



UKRAINE SLOVAK HYDROGEN PARTNERSHIP

MOU EU – Ukraine

2nd Feb. 2023:

Ukraine Prime Minister Denys Shmyhal and EC President Ursula von der Leyen signed an MOU on "Strategic Partnership on Biomethane, Hydrogen and other Synthetic Gases"

- Ukraine adapts the current and future EU rules for Hydrogen production
- Supporting the social and economic recovery of Ukraine through job creation in hydrogen
- Support through all relevant EU-Ukrainian cooperation formats and financial instruments
- Action to meet the specific infrastructure needs of the hydrogen sector
- Access to commercial and institutional financing, through in particular the EIB and EBRD
- Additional support for investment via the EU and Ukraine-EU concessional finance available, de-risking mechanisms and guarantee schemes, such as those provided under the EFSD+ in the context of the EU-Ukraine neighbourhood policy



CENTRAL EUROPEAN HYDROGEN CORRIDOR (120GWh/day of H₂)

14 Nov. 2022:

The 4 gas transmission operators present their study results on the feasibility to transport hydrogen from Ukraine to Germany.

Central European Hydrogen Corridor

Countries:	UA, SK, CZ, DE
Capacity:	120 GWh per day 1.3 million tonnes per year
Length:	1225 kilometres*
Investment:	1000 – 1500 million EUR*
Transport cost:	0.10 - 0.15 EUR/kg/1000 km
Implementation:	2030

* Investment cost of the part of CEHC from the Ukrainian/Slovak border to large hydrogen demand areas in Southern Germany (without residual value of repurposed assets)



