

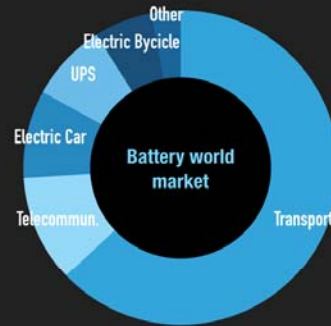
RENEWABLE ENERGY CHALLENGES AND MOBILITY SOLUTIONS IN TENERIFE

STORAGE AND MOBILITY

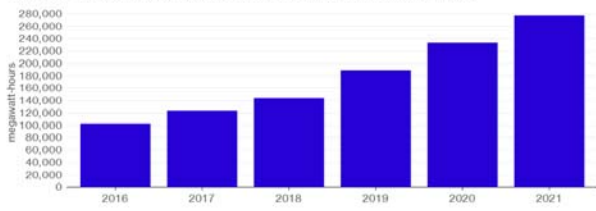
Lithium-ion batteries are expected to get a lot more affordable very quickly



100 times
Growth of battery market changing from petrol or diesel to electric cars



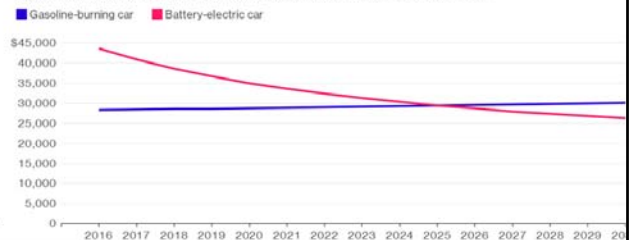
Global battery manufacturing capacity is set to more than double by 2021



Source: Bloomberg New Energy Finance

Bloomberg

Electric vehicles are projected to be cheaper than regular cars by 2026



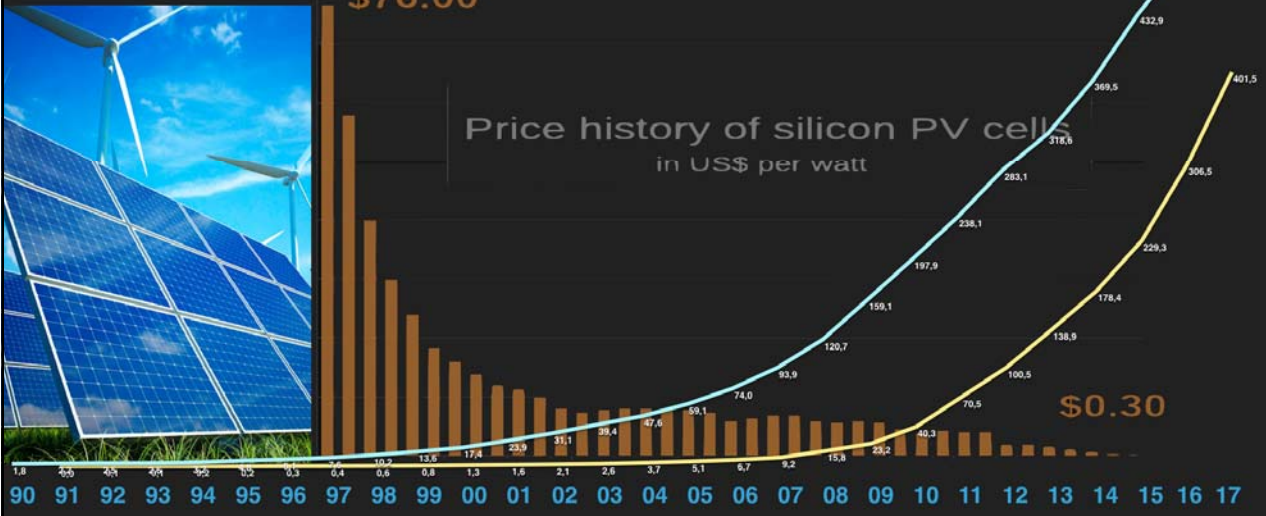
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WORLDWIDE WIND AND PHOTOVOLTAIC INSTALLED POWER (GWP)



