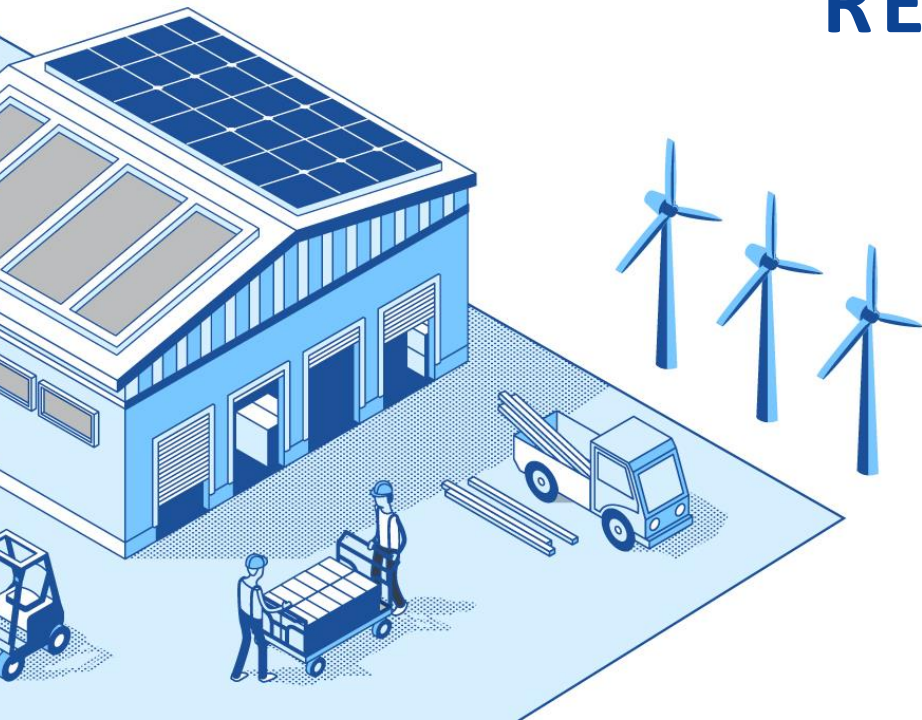




## DEVELOPMENT OF EIPs IN VIETNAM: LEGISLATION AND SOLUTIONS

# RENEWABLE ENERGY



# 25 YEARS DEVELOPMENT



SINCE  
1997

**05** NO. OF  
INDUSTRIAL ZONES



HAIPHONG  
QUANG NINH



**3,400+ HA**  
LAND BANK



**130+**  
PROJECTS



**5 BILLION USD**  
INVESTMENT



**375**  
PEOPLE



Eco-Industrial Park Vietnam



- 
1. Vietnam Energy Outlook
  2. DEEP C's Strategy
  3. Challenges ahead
  4. Conclusions

