

Green financing opportunities in Greece

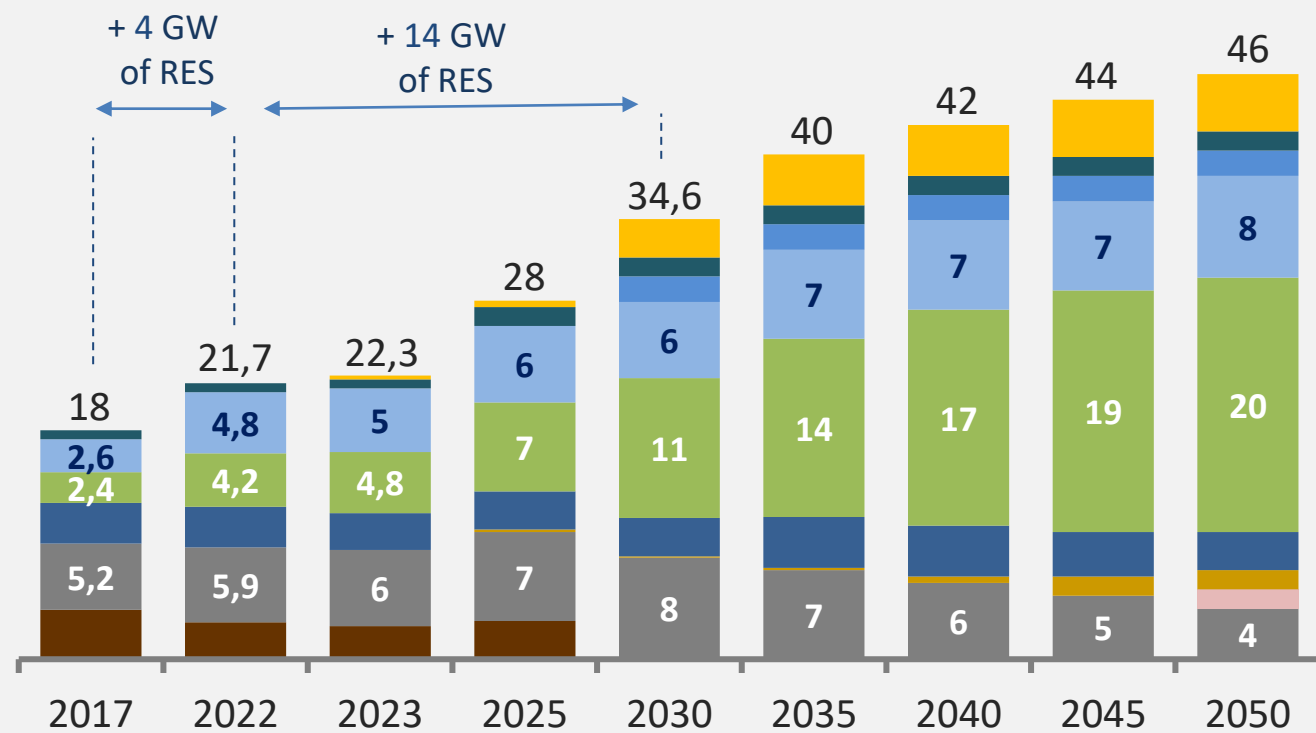
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Chief of Corporate and Investment Banking





RES capacity to more than double by 2030

Installed capacity in Greece (GW)



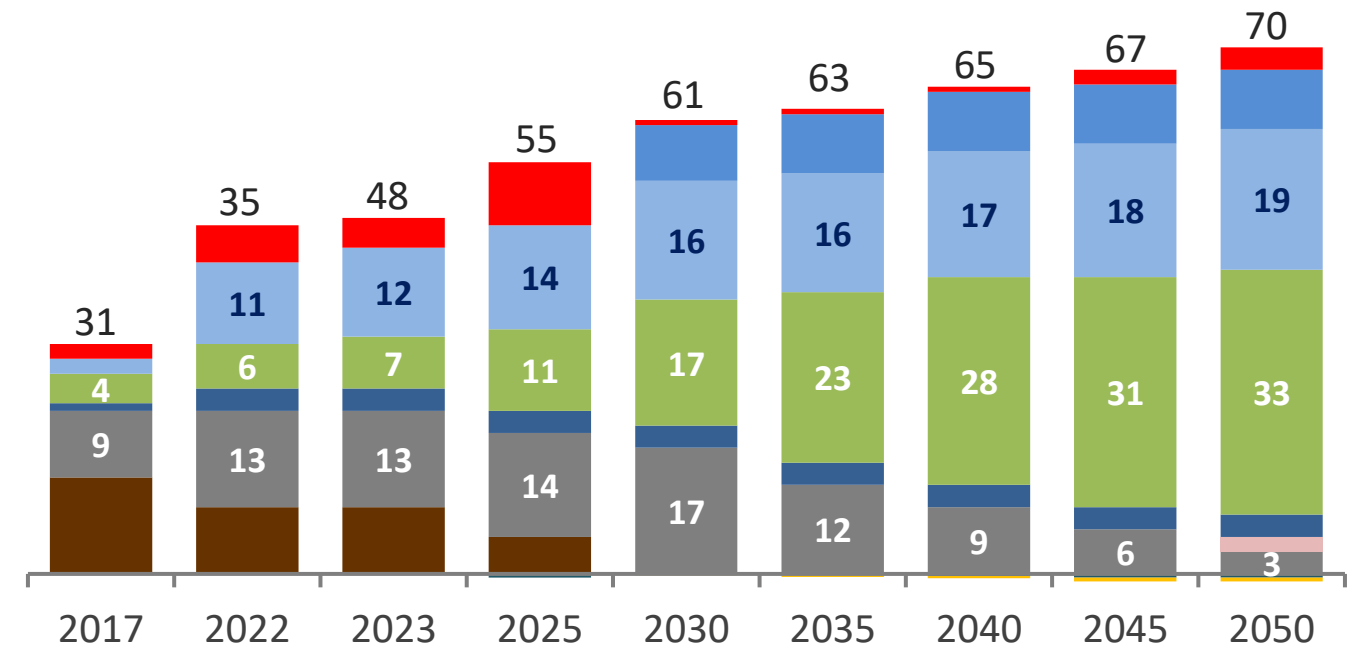
Power mix will be shaped by **gradual maturation of available and emerging technologies**

