



CHRISTOF GERMANN

illwerke vkw AG

Dr. Christof Germann earned his doctorate in law and graduated in applied business studies with a focus on finance and accounting. He served as the head of legal and real estate affairs at Vorarlberger Illwerke Kraftwerke AG. Dr. Germann was a board member of VKW-Übertragungsnetz AG and is currently CEO of Illwerke vkw AG.



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www.etip-hydropower.eu



INNOVATIVE PUMPED STORAGE POWERPLANTS FOR A SAFE ELECTRICITY SUPPLY IN A CARBON FREE ENERGY SYSTEM

Christof Germann

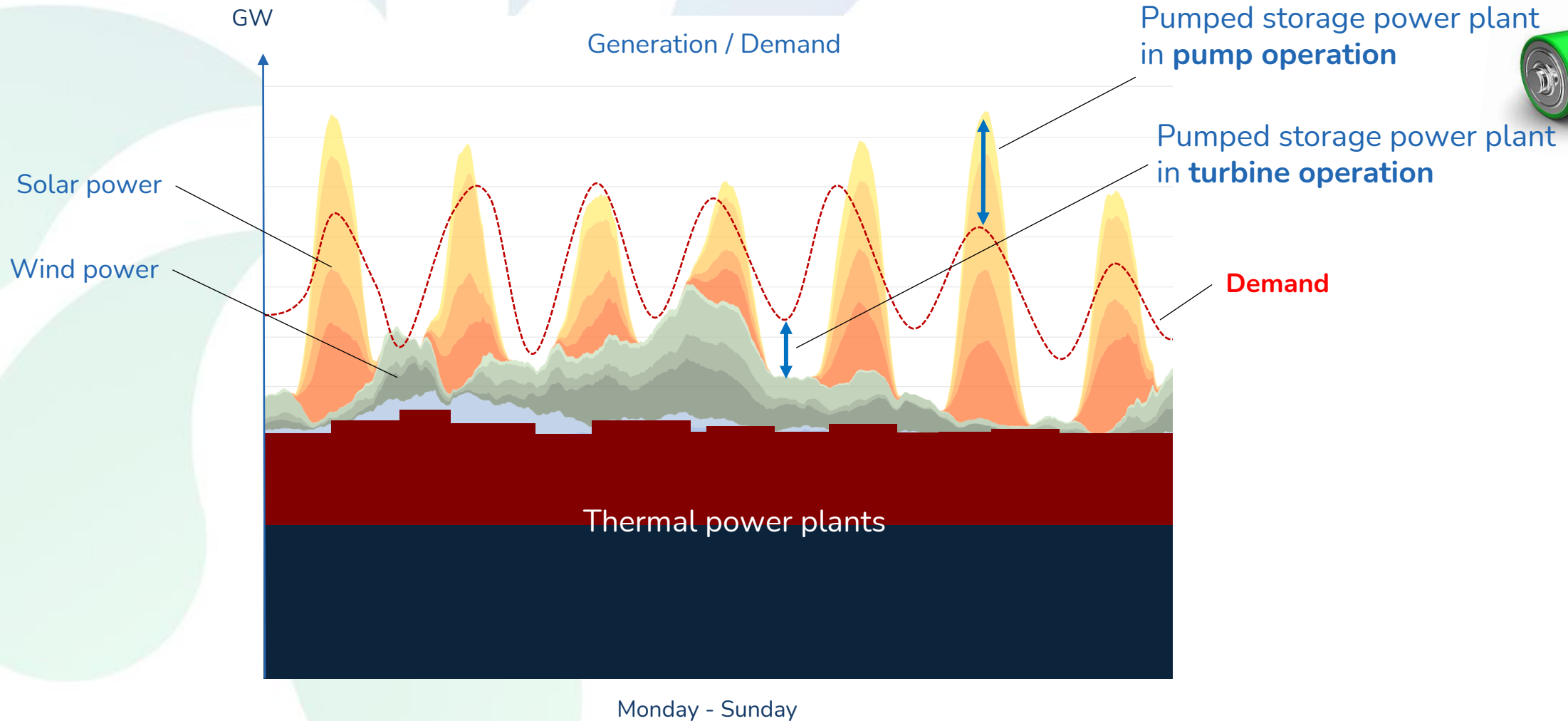
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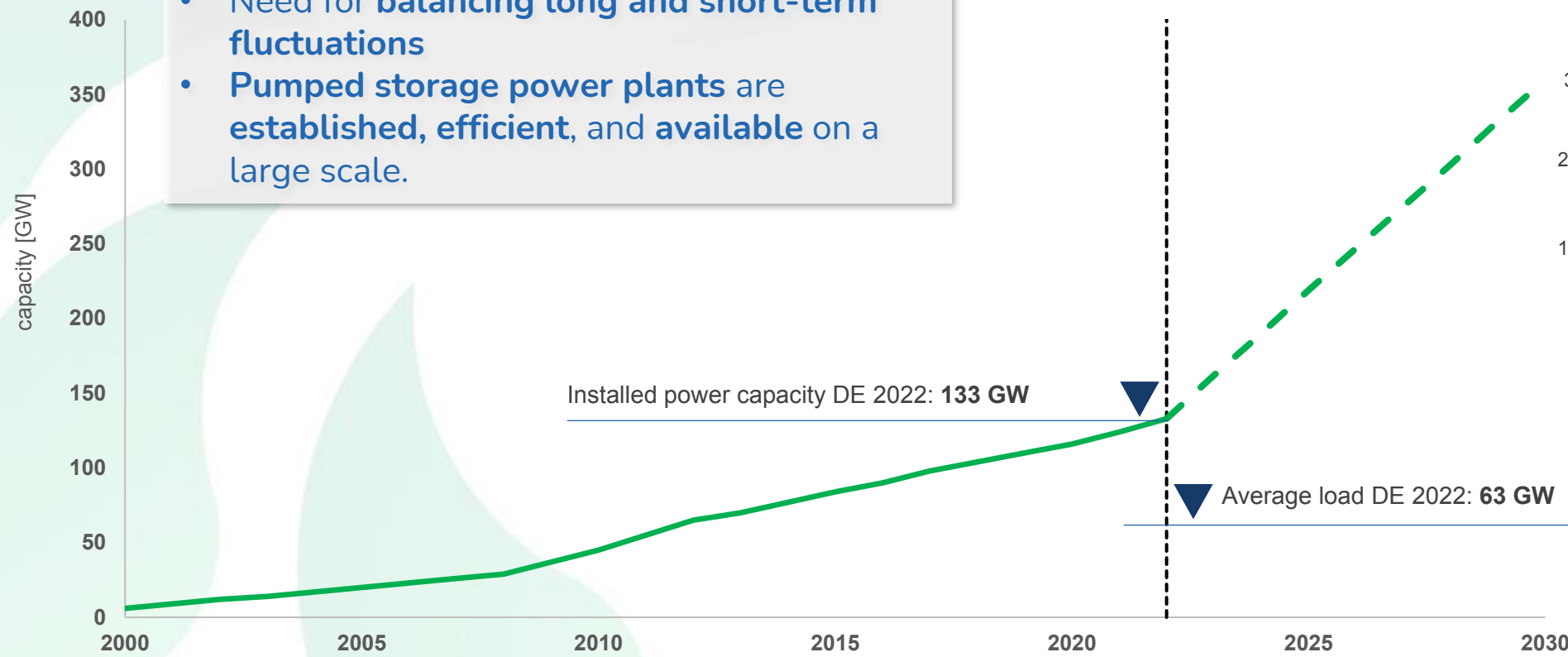
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Mission of Pumped Storage Power Plants