MAP OF PRODUCTIONS

Stage 1

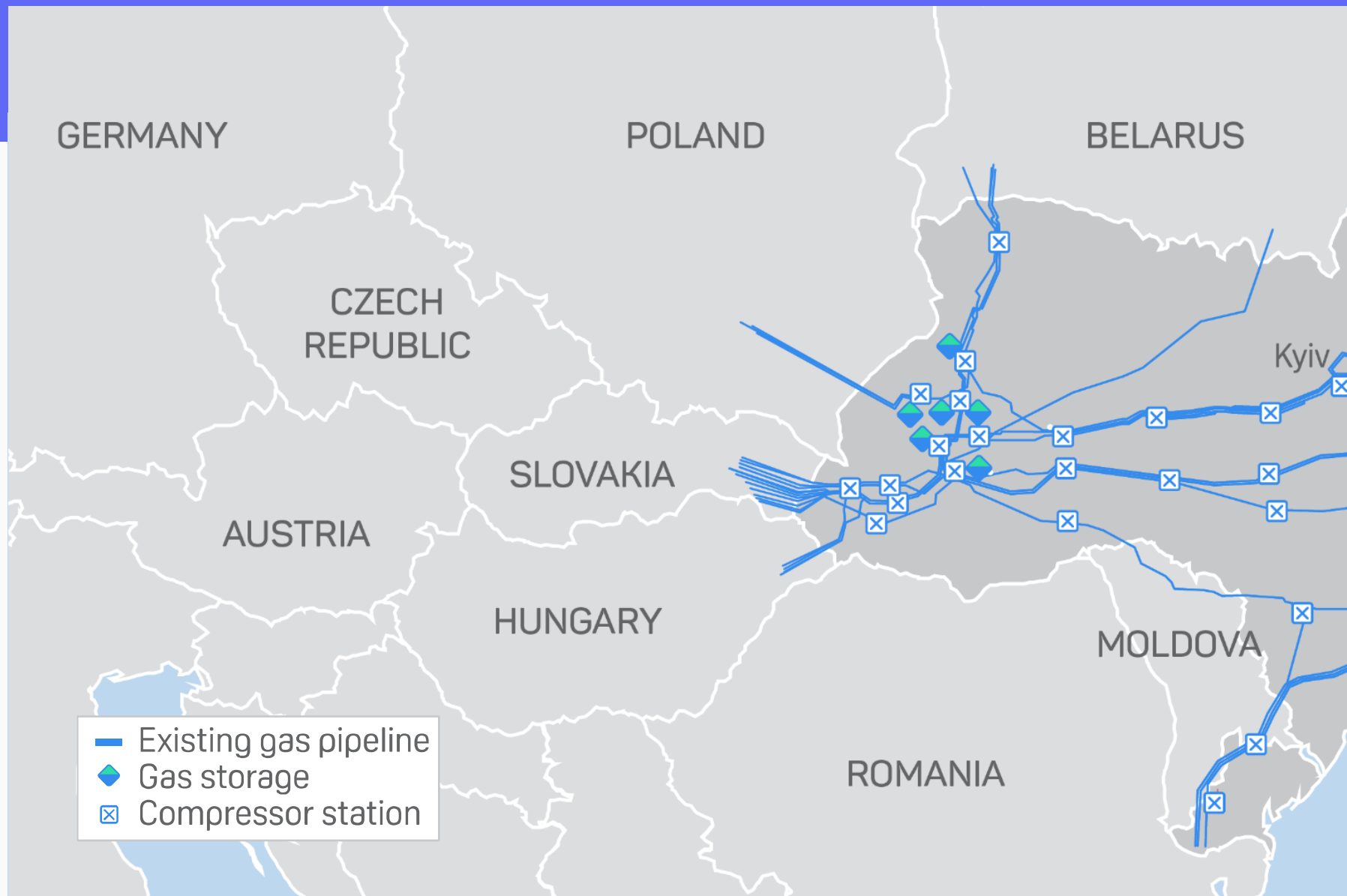
Domestic market

Hydrogen
consumption



Stage 2

Export



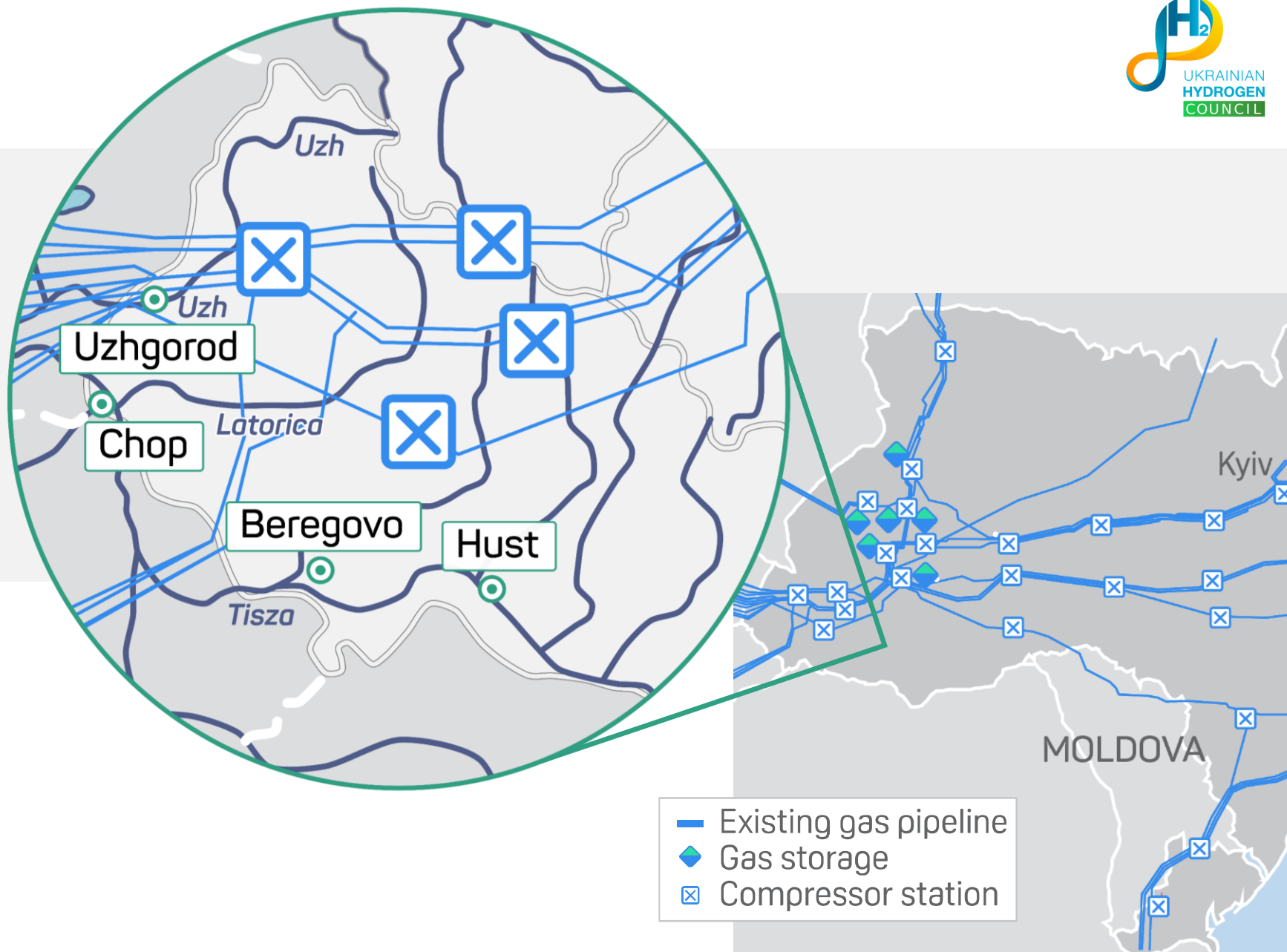
MAP OF PRODUCTIONS

Locations:

- Uzhgorod;
- Chop;
- Beregovo;
- Hust.