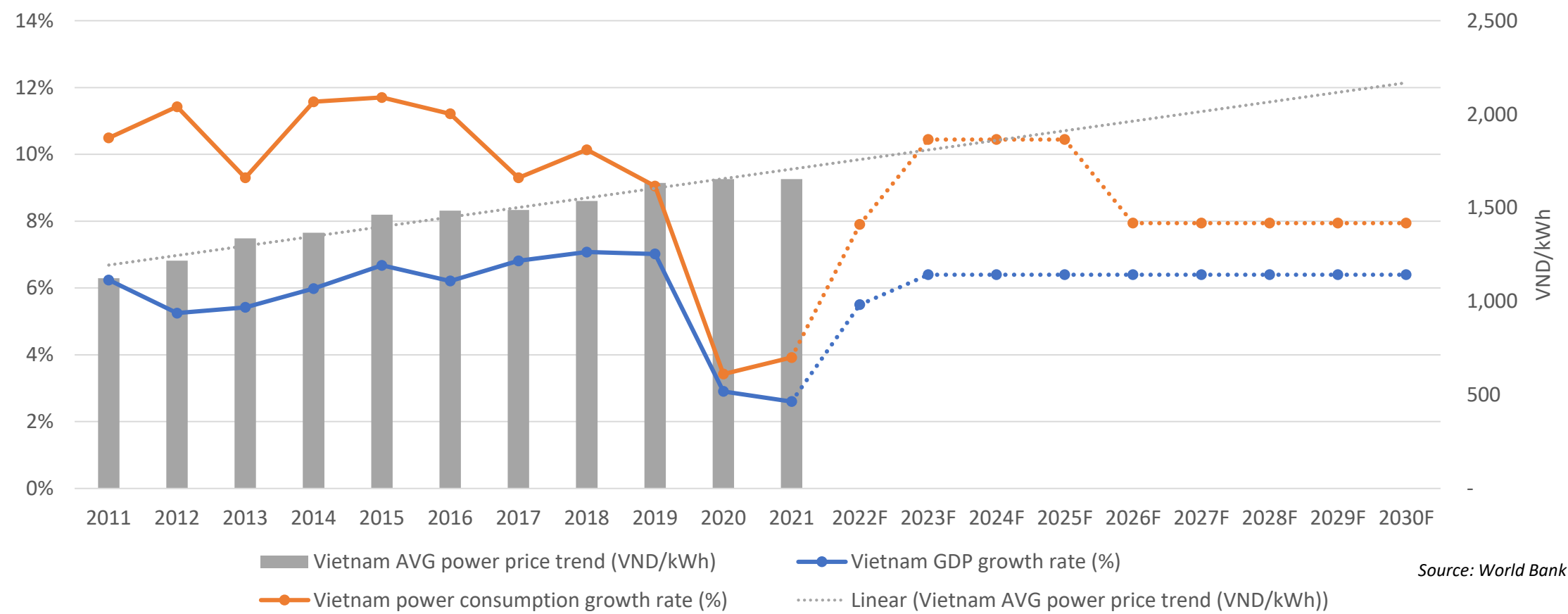


# 01 | Vietnam Energy Outlook

# Vietnam Economic & Energy Growth



### Vietnam Economic & Energy Growth Actual & Forecast

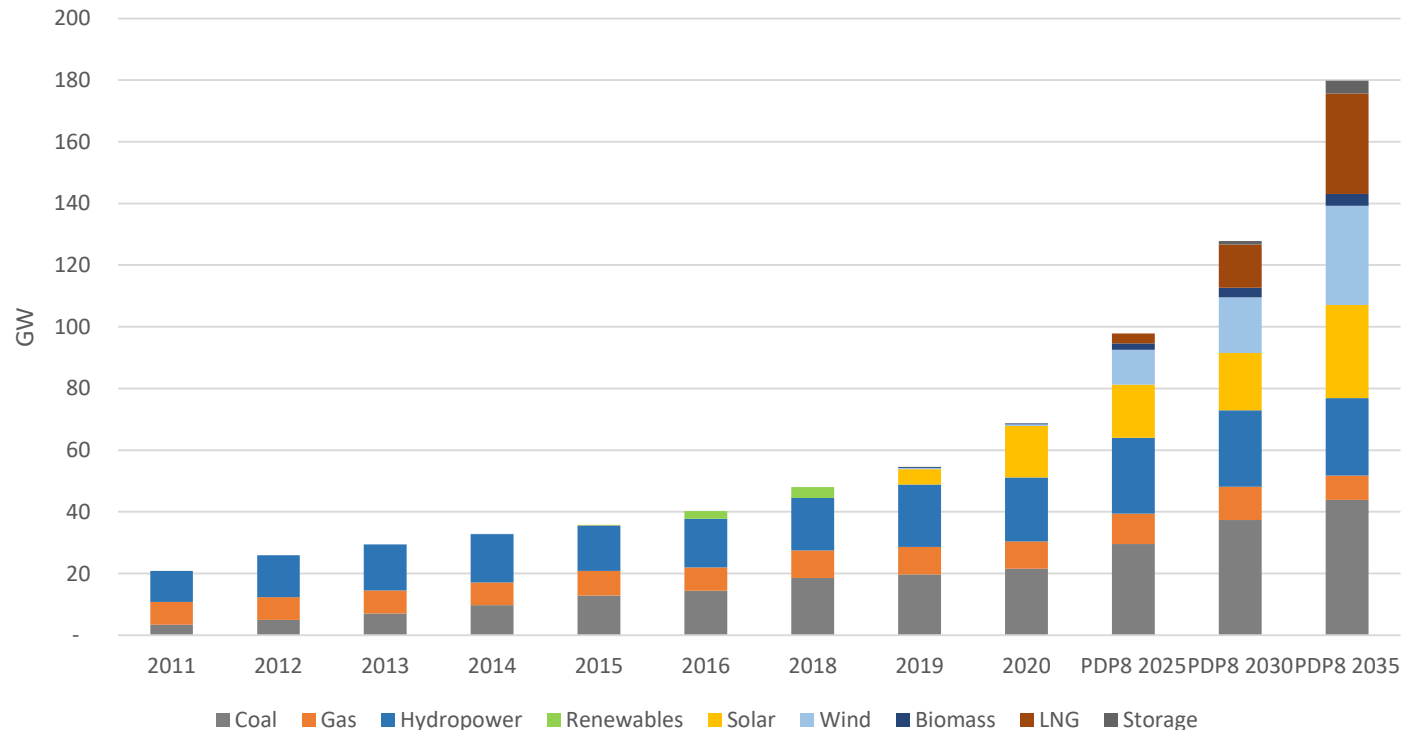


Source: World Bank & EVN

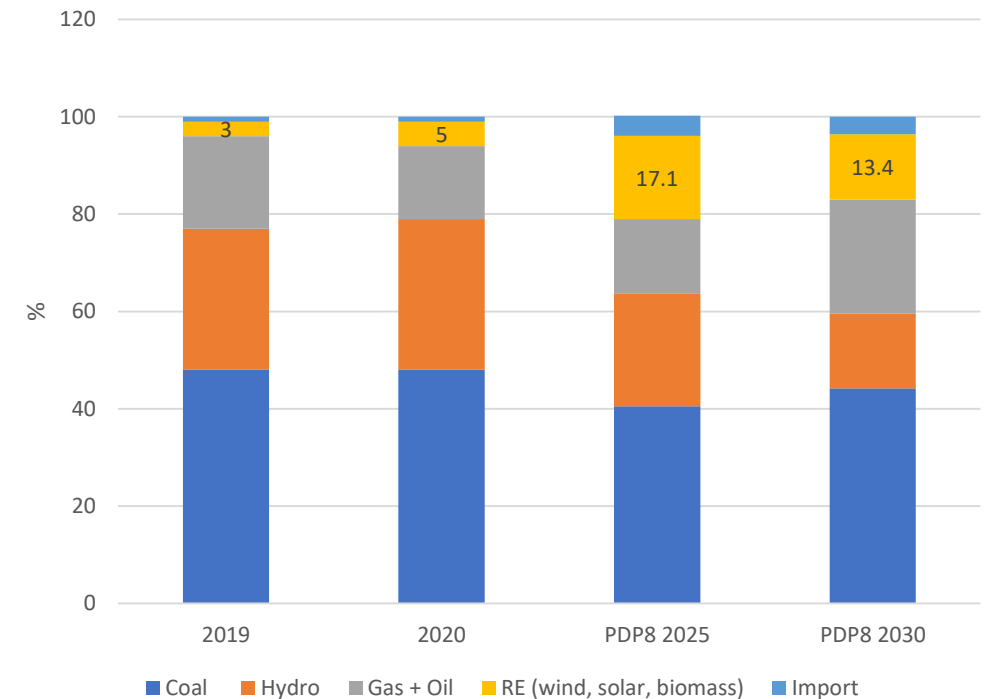
**Vietnam is one of the fastest-growing countries in the world : Power consumption grew with double digits before Covid-19 and Power price increased by avg almost 6%/year before covid**

## PDP8 & Shift to Renewables

Vietnam Power Capacity by Source  
Actual & Planning



Vietnam Electricity Generation Mix  
Actual & Planning



- › Vietnam is determined to replace coal with renewables, introducing LNG & storage as part of their goal to become carbon neutral by 2050
- › Determination was met with hugely unforeseen surge in solar investment (~0 in 2018 -> 5GW in 2019 -> 17 GW in 2020)
- › **12.8 billion USD** infrastructure investment (75% in generation, 25% in transmission) required every year from 2021-2030 to meet power consumption growth