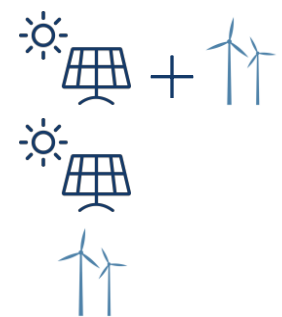


The European Energy System is Changing

- **High volatility** in wind and PV generation
- Need for **balancing long and short-term fluctuations**
- **Pumped storage power plants** are established, efficient, and available on a large scale.



Germany
Expansion Targets for wind und PV: „Osterpaket 2022“



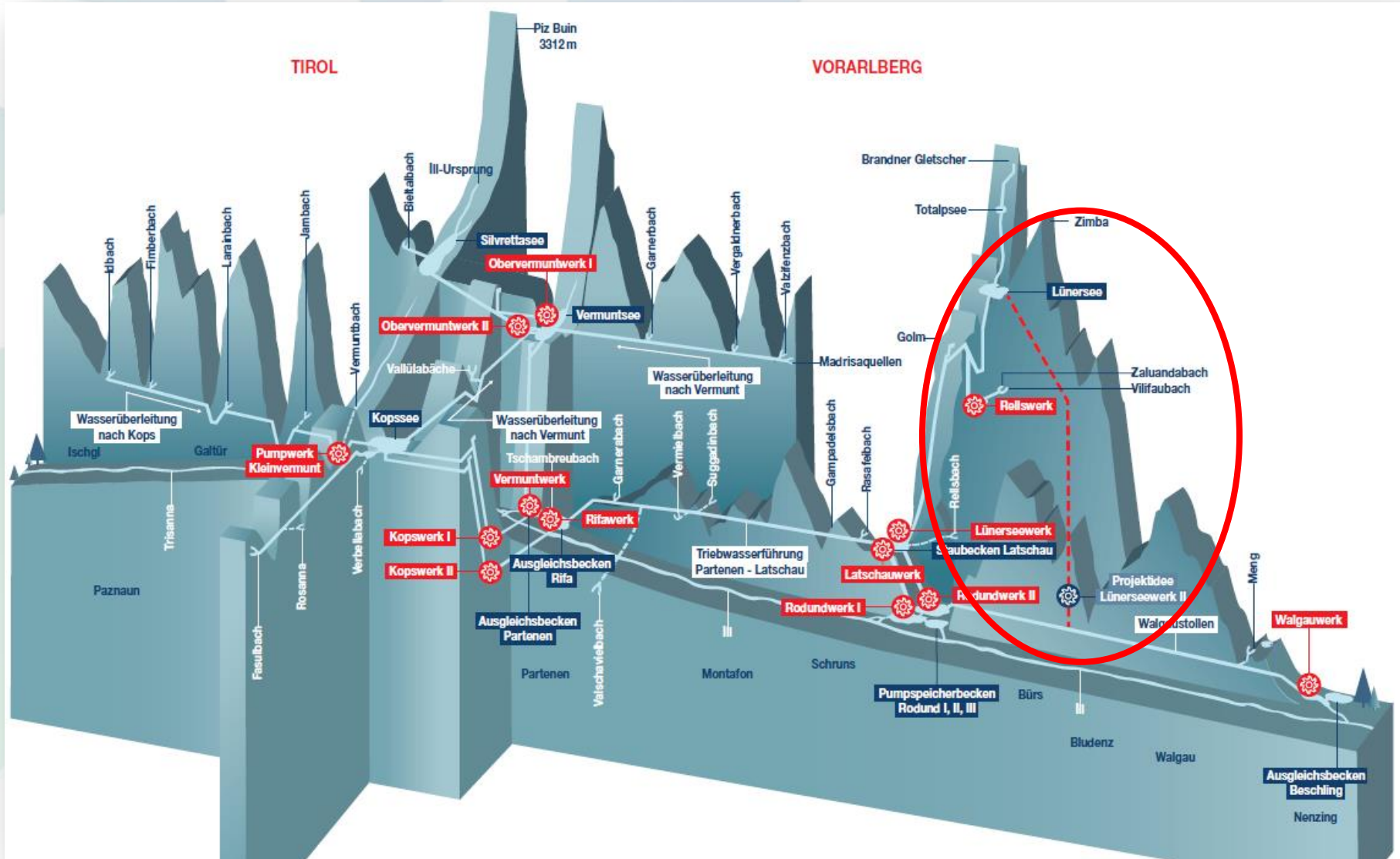
Target Capacity [GW]	Components
360 GW	Solar + Wind
215 GW	Solar
145 GW	Wind

Austria's Largest Pumped Storage Power Plant

Stability, Flexibility and Balance for Europe



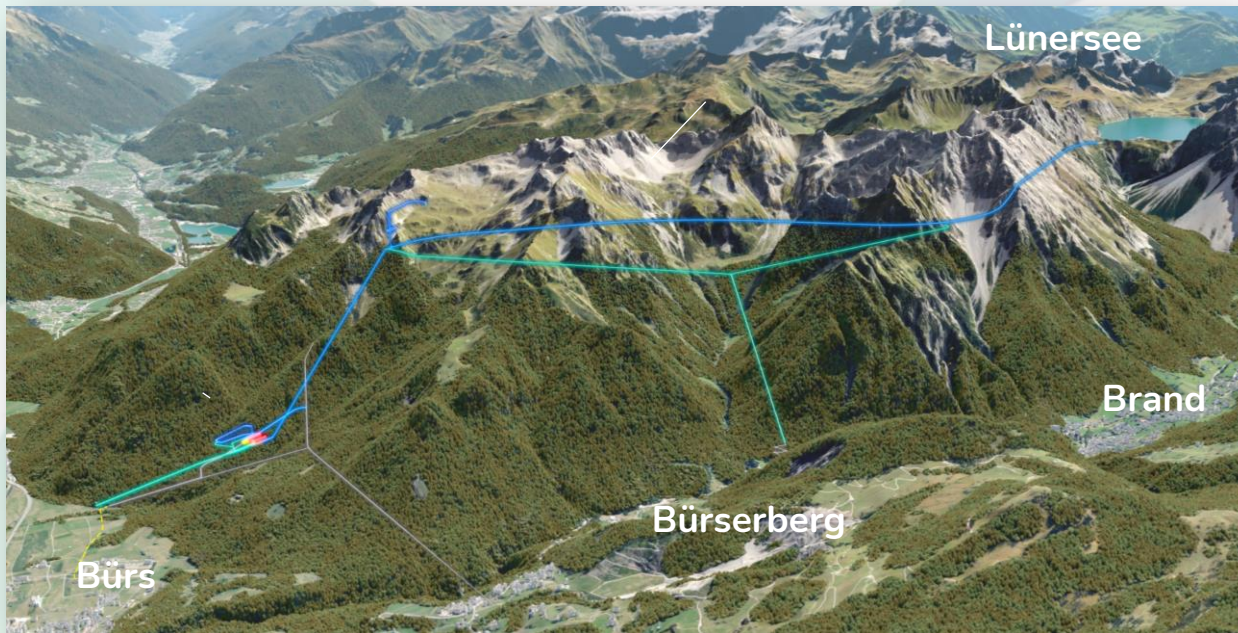
illwerke vkw Provides Stability to the European Grid for 100 Years