\$76.00

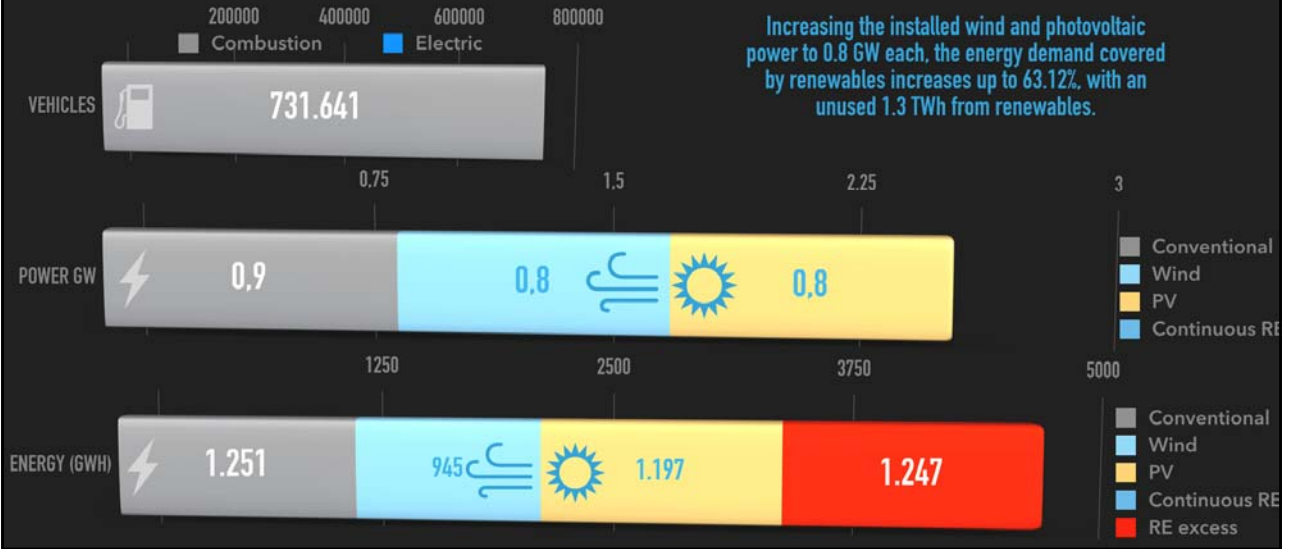
Price history of silicon PV cells in US\$ per watt



\$0.30

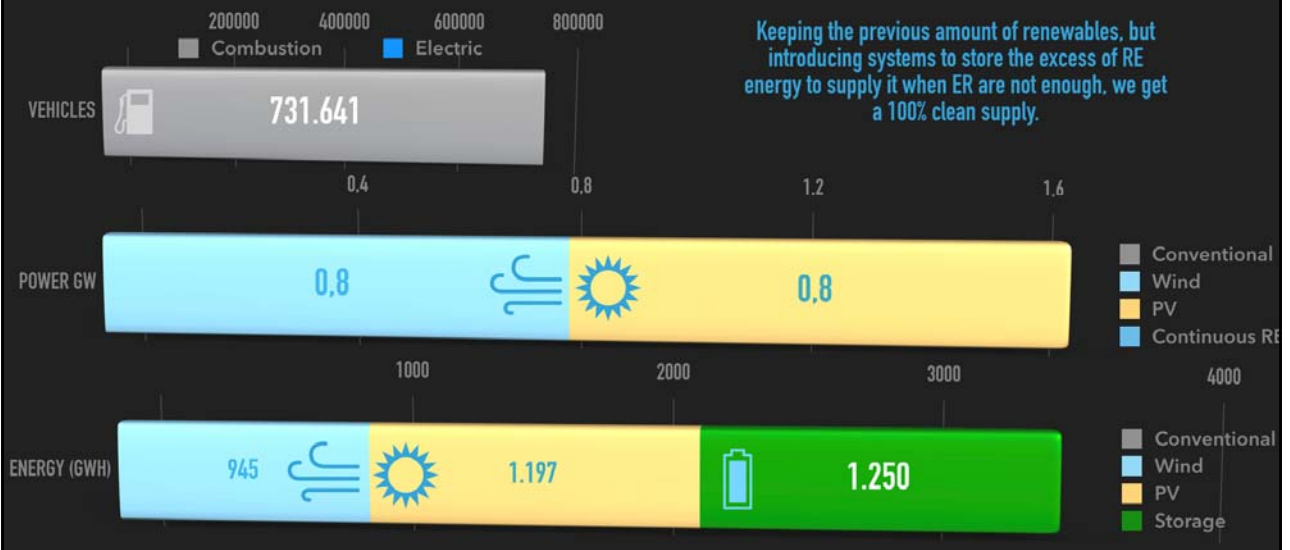
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RENEWABLE SCENARIO IN TENERIFE (0,8 GW WIND - 0,8 GW PV)