Installed capacity is expected to increase by **22 GW by 2035**, driven by the rapid growth of **renewables and battery capacity**

Renewables generation to increase by **32 TWh by 2035**, rising from 40% share of demand in 2023 to 82% in 2035

Greece shall remain net-importer of electricity till the end of 2030, given neighboring economical baseload units (e.g., hydros in Albania or nuclear in Bulgaria). However, the penetration of **offshore wind farms** (with baseload characteristics) **is expected to gradually reduce imports**

Electricity production and net imports in TWh



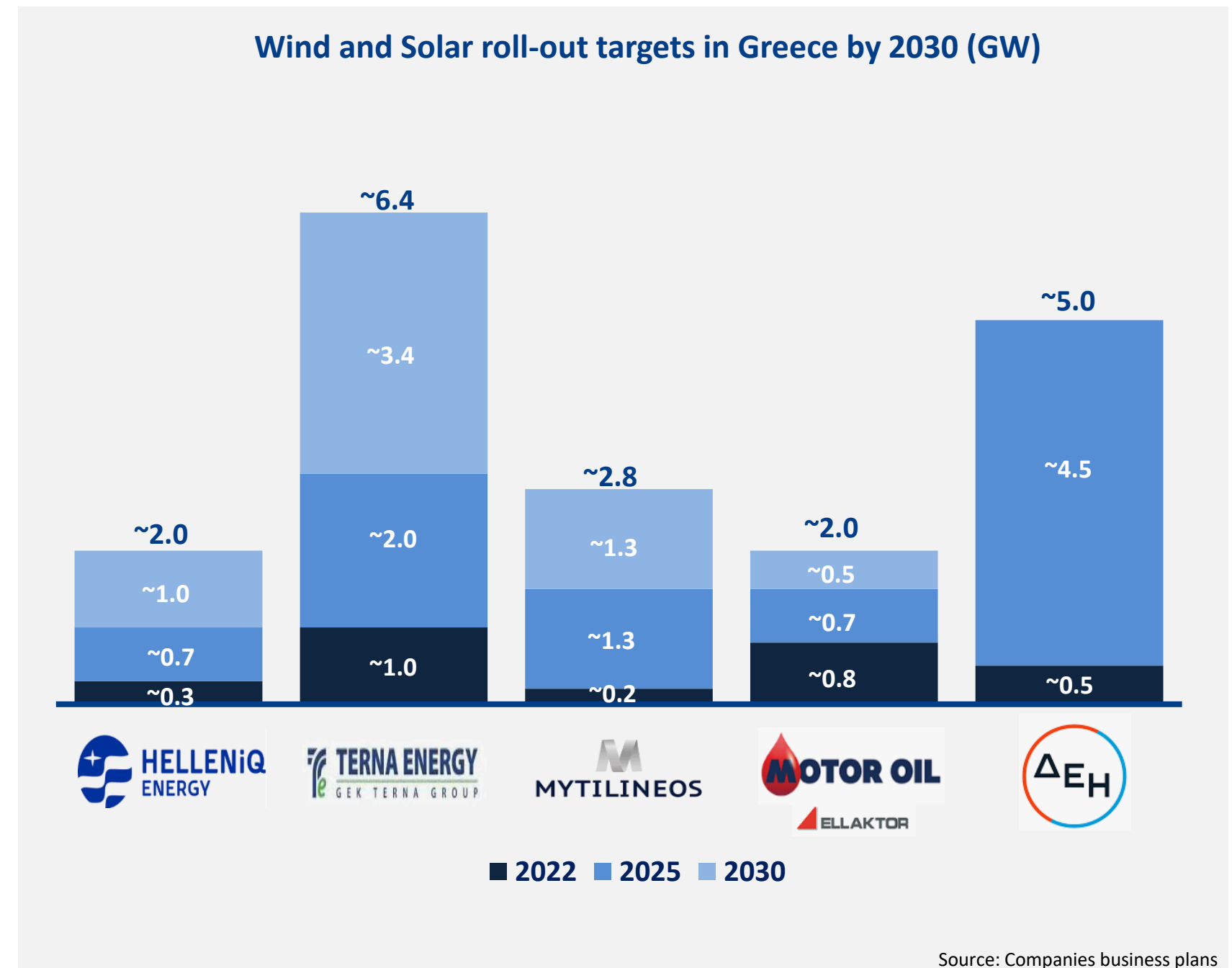


Ambitious RES targets announced by the leading energy groups

The top 5 energy groups at the end of 2022 had c. 2.8GW of installed RES capacity in Greece. According to business plans announced, they **target to increase their RES capacity to 18.2GW by 2030 (+550%)**

