** and currently feeding into the national grid; **the COD of the remaining 247MW** (including 154MW solar, 93MW wind) **hasn't been accepted** due to the unavailability of FiT 2 for wind and FiT 3 for solar.
- **No.2:** The projects with accepted COD and are feeding the national grid are experiencing **power curtailment**; curtailment leads to significant impact on the efficiency of investments and the province's socio-economic development.
- **No.3: Most of the** power transmission projects that have received the Prime Minister's approval in revised PDP VII, **are behind schedule**. As a result, capacity release of the projects operating in Ninh Thuan province is facing certain challenges and unable to utilizing the maximum power production of the projects feeding into the national grid.

- **No.4:** The regulation on conversion of land use purpose regarding forest land and agricultural land hinders negotiations on area clearance for transmission routes and forest land conversion procedures are facing difficulties with lengthened the process.
- **No.5:** The delayed approval of PDP VIII influences the province's energy development orientation, and its synchronization with the provincial socio-economic development plan, especially the land use plan for RE projects development.
- **No.6:** The treatment of waste from PV panels which were damaged during investment process, especially end-of-life treatment, should be discussed in the forthcoming period. Theoretically, all investment projects must have environmental impact assessment report and approval (a plan for building warehouses to store damaged PV panels; contracts with hazardous waste treatment units, etc). However, science and technology development for effective hazardous waste treatment or PV panel recycling should be considered thoroughly for the purpose of mitigating the establishment of landfills, causing environmental pollution and a burden on society.

## V. SOLUTIONS AND RECOMMENDATIONS FOR COMING TIMES

Based on the province's RE development, the Government's Resolution 115/NQ-CP, Resolution 20-NQ/TU dated 25 Jan 2022, the XIV Party Committee of Ninh Thuan province stated *“to develop Ninh Thuan province to be the country's centre for energy and renewable energy by 2025, with orientation to 2030”* in order to attract and mobilize investments resources for the development of the energy sector to become the province's key economic sector, promoting the province's industrial and socio-economic development. Ninh Thuan's DOIT would like to propose the following solutions and recommendations to MOIT and the Prime Minister:



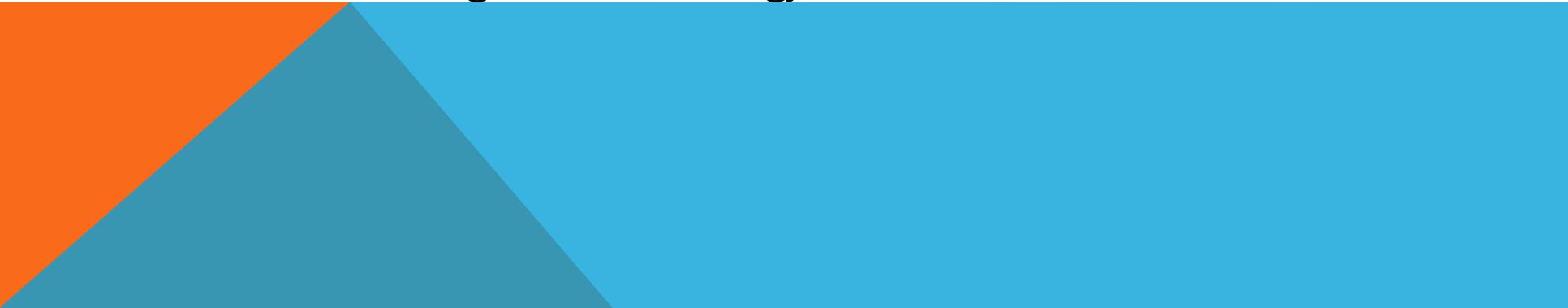
*Recommendation 1:* The Prime Minister and MOIT to consider: (1) Updating and incorporating the existing sources of energy in Ninh Thuan into PDP VIII and timely studying investments in transmission infrastructure for synchronized connections with power supply projects (near-shore wind 4,380MW; off-shore wind 21,000MW; LNG-based power 4,500MW; pumped-storage hydropower 2,400MW; wind and solar projects proposed by Ninh Thuan PPC); (2) FiT for constructed projects waiting for COD acceptance (including 154MW solar, 93MW wind); (3) Issuing power pricing mechanism for RE projects wind, solar); (4) Issuing policies on forest land conversion for the implementation of investment projects, especially transmission infrastructure projects.

*Recommendation 2:* It is proposed that the National Assembly and the Government to **enable timely allocation of budget for EVN** to have appropriate resource allocation plan for transmission grid projects in accordance with the approved plan. The purpose is to release the total capacity of power sources incorporated in PDP VIII, achieving socio-economic development goals of the whole country in general and Ninh Thuan in particular.

*Recommendation 3:* The Government to issue incentive mechanisms and policies for **attracting finance from private sector** (non-state) to the development of transmission system in accordance with the Politburo's Resolution 55-NQ/TW dated 11 Feb 2020 on the orientation of Viet Nam's National Energy Development Strategy to 2030, vision to 2045.

*Recommendation 4:* MOIT to advise the Government to develop incentive mechanisms and policies for the development of manufacturing industry and services supporting energy sector in the way that strengthens internal synergy and increases localization rate towards exporting purpose; prioritize the development of machinery and electrical equipment manufacturing industries for long-term production prices reduction and ensuring production stability which are vital success factors for energy security. To complete legal framework, promote and implement ESCO model (installation, maintenance, logistics, etc.)

*Recommendation 5:* To focus on science and technology development, high-quality human resource development for the energy sector. To be able to establish research institutes, centres and universities with highly-specialized majors and training program on energy, research and transfer technologies for the energy sector.



**Recommendation 6: To enforce environmental conservation policy through the reuse of PV panels:** End-of-life management for PV should be considered now. For a circular economy targeting using and reusing materials and decarbonization, the Government needs strict and specific policies applicable to PV panels manufacturers who shall be responsible for collecting and treating these panels for recycling purpose and reduction of waste.

**Recommendation 7: To promote international cooperation.** To implement flexible and effective foreign policies for energy cooperation on the basis of win-win principle. To expand our partnerships to energy investors, strengthen our relationships with key and important strategic partners, take advantage of trade agreements and political and diplomatic relations for attracting investments.



*Recommendation 8:* To strengthen the Party's leadership and improve the efficiency and effectiveness of state management; to promote the people's ownership and the role of the Provincial Vietnamese Fatherland Front Committee, other socio-political organizations in energy sector development. To enable effective communication and advocacy to reach local people's agreement on the province's socio-economic development orientation towards RE development and the establishment of the national RE centre in Ninh Thuan.

## CONCLUSION:

Ninh Thuan is a province with high potential and favourable conditions for RE development. The province is implementing large-scale projects such as Ca Na LNG power plant I/1,500MW, Bac Ai pumped-storage hydropower project 1,200MW. For 2030 with a vision to 2050, Ninh Thuan considers energy development a key and core sector. Therefore, the province needs support from the National Assembly, the Government and Ministries by timely addressing the existing challenges, contributing to the attraction of investors to Ninh Thuan and making the province become the country's energy and RE centre in accordance with the Resolution 115.

Thank you very much for your attention!