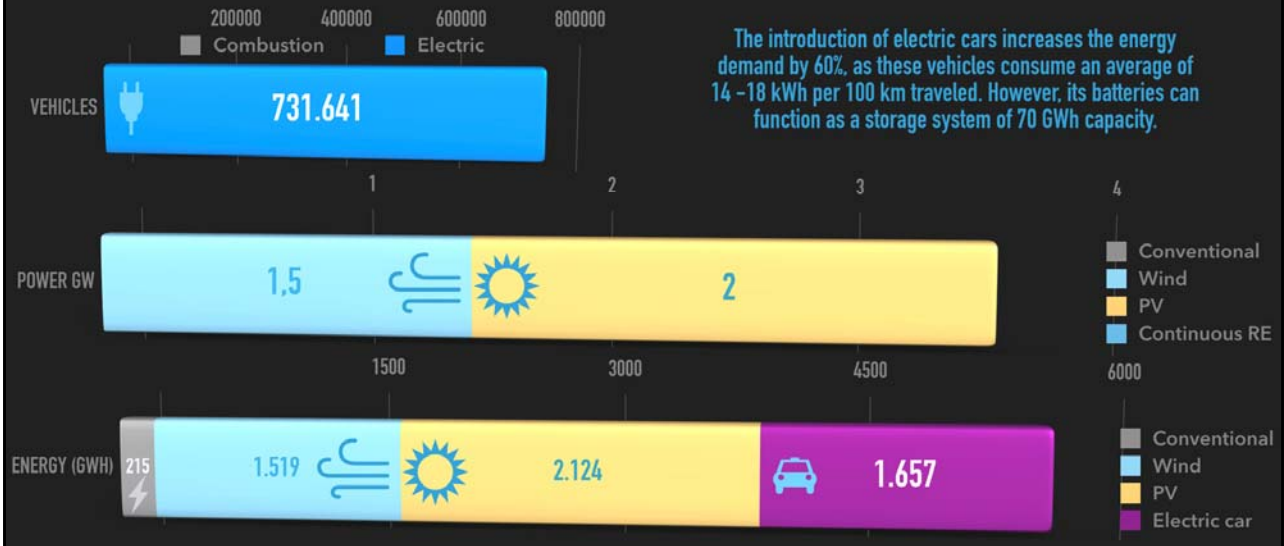
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STORAGE AND RENEWABLES SCENARIO