# DECREE 35/2022/ND-CP

## Article 27. Rights and obligations of investors in industrial zones, economic zones, and industrial zone developers

2. In addition to those stipulated in the clause 1 of this Article, industrial zone developers have the following rights and obligations:

a) Lease, agree and cooperate with other investors to invest, build, maintain and operate infrastructure systems in industrial zones and functional zones in economic zones or share the infrastructure inside and outside the boundary of industrial zones, functional zones in economic zones in compliance with civil laws and other relevant regulations

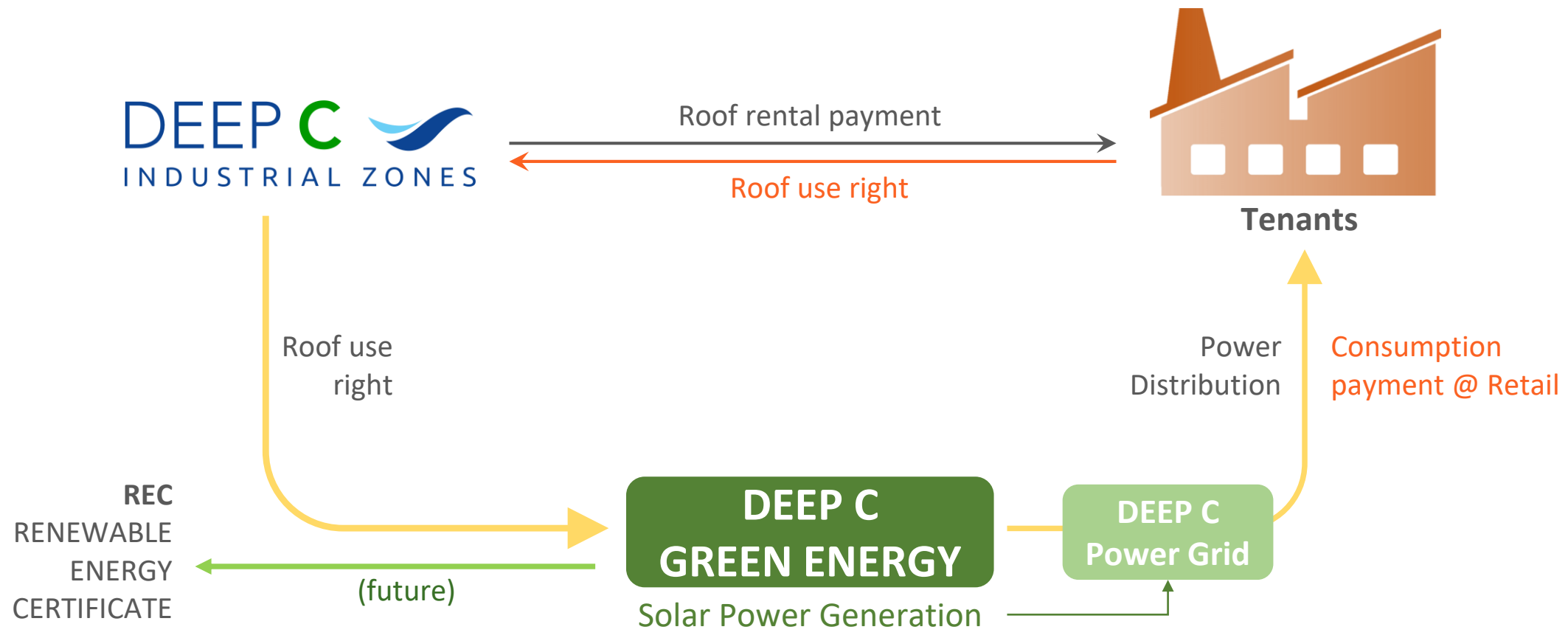




