



**PELP**  
PLANIFICACIÓN  
ENERGÉTICA  
DE LARGO PLAZO

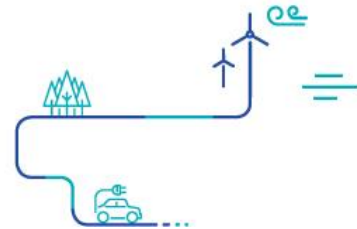
# Distributed Generation Projections for Chile

**Carlos Toro**

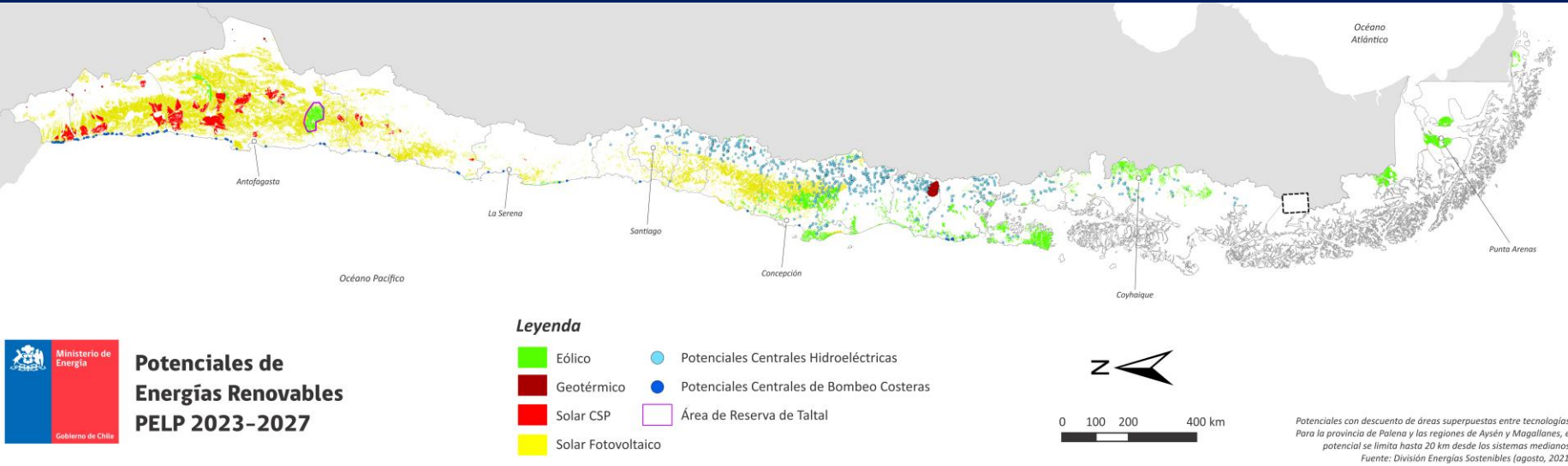
Energy Planning and New Technologies Unit  
Ministry of Energy, Chile