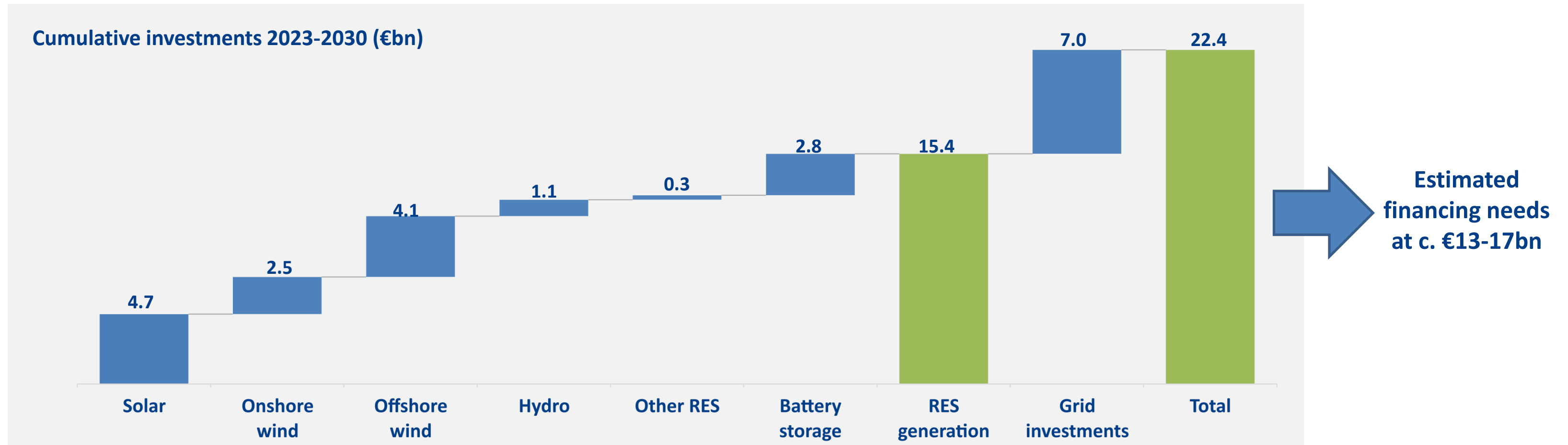
Refiners boosted by significant profits generated in 2022 have **committed to invest** significant amounts in **RES projects** as they go through their Net zero journey. **PPC** has established a **JV with RWE** in order to realize its RES development plan while **Terna Energy** is **considering potential team up with new investors**.

All players actively **looking to expand** in off-shore wind farms **by establishing JVs** with international players (**Copenhagen Infrastructure Partners, Ocean Winds, Equinor and other**)





Significant financing needs to support the RES development programme in Greece

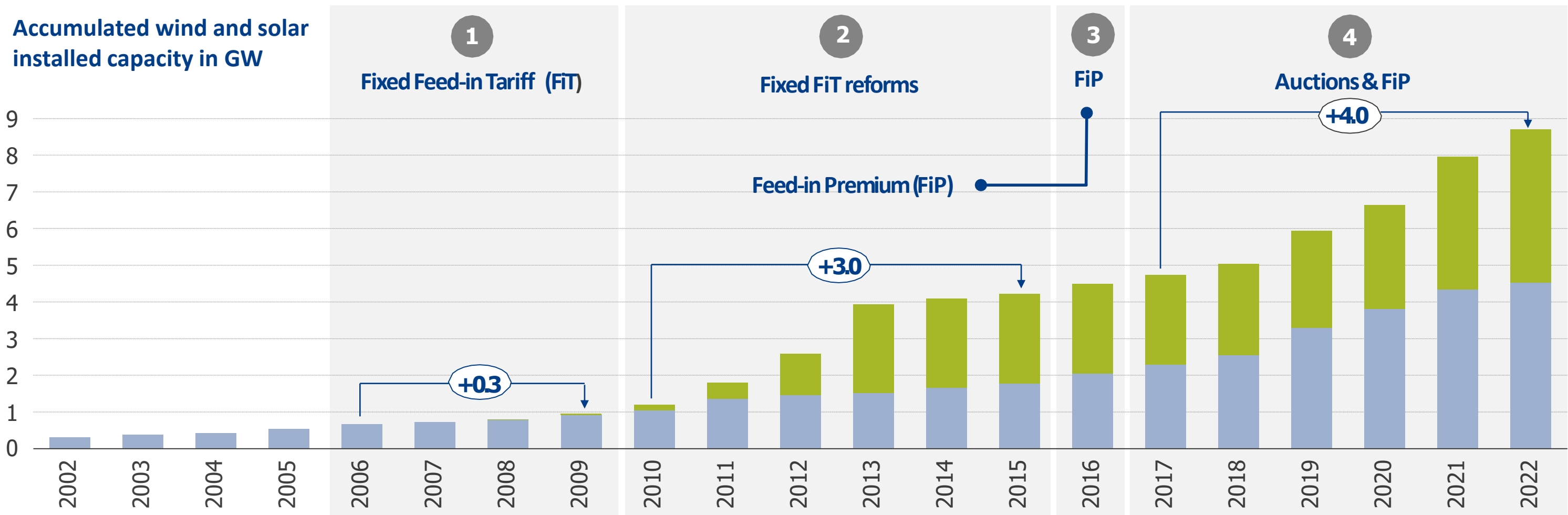


Updated NECP targets **80% RES penetration by 2030**, translating to **c.16GW more RES capacity** vs 2022 and **c.€15bn of total investments by 2030** i.e., c.€2bn per annum