Water resources:

- Uzh;
- Tisza;
- Latorica.



ELECTRICITY



Average wind speed
(at 10 meter height)

$V < 4,5 \text{ m/s}$

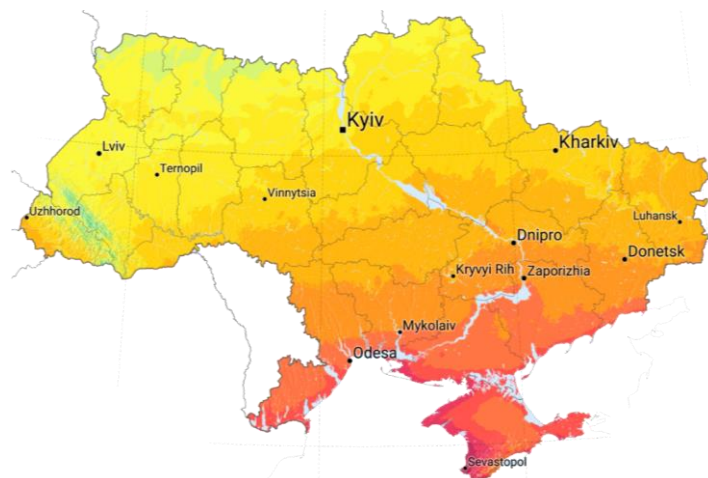
$V = 4,5 \text{ m/s}$

$V = 5,0 \text{ m/s}$

$V > 5,5 \text{ m/s}$

Wind Potential

$V > 5 \text{ m/s}$



Long term average of PVOUT, period 1994-2018

Daily totals: 2.8 3.0 3.2 3.4 3.6 3.8

Yearly totals: 1022 1095 1168 1241 1314 1387 kWh/kWp

PV Power Potential

Daily totals $\approx 3.4 \text{ kWh/kWp}$
Yearly totals $\approx 1241 \text{ kWh/kWp}$



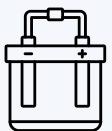
SOLAR

Up to 1200 MW



WIND

Up to 800 MW



PEM ELECTROLYSIS

Up to 1000 MW



Location of H2Drive EV charging and H2 refilling stations

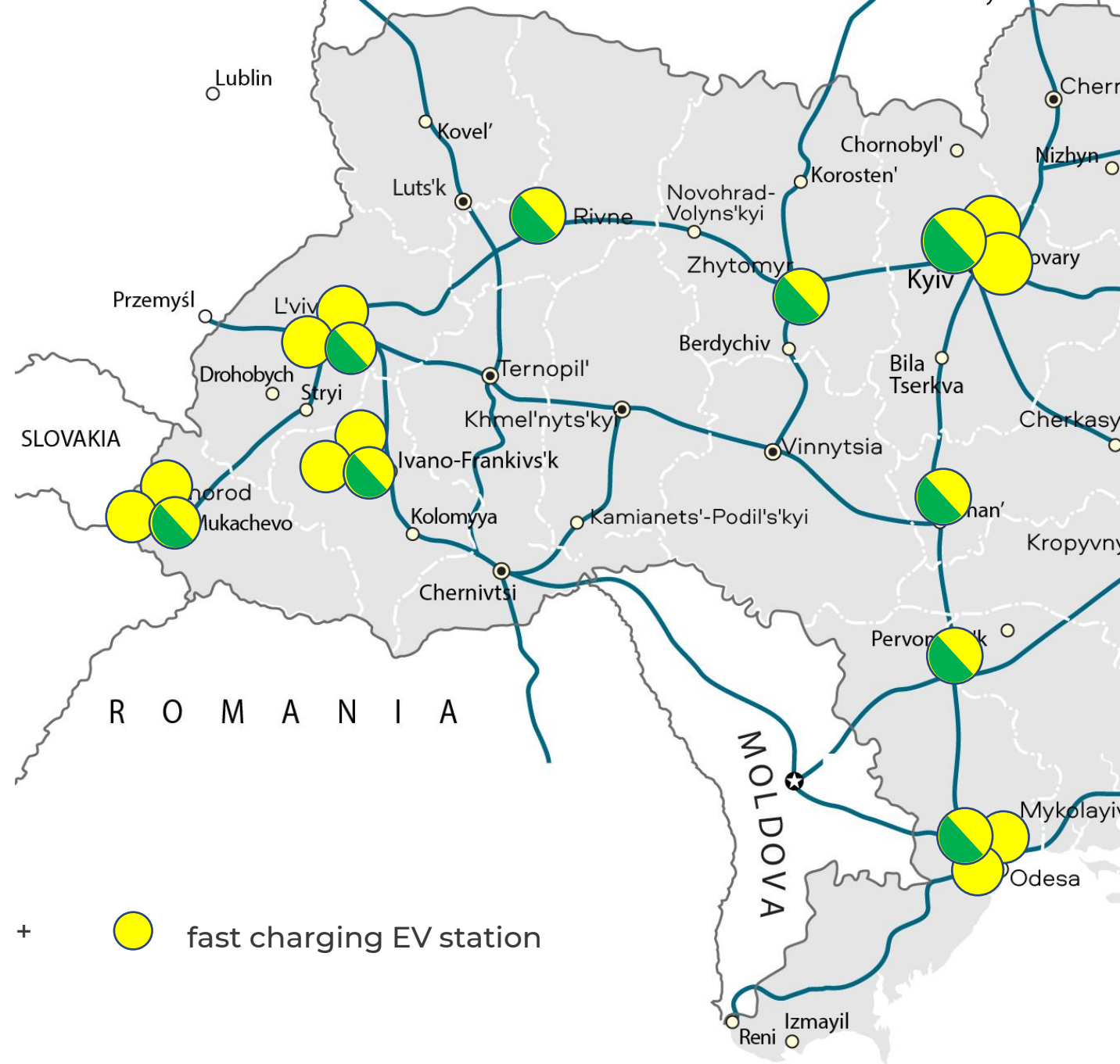
Intercity fast charging stations and PV utility scale SPP across Ukraine are developed together with the hydrogen production and storage systems, which are designed to generate renewable energy, store and charge electric vehicles on the DC chargers and tank hydrogen vehicle in minutes, not hours