October 13th, 2021

# Energy context



# Renewable potential in Chile



# x80

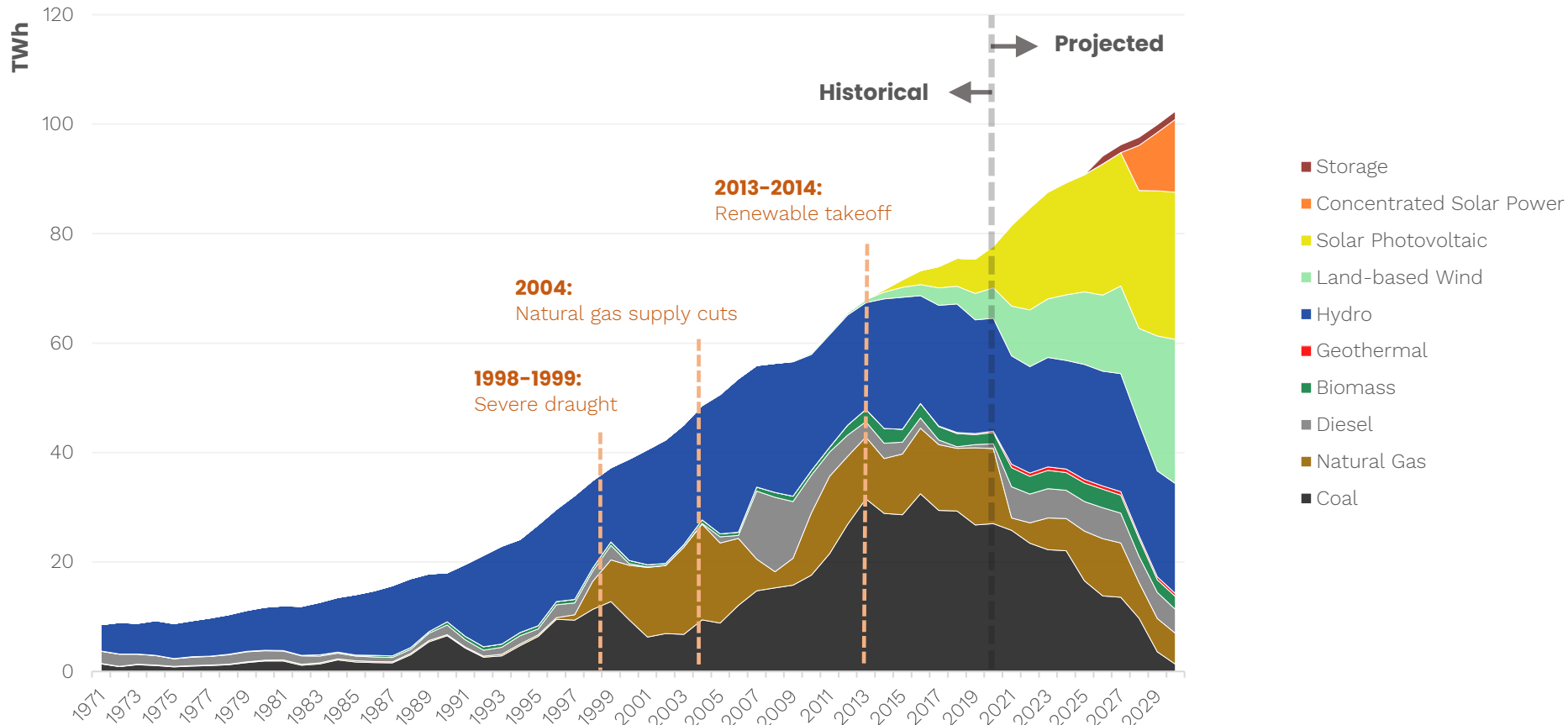
current installed capacity

Tecnología	Potencial (GW)
Solar Photovoltaic (PV)	2,086
Land-based Wind	81
Concentrated Solar Power (CSP)	152
Geothermal	4
Hydro	10
Pump Storage	42
<b>Total</b>	<b>2,375</b>