Published development **plans of Greek grid operators** (HEDNO, IPTO, DESFA, ItalGas) **aim for >€1bn yearly**; **Flagship projects** include **islands interconnection** (IPTO), **smart meters** (HEDNO) for electricity and **H2-readiness and digitization** for gas grids



Financing issues considered up to 2022



Till 2022, the changes in the **financing terms** offered to RES projects reflected the **gradual shift from FiT/FiP regime to Auctions**.

Eight auctions have so far awarded **almost 1.6GW of wind capacity** and **2GW of solar**. In the latest **auction of Sept2022**, the **avg price** of solar have been set at **€47.9/MW** and for wind at **€57.6/MW**.

Under both schemes, the **offtaker and the tenor** of the PPA (20 years) **have not changed** – credit risk remains the same.

Lower tariffs offered in auctions have resulted to extended tenors in order to increase the debt capacity of the projects and thus **shorter tails against the 20years PPA contract with DAPEEP**.



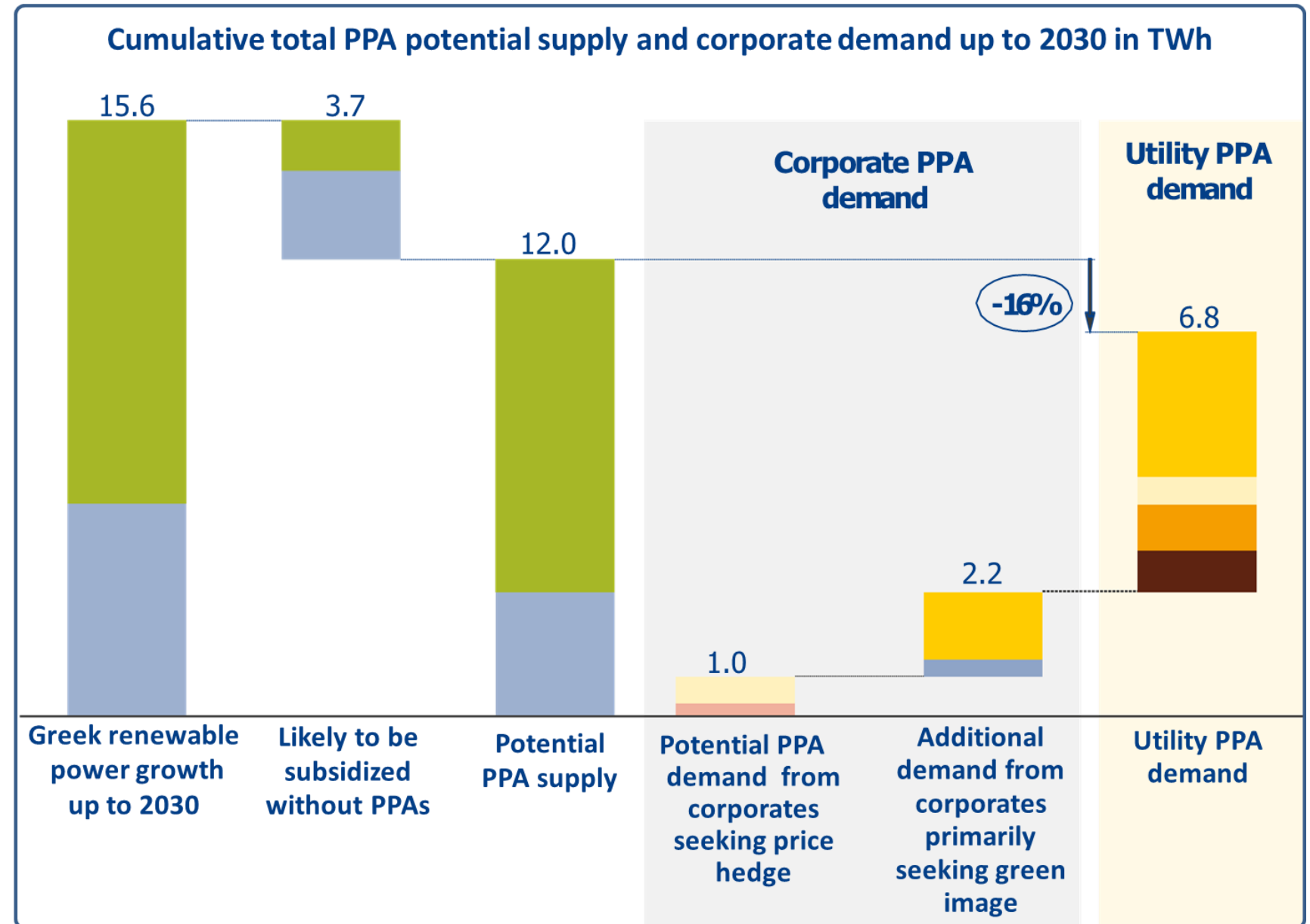


Financing trends – moving to the PPA era

Penetration of corporate PPAs in RES projects results to a **change in credit from DAPEEP risk to a variety of offtakers** – assessment of offtaker risk becomes fundamental issue . **Effective contractual arrangements** need to be in place in order to **ensure that offtaker will meet its obligations.**