RENEWABLE ENERGY CHALLENGES AND MOBILITY SOLUTIONS IN TENERIFE

RE AND ELECTRIC CARS SCENARIO

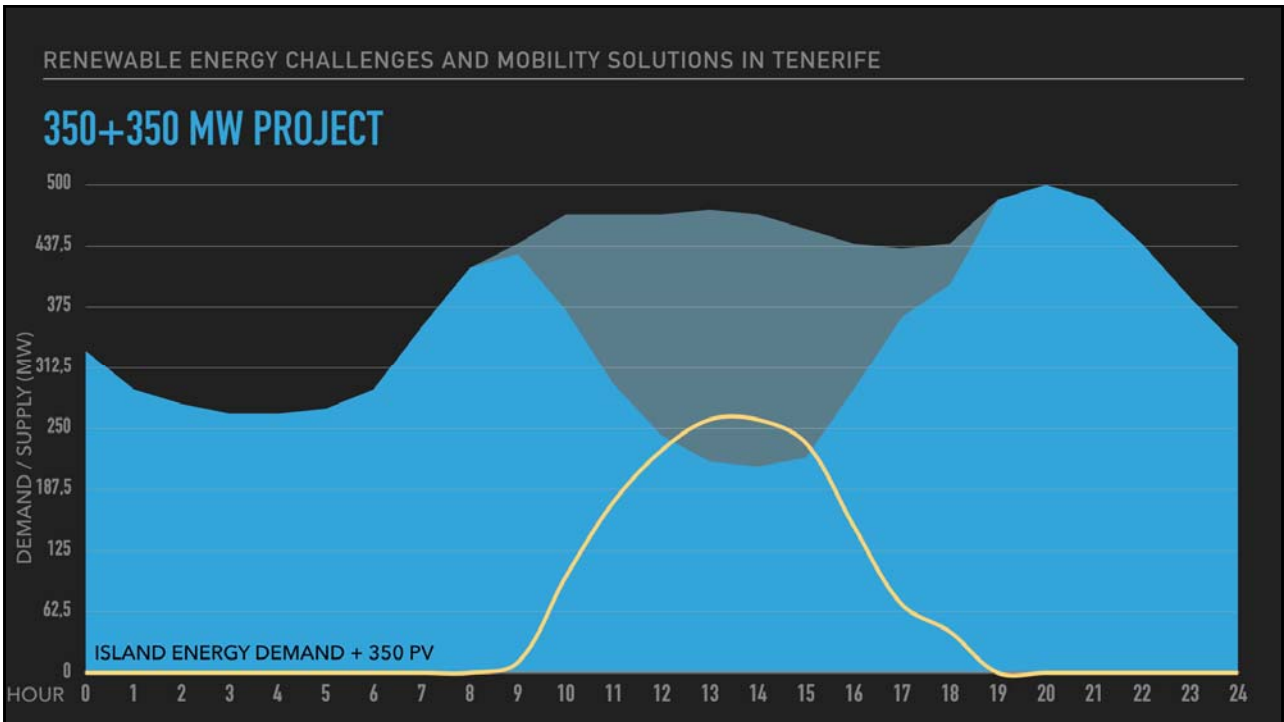
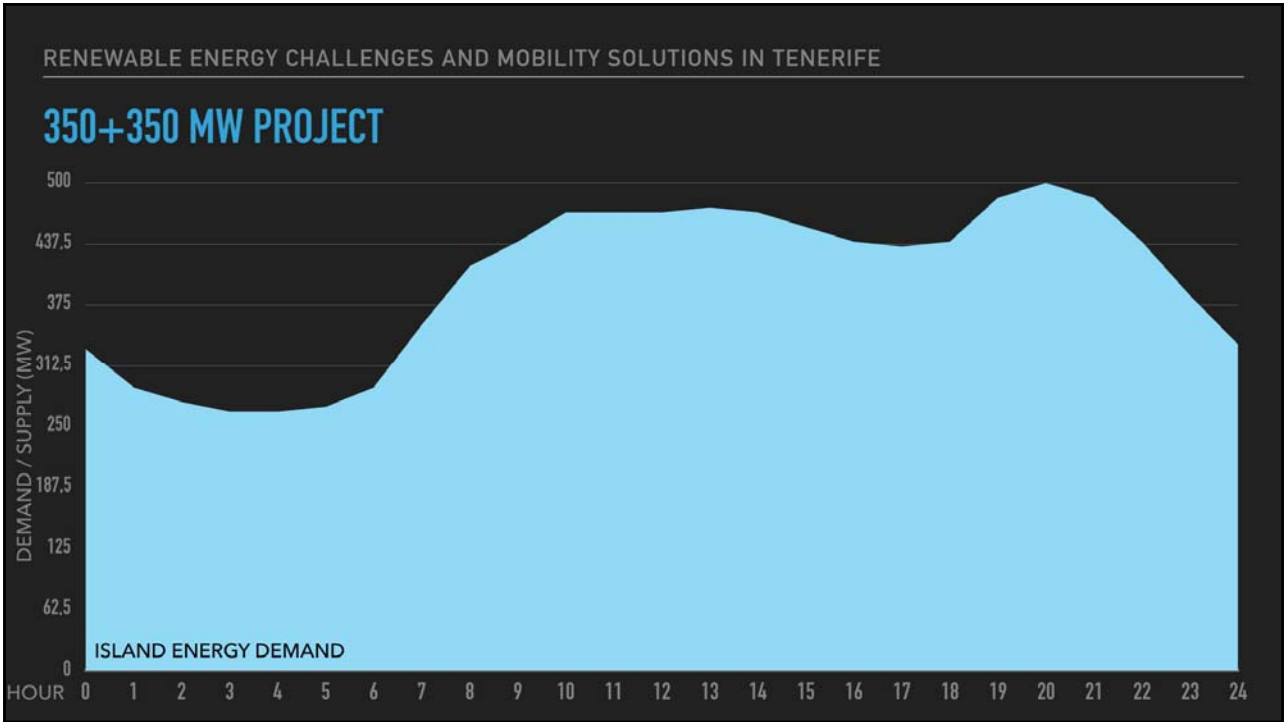