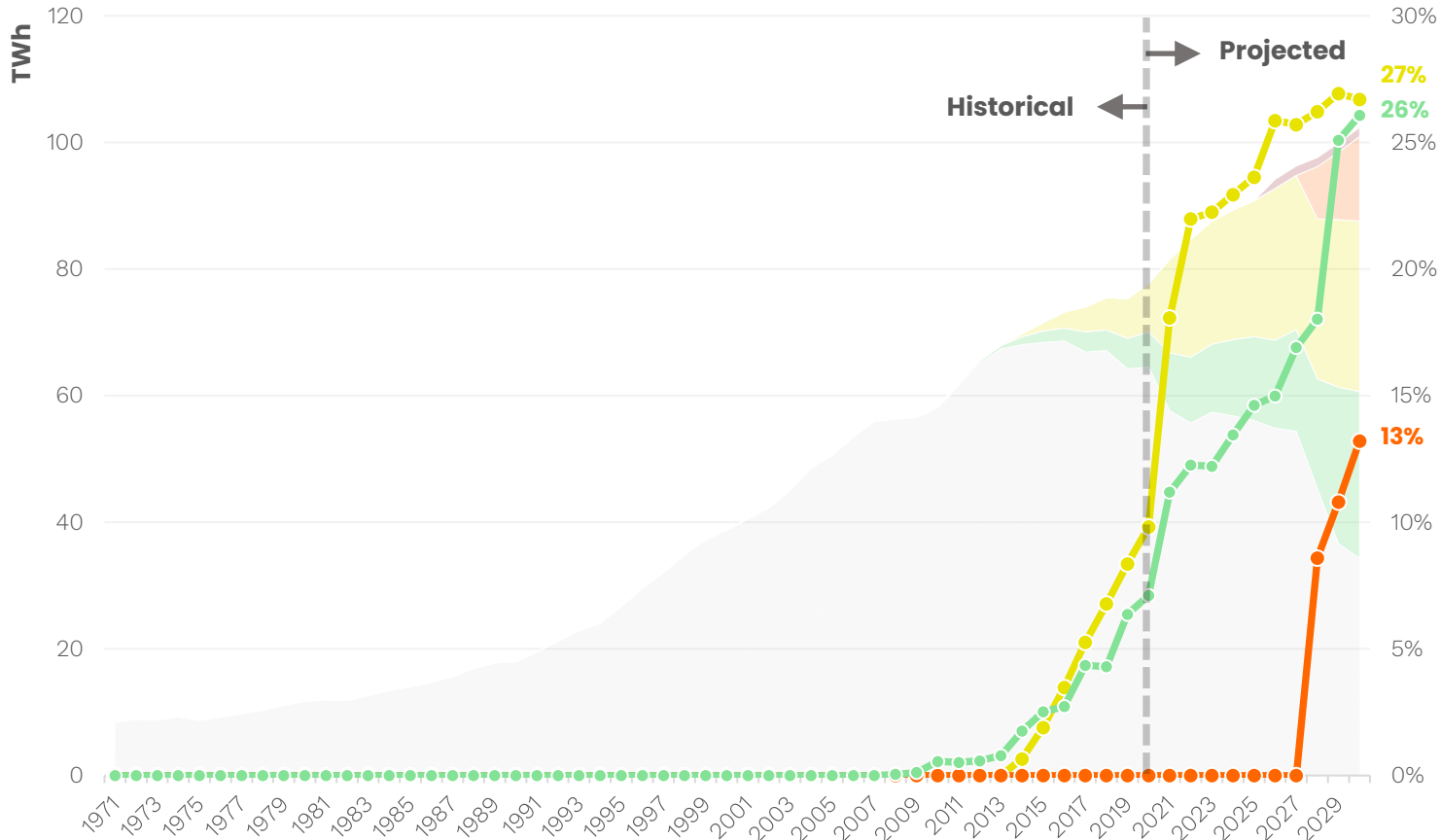


Renewable potential  
PELP 2023-2027

# Historical and projected power generation



# Historical and projected power generation



# 2030

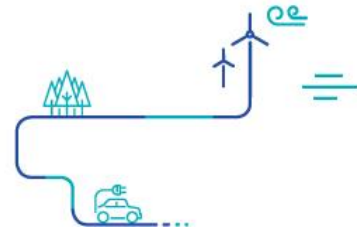
**Solar PV**  
10% to 27%

**Wind**  
7% to 26%

**Solar CSP**  
0% to 13%

- % Solar PV
- % Solar CSP
- % Wind

# The future of energy



# Preliminary Report PELP 2023–2027



[pelp.minenergia.cl](http://pelp.minenergia.cl)