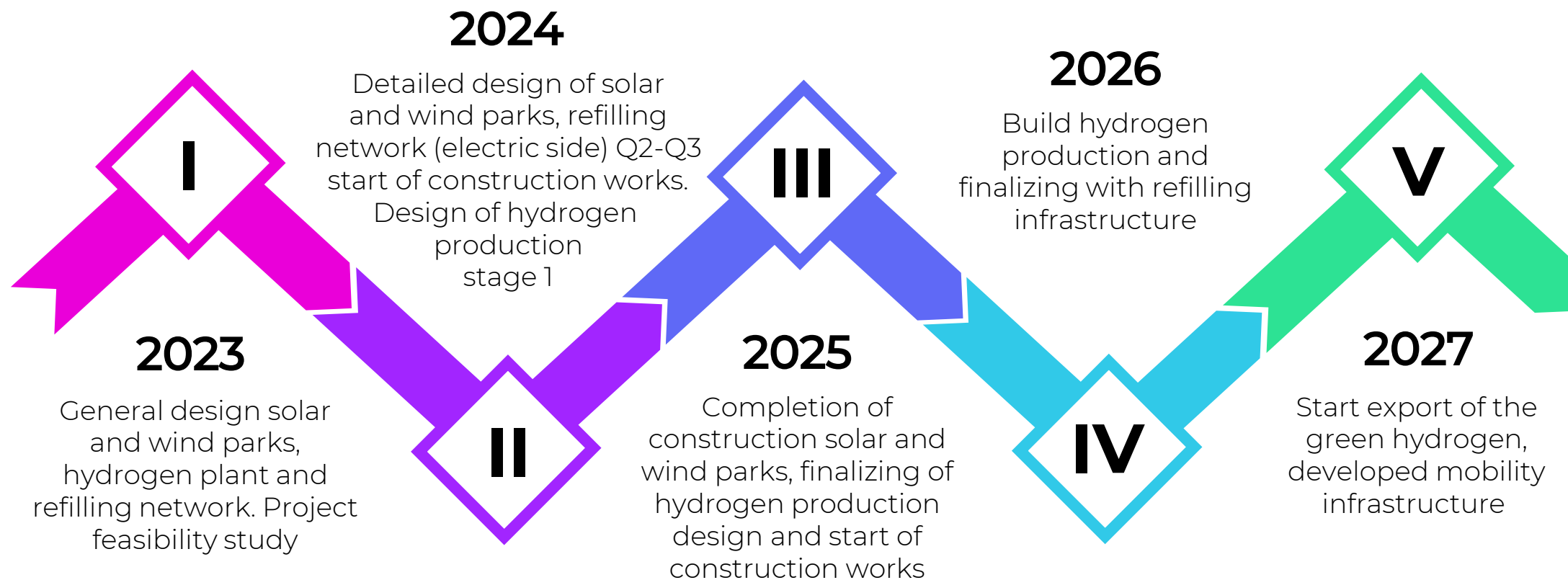
fast charging EV station +
hydrogen fueling station



fast charging EV station



PROJECT ROADMAP



THANK YOU FOR YOUR ATTENTION!



Oleksandr RIEPKIN
President of the Energy Association
Ukrainian Hydrogen Council

Contact us: info@hydrogen.ua
press@hydrogen.ua