## 02 | DEEP C's Strategy



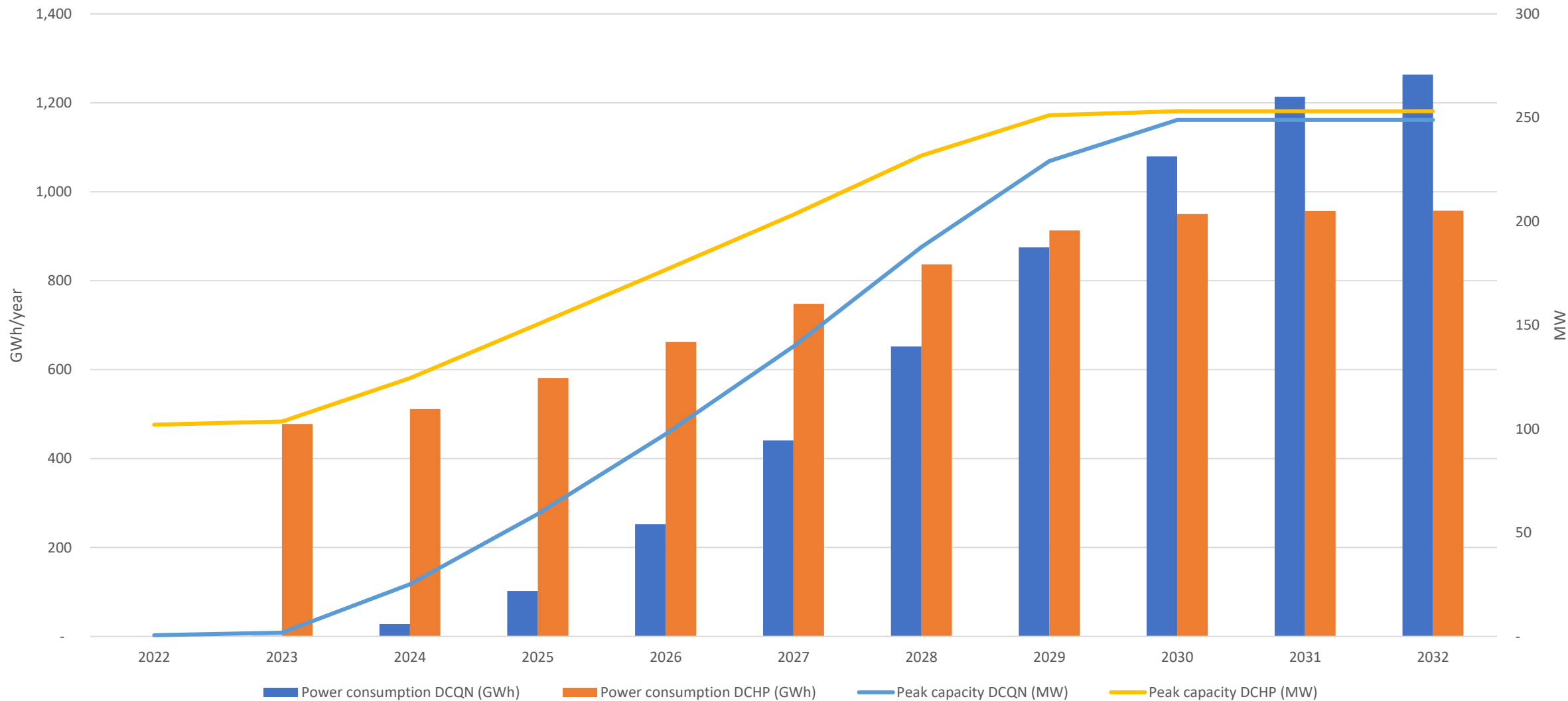
# Actual rooftop Solar Business Model



**BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION AND FOSTER INNOVATION**

# DEEP C forecasted power consumption

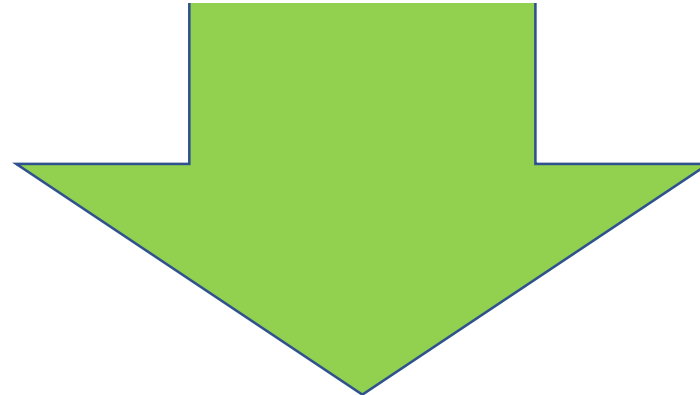
DEEP C Power Demand Forecast



# IZ = ENERGY CONSUMER



Eco-Industrial Park Vietnam



# IZ = ENERGY DISTRIBUTOR & GENERATOR

1. Increase power quality by creating local privately owned smart grid
2. Decrease the investment for EVN and Vietnam state capital
3. Fast track the COP26 target using private investment
4. Create energy surplus to enhance overall grid capacity