Lake Lünersee is situated at 2.000 m a.s.l.

Lünerseewerk II

- Part of the German power control area
- $\pm 1,050$ MW CO₂-free flexibility and speed
230 GWh energy storage
- The **green battery** that integrates
volatile **renewable power generation**
- **Balancing energy to stabilise**
the **European electricity supply network**
- **Estimated investment costs: € 2 billion**



LÜNERSEE WERK II

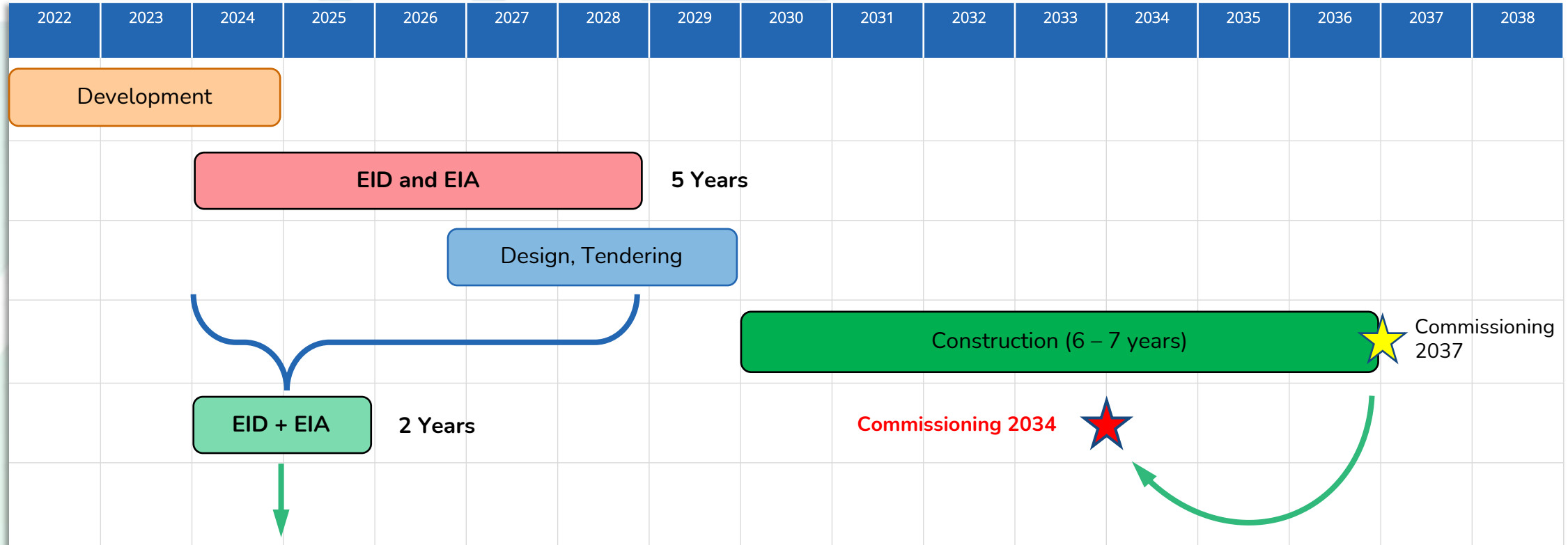
~ 9 € per kWh

Lünerseewerk II vs Batteries



2nd use: ~300 € per kWh

1st use: ~ 800 € per kWh



- Shorten the permitting process
- **Goal: 1 year Environmental Impact Documentation (EID) and 1 year Environmental Impact Assessment (EIA)**
= 2 years → Commissioning 2034 possible!



LÜNERSEE
WERK II

- 
- Existing infrastructure ✓
 - Environmentally compatible ✓
 - Existing grid connection ✓
 - Financing ✓
 - Public acceptance ✓
 - Accelerated permitting phase ?

Christof Germann | illwerke vkw AG Brussels, 16 April 2024

Christof Germann,
christof.germann@illwerkevkw.at