Comments stage:  
Preliminary Report  
PELP 2023–2027

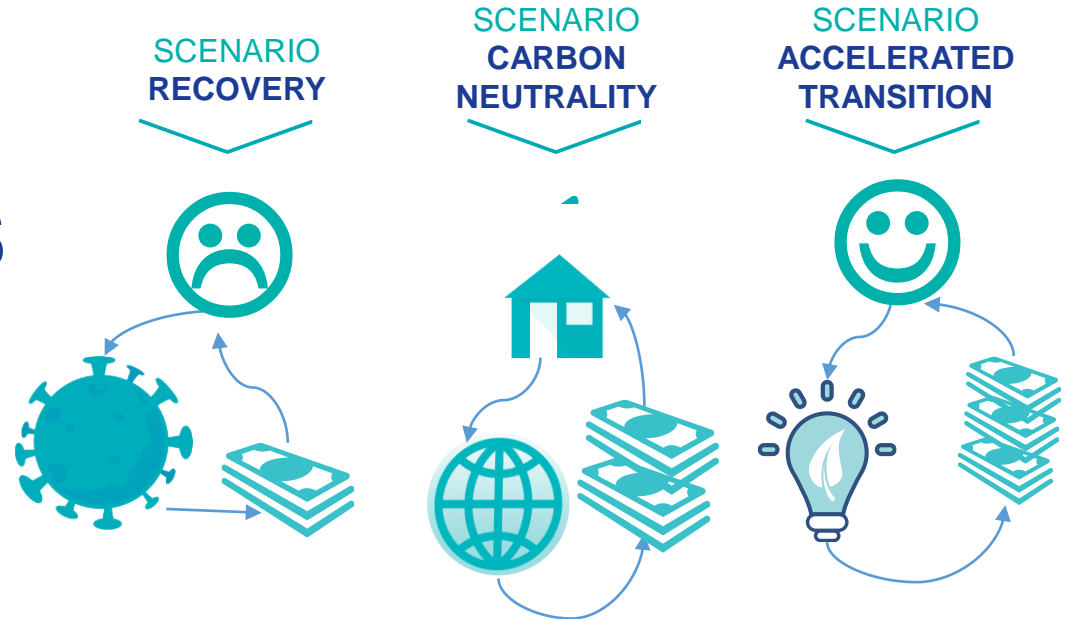


Preliminary Report  
**PELP 2023–2027**

# The energy planning journey



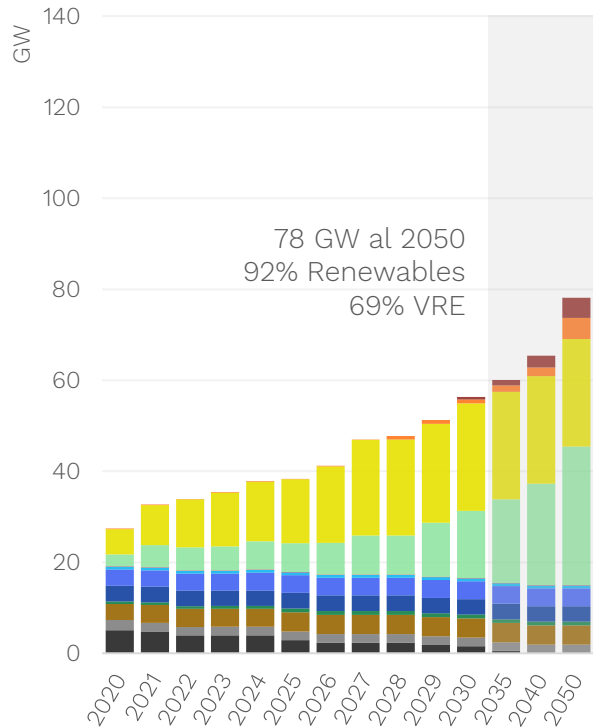
## 3 SCENARIOS



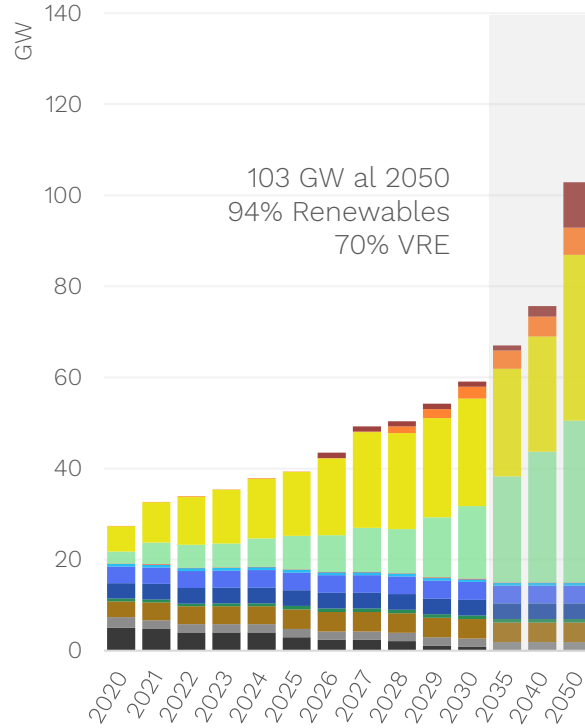


# Evolution of installed capacity

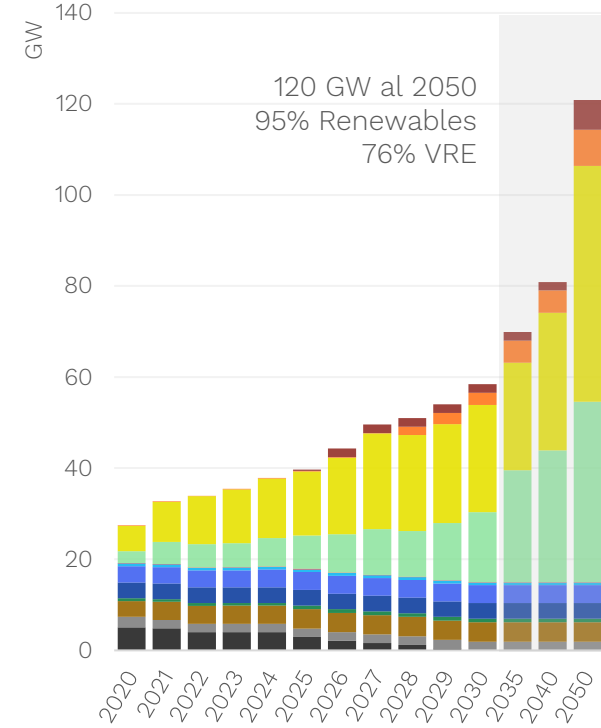
## Recovery



## Carbon Neutrality



## Accelerated Transition



Coal
  Diesel
  Natural gas
  Biomass
  Reservoir
  Run-of-River
  Minihydro
  Geothermal
  Wind
  Solar PV
  Solar CSP
  Storage

# Distributed generation projection

## NET BILLING



### Agent-Based Methodology:

- ABM allows to represent heterogeneity of agents.