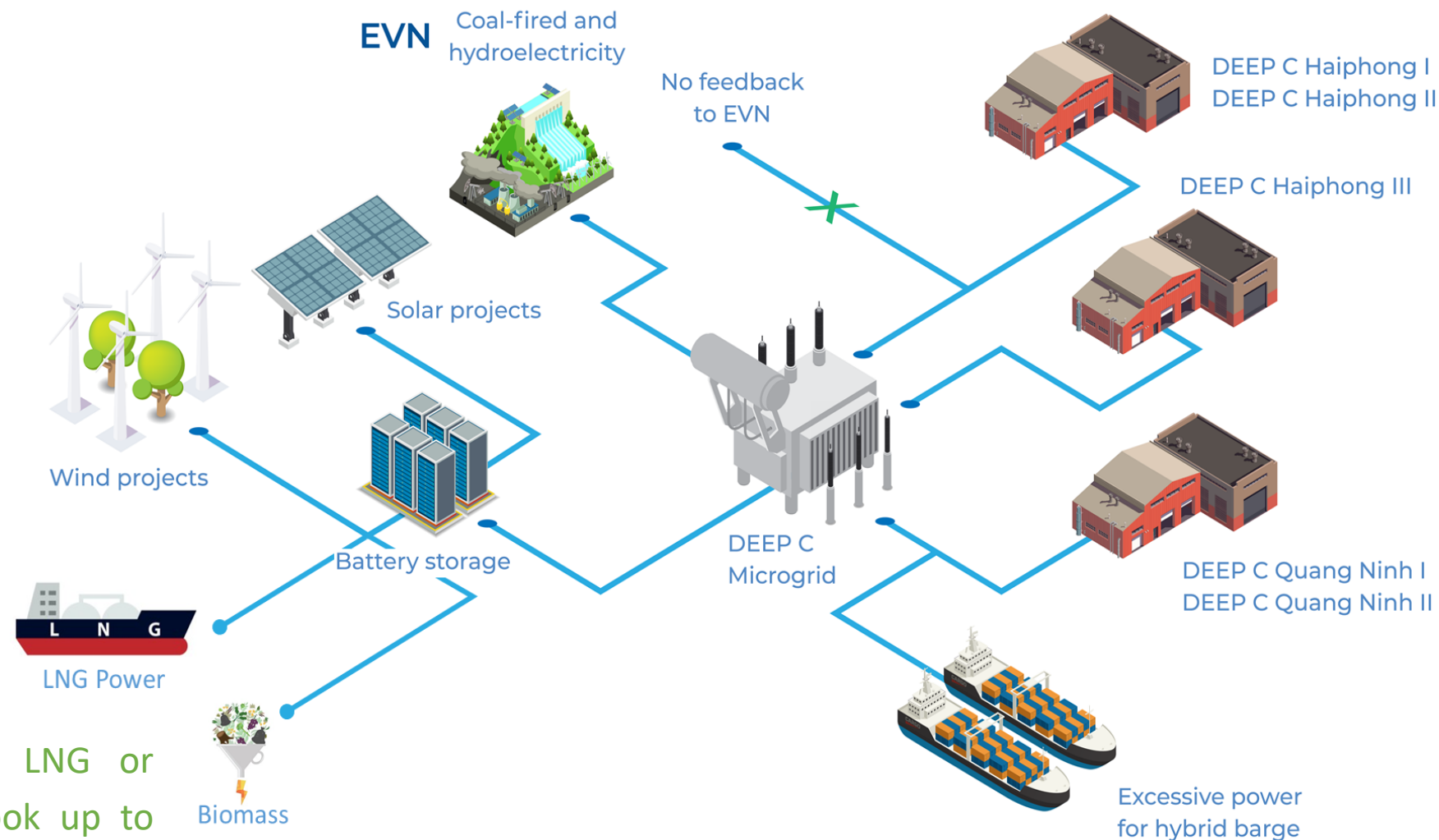
# PROJECT 2030

DEEP C 



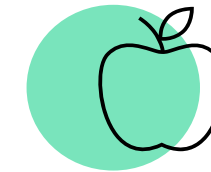
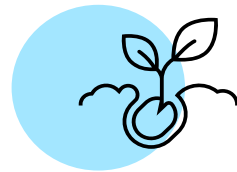
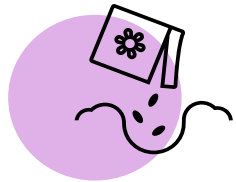
## TARGET :

- › 30% RE (no storage)
- › 50% RE (with storage)
- › Up to 100% RE with an LNG or biomass projector direct hook up to offshore wind project .



# The plan for the future

DEEP C  
INDUSTRIAL ZONES



## Install Renewables

Notably rooftop solar as easiest and fastest to set up

## Install Storage

Storage helps stabilizing power quality & reliability while increasing renewable mix

## Install further generation

LNG, offshore wind & Biomass to complement renewables' fluctuation

## Micro-grid

Energy independence & control on cost/return

## Most sustainable strategy to protect DEEP C conventional electricity distribution business



- » Minimize distribution loss by generation at consumer site
- » Increase grid stability: reduces transmission through EVN, reduces fluctuation in quality & supply capacity
- » Prevent free riders (third parties, customers) hampering DEEP C grid
- » Control on power costs & power supply, less prone to market fluctuations
- » Optimized margin by utilizing most efficient source of generation
- » Protect return on investment made in substations & network infrastructure
- » Sustainable recurring revenue & additional services

# Timeline

## Development Timeline



**03-2020**

3 pilot projects approved

**09-2021**

First roof rental contract signed with a customer (Jupiter)

**> 2022**

Further solar and smart grid development in consideration

**< 2019**

Feasibility Study  
- Test solar panels  
- Wind mast  
- Power Master  
- Plan adjustment