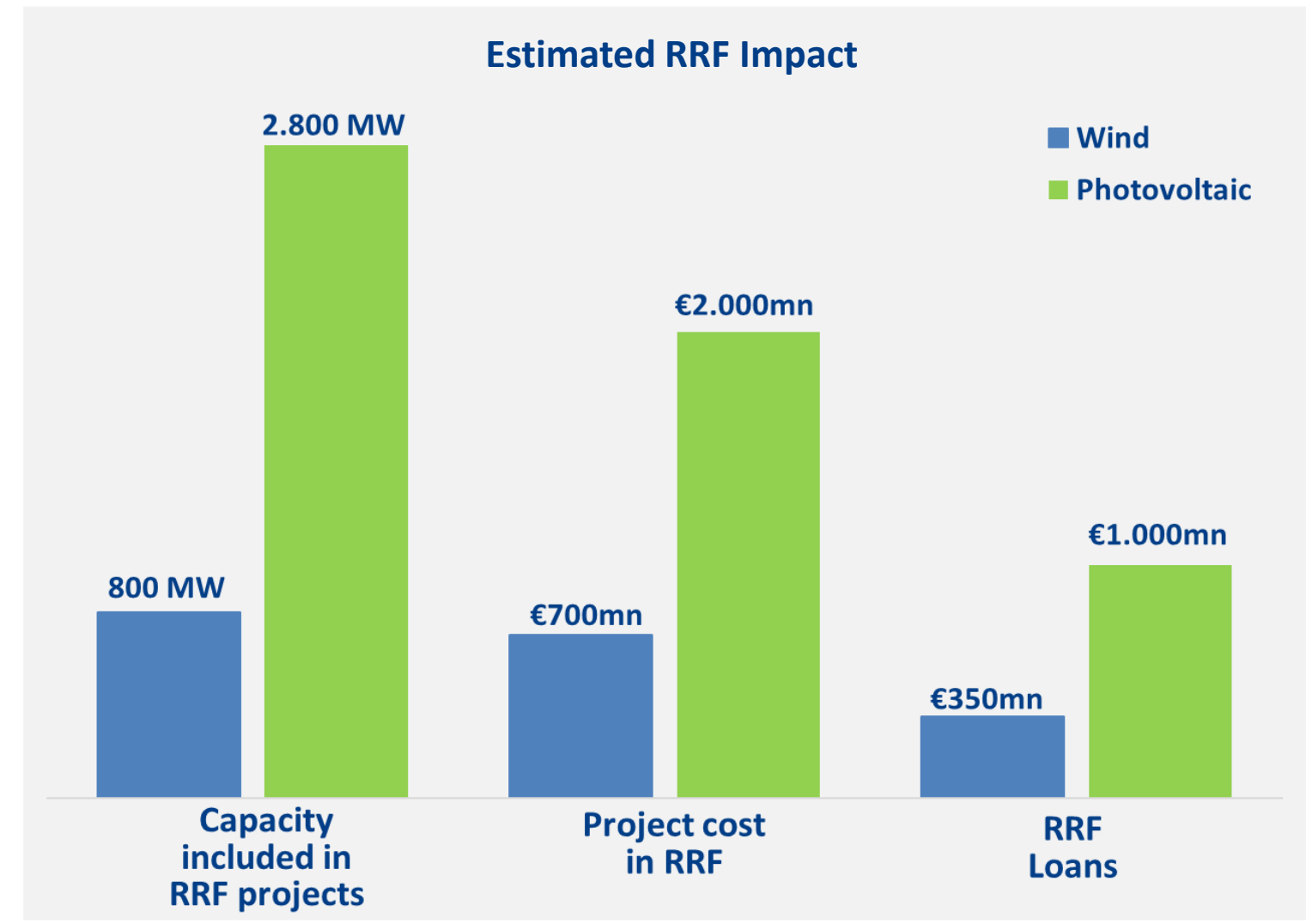
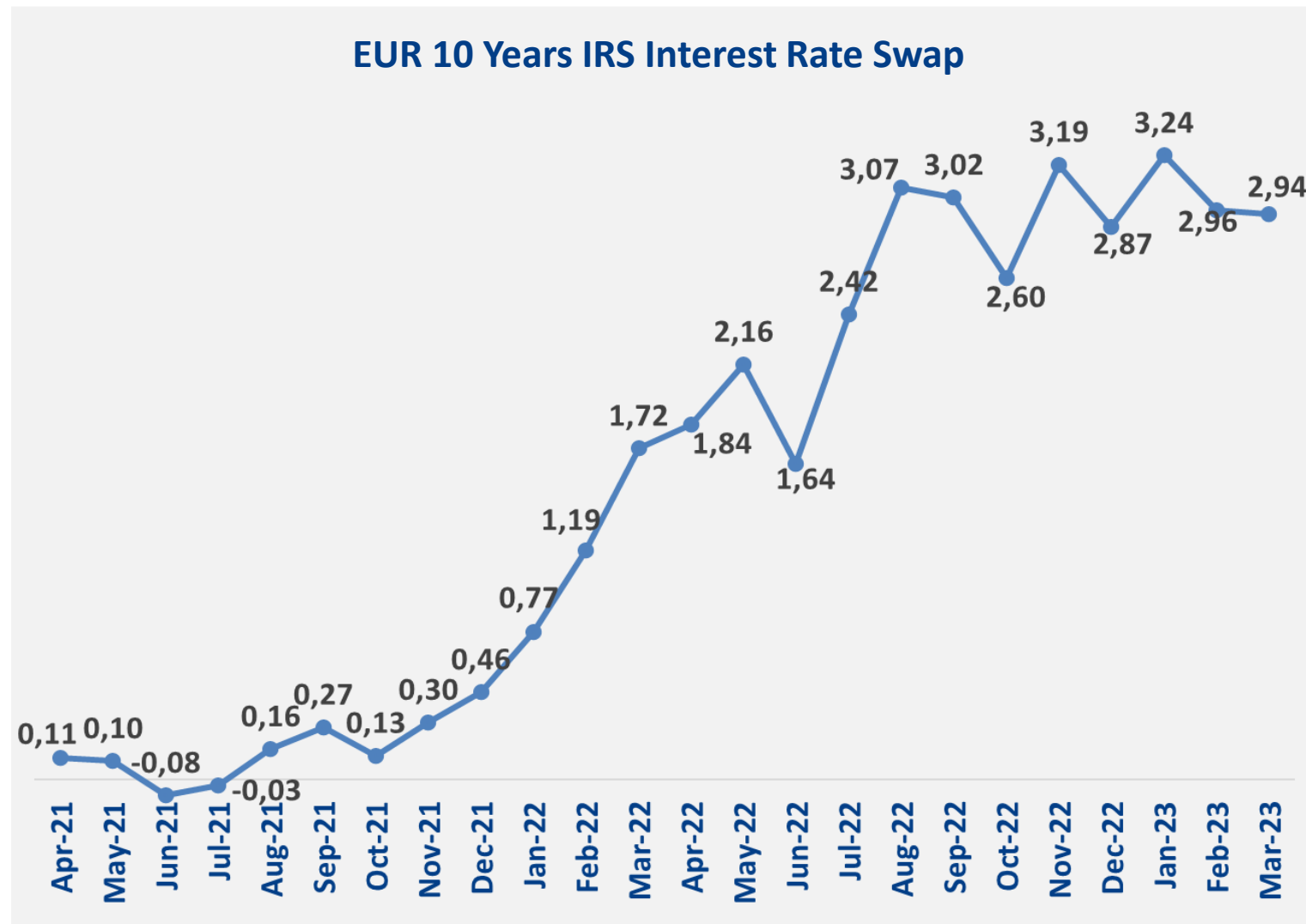
Financing proposals need to take into account the **shorter period of Corporate PAs (7-10 years) compared to DAPEEP PPAs** – potentially leading to shorter tenors.