- Investment decision occurs when cut-off utility is exceeded.
- Cut-off utilities and weights (W) are trained with 2015-2020 data.
- Total utility is weighted sum of each utility and a value is obtained by region and sector (residential, commercial, industrial).



Distributed Generation  
Projection Study  
PELP 2023-2027



Distributed Generation  
Projections  
PELP 2023-2027

## SMALL UTILITIES IN DISTRIBUTION NETWORK



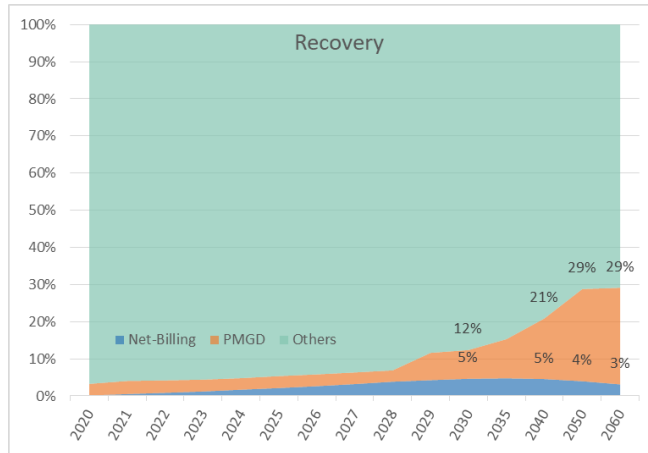
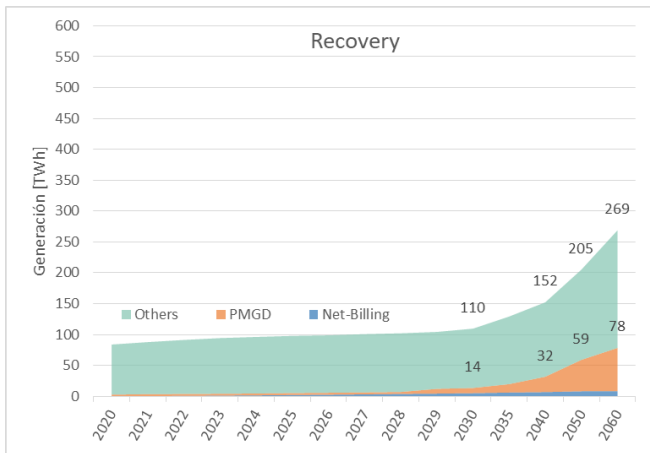
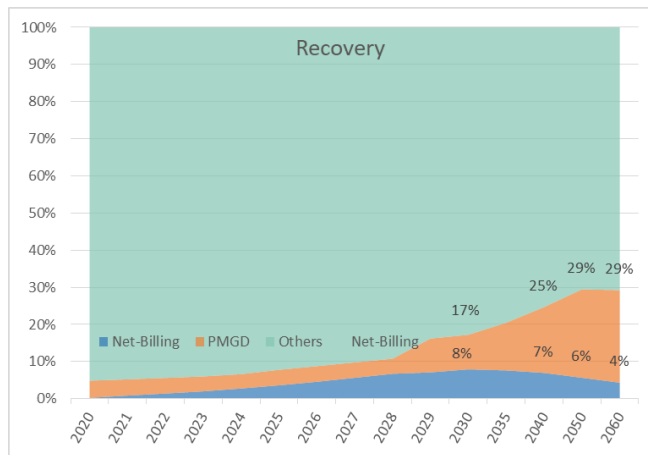
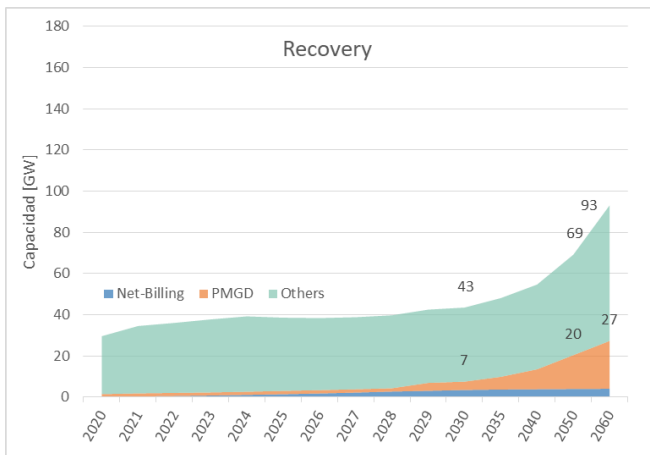
### Cost-Efficient projects:

- Included in the capacity expansion software.
- Same costs for all kind of utilities.
- Distributed photovoltaic solar power plants are on average 1 kms. of urban areas.
- Distributed wind farms are on average 2 kms. of urban areas.
- Distributed hydro power plants are not defined with this classification.

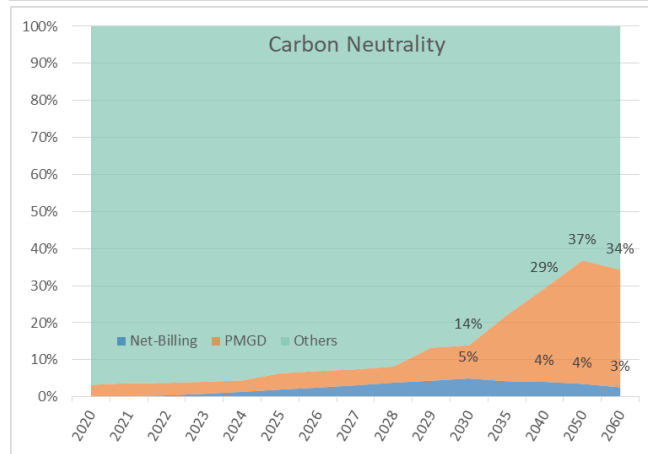
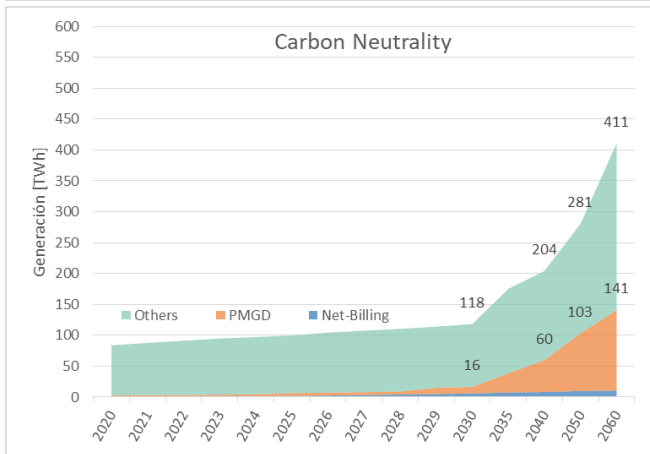
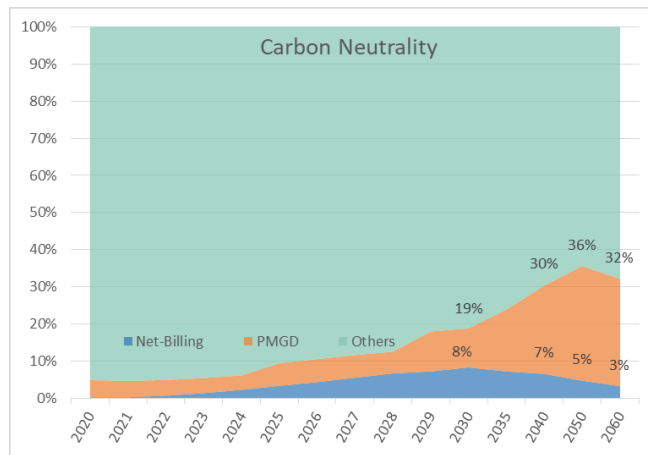
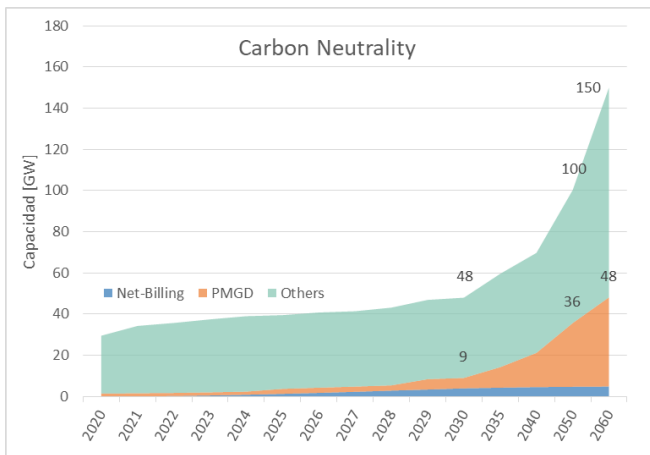