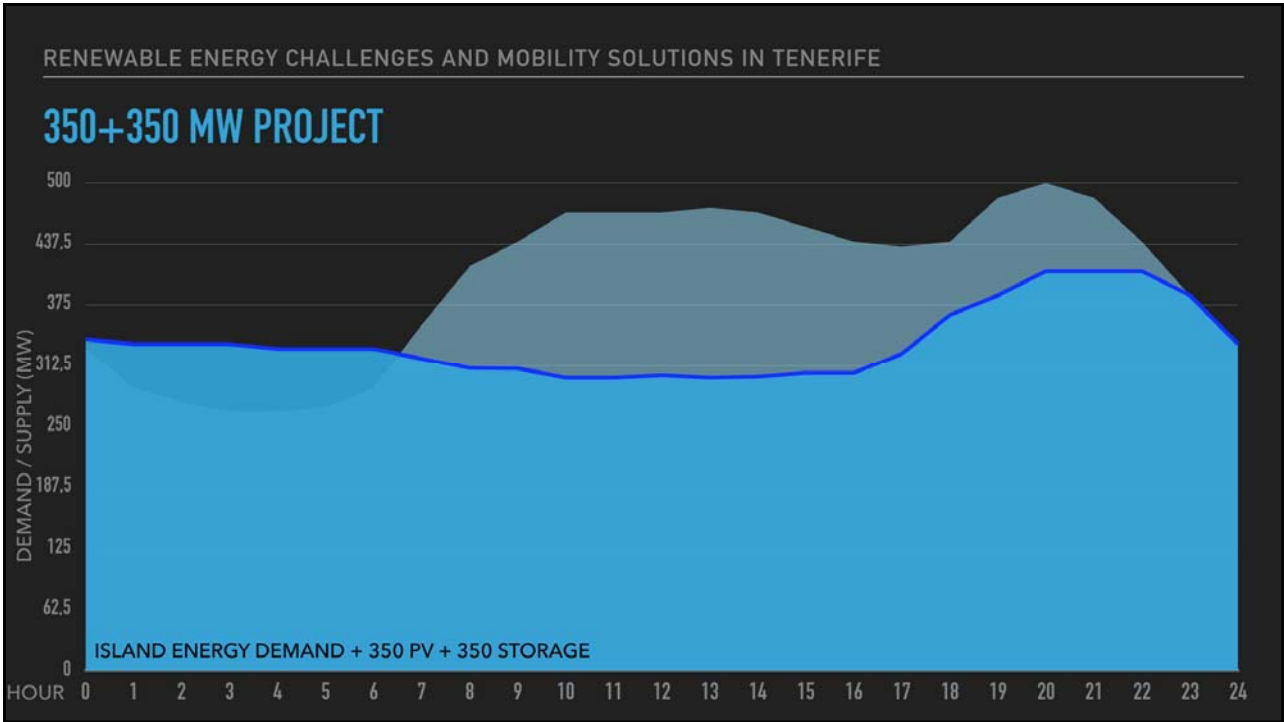
RENEWABLE ENERGY CHALLENGES AND MOBILITY SOLUTIONS IN TENERIFE

STORAGE AND ELECTRIC CARS

- ▶ Ability of a fleet of electric vehicles to act as accumulation system and energy regulation by controlled charging.
- ▶ Batteries can be recharged when there is "excess" energy from renewable sources, and in the not too distant future they can feed the stored energy to the grid at peak times, acting as a distributed storage system, similar to the pump storage plants, but on a much larger scale and involving thousands or millions of vehicles that also spend most of their time parked.
- ▶ Bidirectional integration between the energy grid and vehicles creates the conditions for integrating energy generation and transportation, opening a new horizon for renewables, which thus may overcome many of its current limitations.







RENEWABLE ENERGY CHALLENGES AND MOBILITY SOLUTIONS IN TENERIFE

STORAGE AND ELECTRIC CARS

- ▶ New ITER building
- ▶ 300 (x 22 kW) parking spaces
- ▶ 1 MW charging power

The image shows a 3D architectural rendering of a circular parking structure on the left, featuring a central ring and multiple levels of parking spaces. On the right is a detailed floor plan of the same structure, showing a complex grid of parking spaces, access points, and structural elements. The floor plan is annotated with numbers 1 through 6, likely corresponding to different sections or features of the building.



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FUTURE CHALLENGES

- ▶ Island Demand Management (Global)
- ▶ Charge management in large parking lots
- ▶ Improvement of communication protocols between the vehicle and the chargers
- ▶ Improvement of connectivity access in closed spaces without mobile coverage

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THANKS