Lenders have to assess the **debt capacity of the project post expiry of corporate PPAs** – effectively quantifying the merchant risk. Typically, the **lenders will demand higher DSCR ratios and higher cash sweep mechanisms** to be in place in order **to accept merchant risk.**





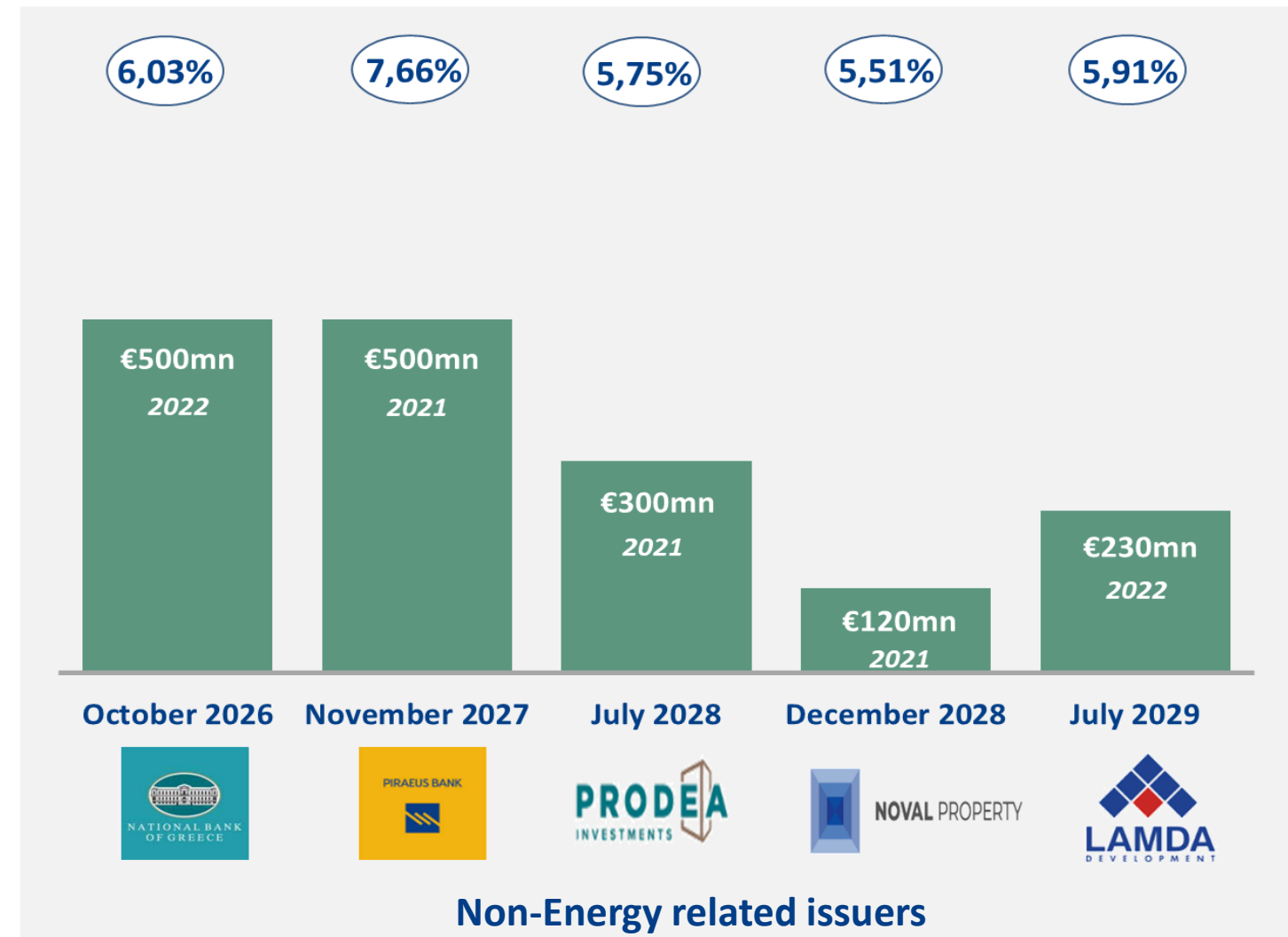
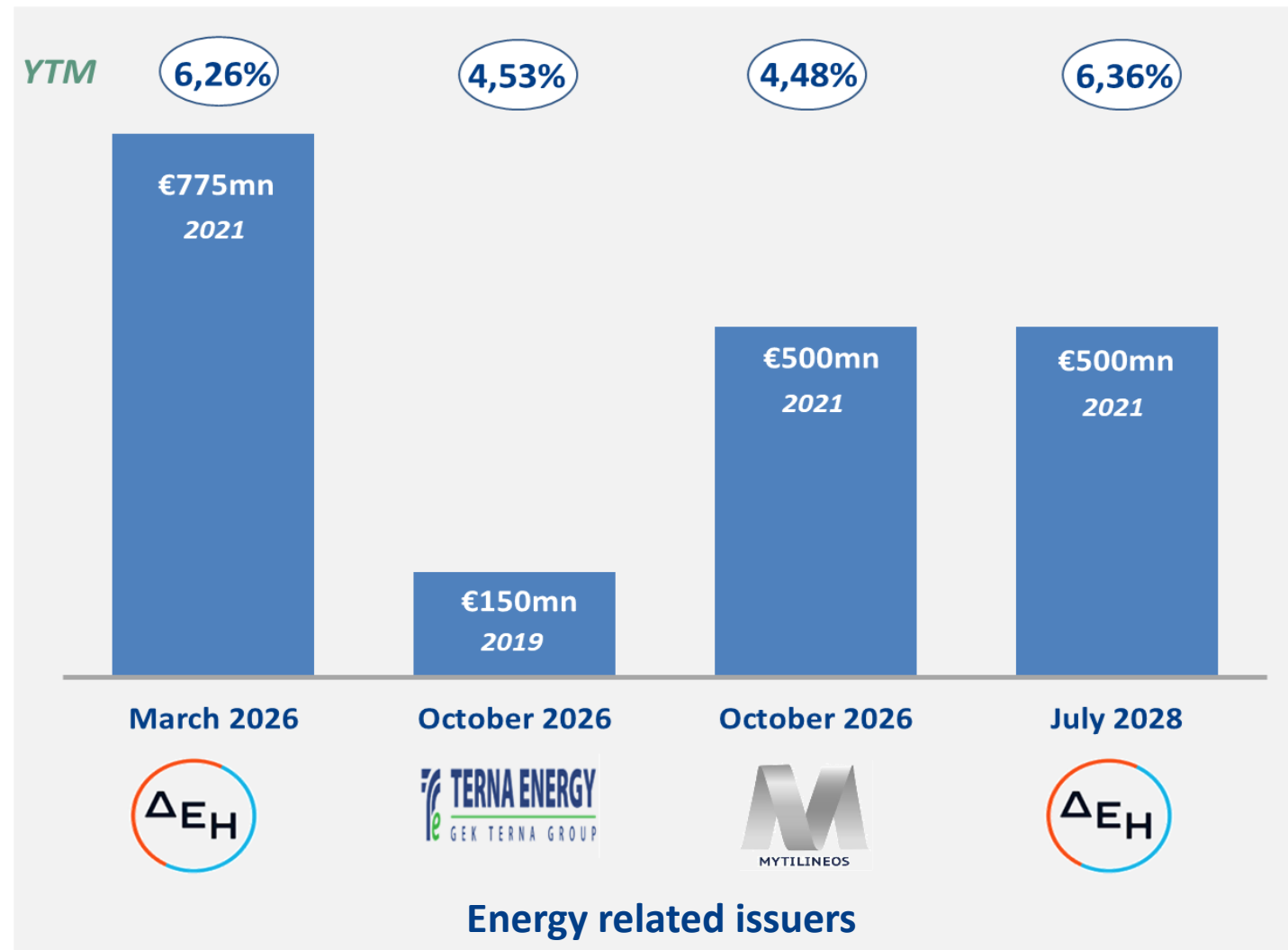
The RRF has played a pivotal role against increasing base rate



- More than €2.5bn of new projects included **within the RRF scheme**, providing **significant increasing rates**.
- Projects without FiT / FiP (with corporate PPAs) are able to get an **all-in-cost at 0,35% - 1,0%** fixed for **15 – 20 years**.
- Projects with FiT / FiP are able to get an **all-in-cost at 3,0% - 4,0%**, depending on the size of the company.