Preliminary Report  
PELP 2023-2027

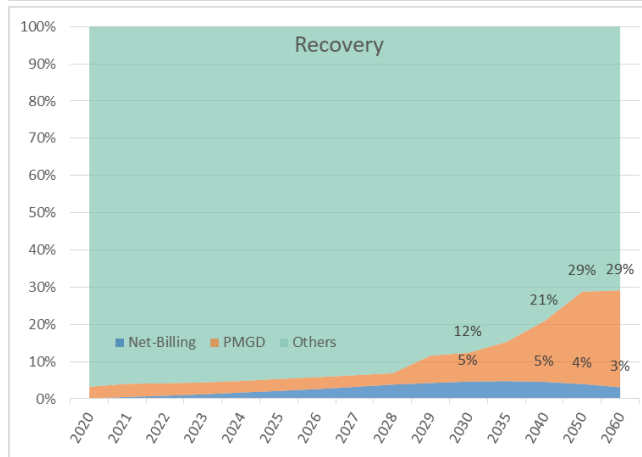
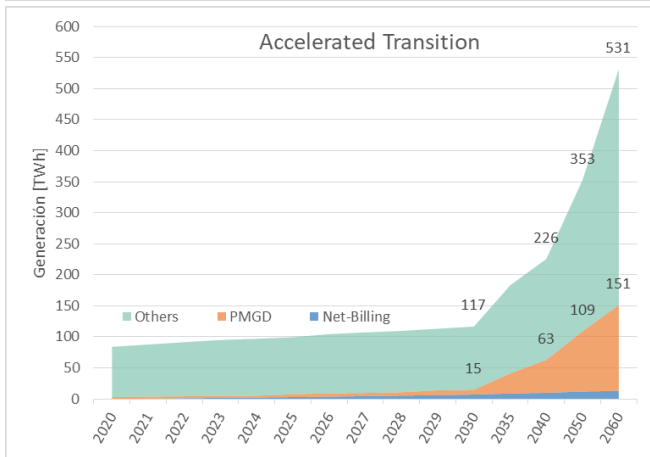
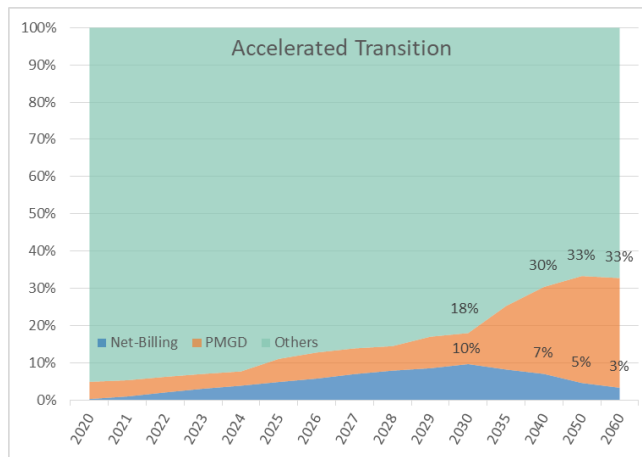
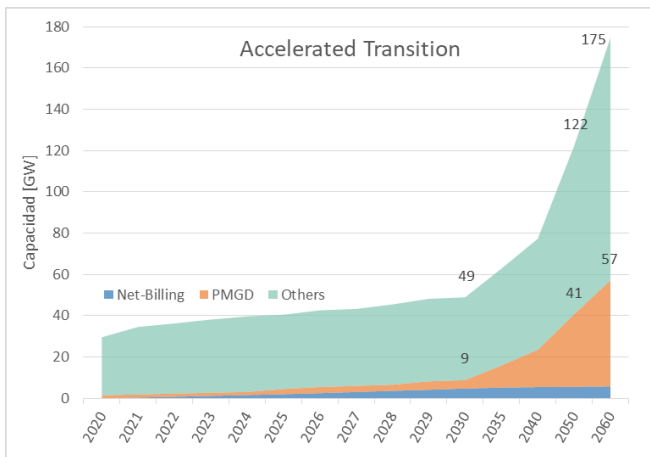
# Distributed generation projection