**03-2021**

First pilot project online: WWWHP Solar 3x 0.7MWp

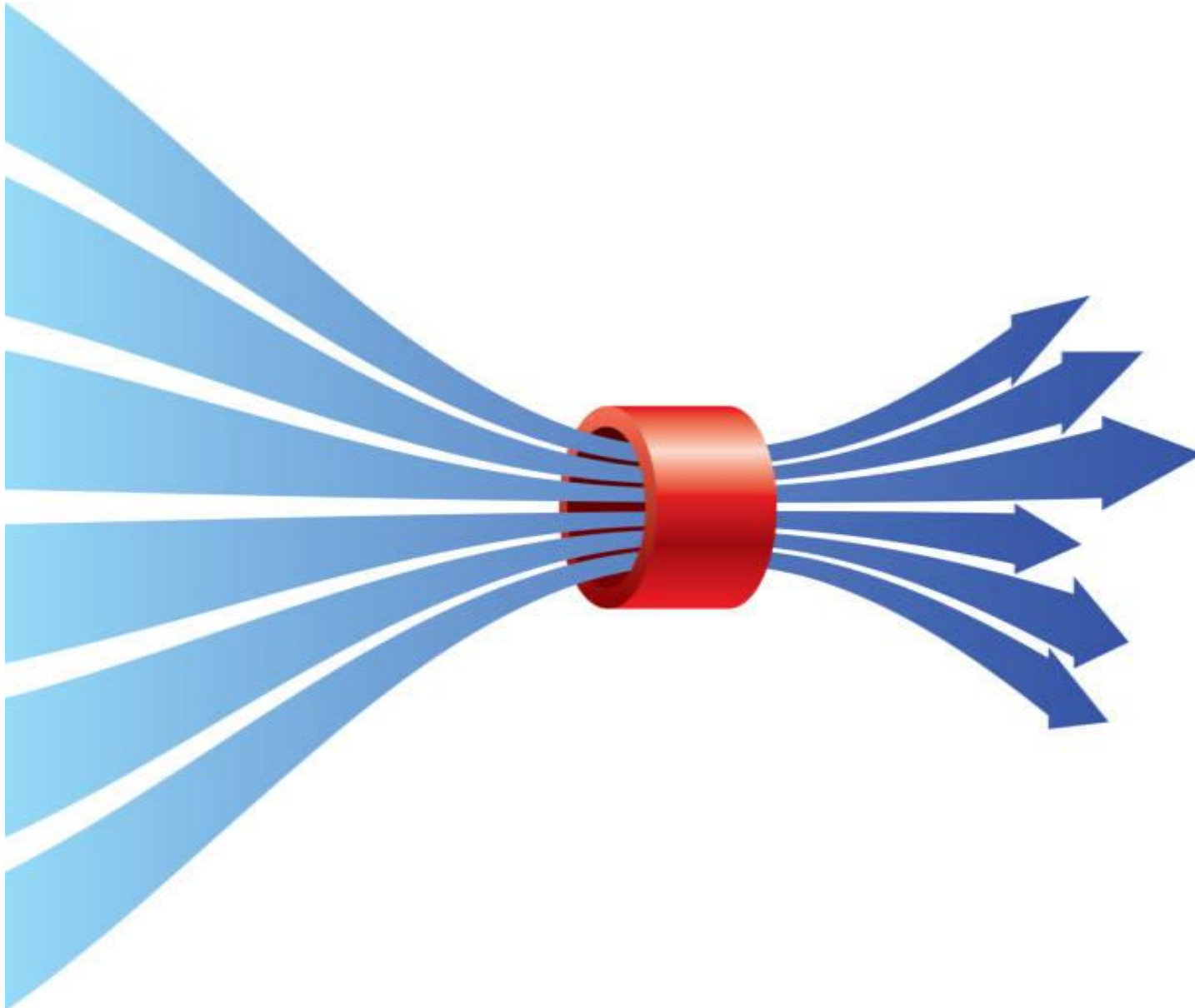
**Q2-2022**

Both Jupiter Solar (0.9MWp) & Wind Turbine (2.3MW) go into operation



# 03 | Challenges

# // Bottlenecks ahead



- 01 Free rider syndrome
- 02 Construction permit procedures are not adapted
- 03 Power masterplan integration to Generation permit is very time and energy consuming
- 04 Roof solar disposal fee creates a depreciation burden
- 05 The current electricity price





# 04 | Conclusion

**Reversing the relation between EVN and EIP is key : from electricity consumer to sustainable energy generator**

**Ultimate deliverable for EIP should be a shift toward renewable energy and aim for carbon neutrality**

**To ensure that EIPs will make this shift they should be incentivized and guided**

**Need for a legal/tax framework in Vietnam for EIP to create and trade REC**

DEEP C   
INDUSTRIAL ZONES

**THANK YOU FOR  
YOUR ATTENTION!**

**PARTNERS:**

DEEP C   
BLUE

DEEP C   
EURO JETTY VIETNAM

DEEP C   
GREEN ENERGY

DEEP C   
REAL ESTATE DEVELOPMENT

**HAIPHONG OFFICE:**

5th Floor, Harbour View Office Tower  
12 Tran Phu Street, Ngo Quyen Dist.,  
Haiphong.

**QUANG NINH OFFICE:**

8-9 My Gia Street, Vinhomes Dragon Bay,  
Ben Doan, Ha Long city, Quang Ninh

T: +84 225 3836 169

F: +84 225 3859 130

[info@deepc.vn](mailto:info@deepc.vn)

[www.deepc.vn](http://www.deepc.vn)