Green Bonds Issuance Activity in Greece



Green bond issuance in Greece reached €3.58bn over the last 5yrs

In 2019, Terna Energy Finance issued Greece's first green listed bond

Slower growth in green bond issuance triggered by the unfavorable market conditions

Greece plans to issue its first green sovereign bond in 2023





Green Bonds: the next day

Next Day's drivers

Green bonds cannot replace long-term project financing – however it can be used as a **funding source for the equity** contribution needed **in project finance structures**

Increasing base rates have resulted to **higher yields for Green bonds**, ranging from 4.5% - 7.0% (from 2.2% - 3.9% at the time of issue). The market has not been tested post Lamda issue (July 2022)

Green bonds can be used as a **financing tool from frequent issuers / well-recognized corporates** in the Greek market – otherwise **difficult to be sold to institutional / retail investors**

Expectation that **market will re-open in Q4 2023**, assuming **stabilization of base rates**





Piraeus' ESG portfolio

Our credentials

-  Piraeus is viewed as the GR Green Bank
-  Largest RES portfolio, exceeding 2.1 GW
-  c.€2.1bn current green loan exposure
-  c.€0.6bn sustainability-linked loans
-  38% market share in ESG M/F in Greece
-  Extensive strategic plan for society & culture



Our active projects

€1.1bn
1,062MW
Wind farms



€0.9bn
985MW
Photovoltaics



€35mn
24MW
Hydro power plants



€33mn
11MW
Biomass / Biogas



€83mn
Energy efficiency



€329mn
12 ESG M/F AuM



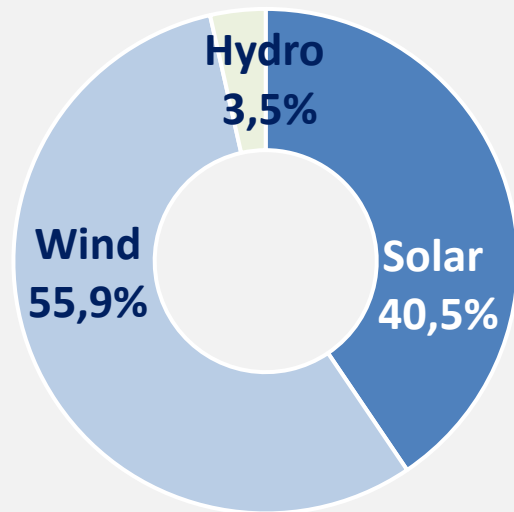
€500mn
Green bond in 2021







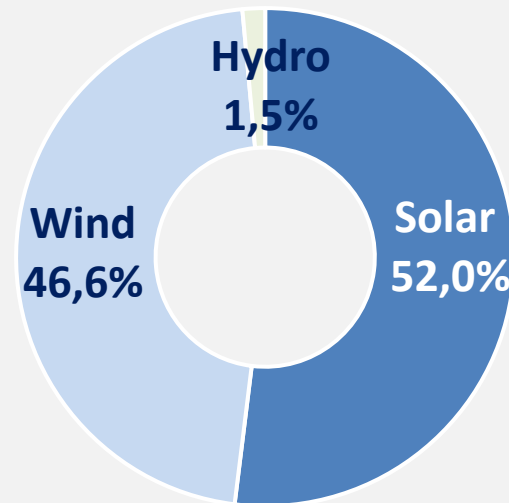
Piraeus' green bond net proceeds allocation

1st year proceeds allocation & impact summary




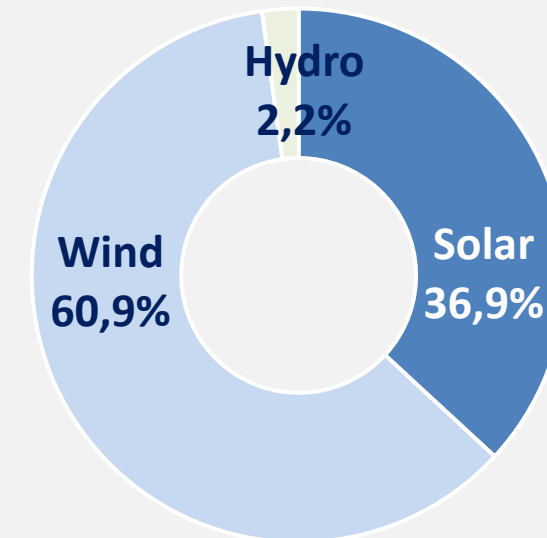
 **€350mn**
Amount allocated to Eligible Green Assets


 **70.3%**
of net proceeds allocated during the 1st year



 **450.7MW**
total RES capacity added

 **299,657tCO₂**
annual GHG emissions avoided



 **811,974MWh**
annual generation (electricity)

 **513**
Total number of projects