# Distributed generation projection



# Distributed generation projection





# PELP

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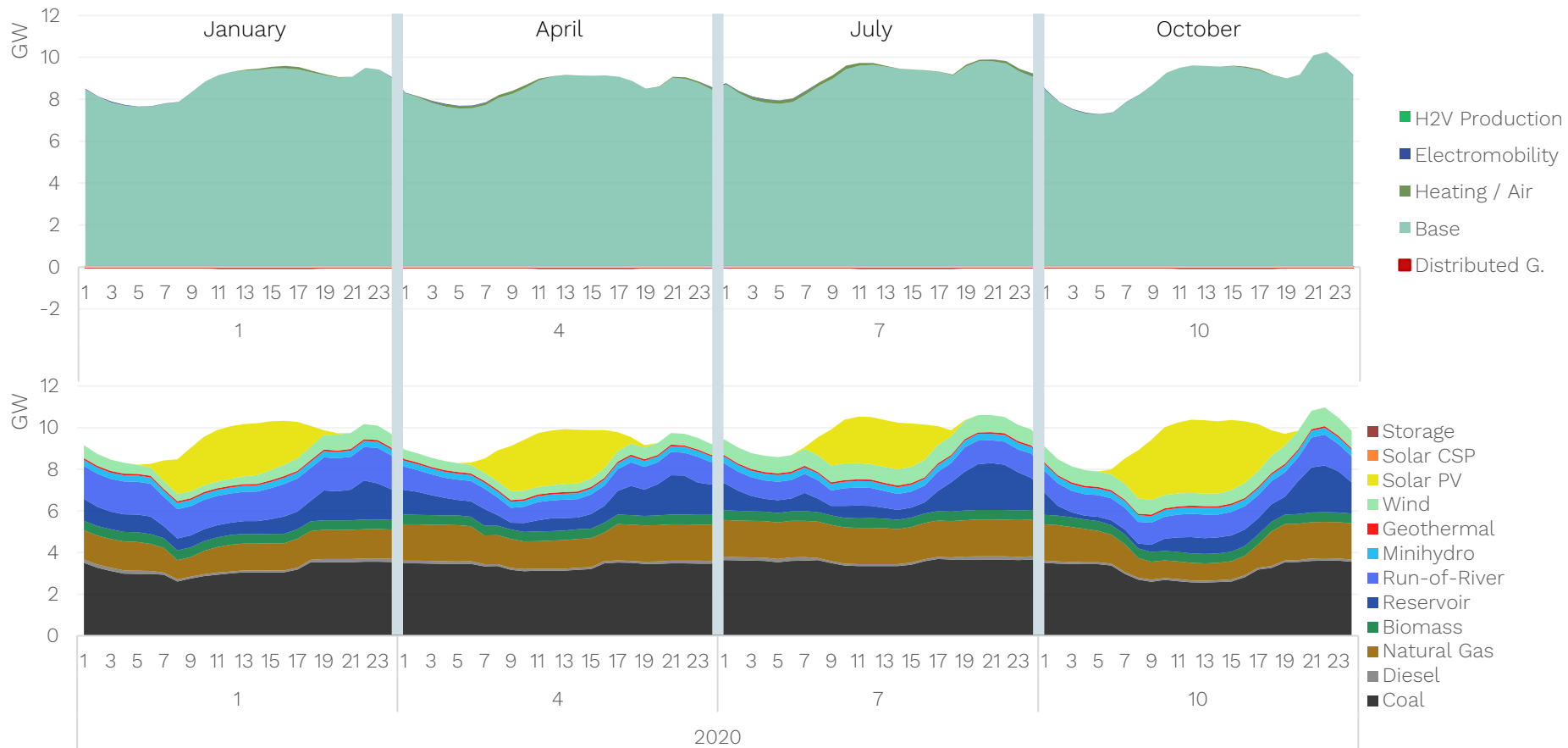


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October 13th, 2021

# Current situation 2020–2021



# By 2030 – Carbon Neutrality Scenario

