



# EPH: Active Role In Transforming The Energy System

December 2022

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EPH takes an active role in transforming the energy system



# EPH at a glance

## EPH overview

### □ A Prague-based vertically-integrated energy group

□ It consists of two key pillars:

#### EP Infrastructure (“EPIF”)

- **Gas Transmission** in Slovakia
- **Gas and Power Distribution** in Slovakia
- **Gas Storage** in the Czech Republic, Slovakia and Germany
- **Heat Infrastructure** in the Czech Republic

□ Regulated or long-term contracted businesses

□ Marginal CO<sub>2</sub> footprint (1% of EPH CO<sub>2</sub> emissions in 2021<sup>(2)</sup>)

#### EP Power Europe (“EPPE”)

□ Electricity generation (including related activities) mainly in Italy, the UK, Germany, Ireland, France and lignite mining in Germany

□ Stable and resilient business

□ **European leader in transitioning from coal to non-coal assets** continuously decreasing the share of coal in its fleet

















- **Over EUR 2.4bn investments into zero or low emission** sources spent from 2015 or already committed

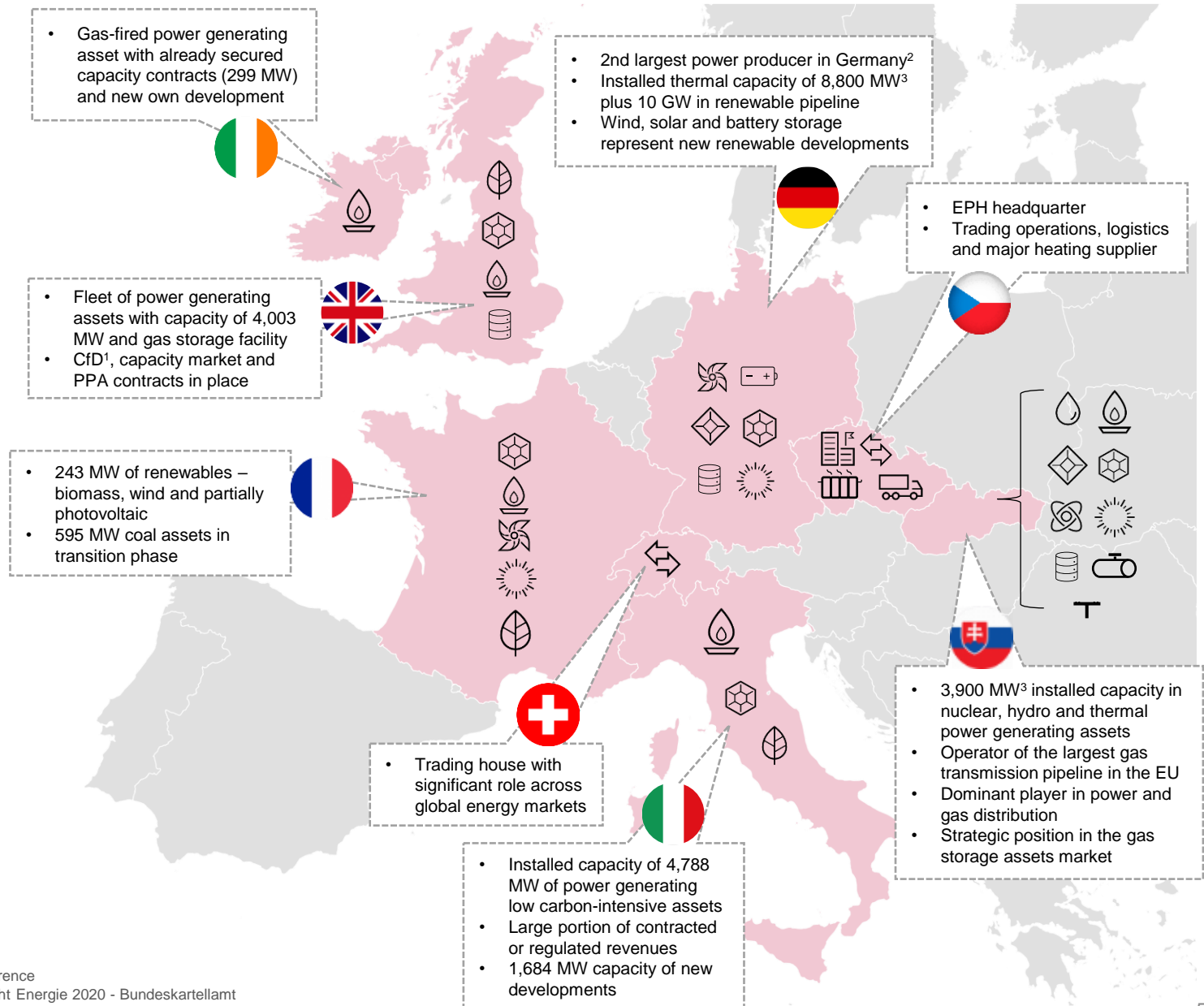
□ EPH consolidated companies employ over **10,500 employees**

## KPIs of the Group

<b>Natural Gas</b>		<b>2021</b>	<b>2020</b>
Gas transmission capacity bookings	bcm	73.7	88.7
Gas transmission / distribution	bcm	41.6 / 5.5	57.0 / 5.0
Gas storage capacity	TWh	64.2	64.2
<b>Heat and Power</b>		<b>2021</b>	<b>2020</b>
Installed capacity (net) <sup>(4) (5)</sup>	GW <sub>e</sub>	11.1	11.0
Power production (net)	TWh <sub>e</sub>	39.8	38.1
Power distribution	TWh <sub>e</sub>	6.4	5.9
Heat supplied	PJ	8.8	19.8
<b>ESG indicators</b>		<b>2021</b>	<b>2020</b>
Share of zero or low carbon intensive sources on power production	%	78	81
Emission intensity	tCO <sub>2</sub> /GWh	494	461

# Overview of EPH assets and activities in Europe

	Wind
	Solar
	Hydro
	Battery
	Biomass
	Gas-fired
	Lignite
	Hard coal
	Nuclear
	Trading
	Transportation
	Heating
	Gas storage
	Gas transmission
	Distribution
	EPH Headquarter



1. CfD = Contract for Difference

2. Source: Monitoringbericht Energie 2020 - Bundeskartellamt

3. Includes LEAG and Slovenské elektrárne which are equity consolidated participations



# Majority of EPH profits are being reinvested into the development of projects decreasing EPH carbon footprint

## Overview of key transformational projects proving EPH's commitment to be a frontrunner in the European Energy transition

### Renewable Projects



- ❑ Expected investment costs: **EUR 9.2bn<sup>1</sup>**
- ❑ **10 GW** scaled pipeline of **renewable projects** till 2030, largely in Germany, positioning EPPE among the top developers of renewable projects on German market
  - Traditional renewable energies (biomass, wind, PV)
  - New high-tech energy storage and hydrogen projects
  - Most of the pipeline is on EPPE's own sites, but few large projects are on third party land

### Nuclear Projects



- ❑ Expected investment costs: **EUR 6.0bn**
- ❑ Building two nuclear units (each approx. 438 MW net) in nuclear power plant Mochovce in Slovakia
  - Significant improvement in **security of supply** for Slovakia
  - Meaningful decrease of carbon footprint of EPH
  - The project is the largest private investment in Slovakia's history

### Gas Projects



- ❑ Expected investment costs: **EUR 1.7bn**
- ❑ Ongoing OCGTs/CCGTs projects for improved **grid security**
  - **UK & Ireland** – two OCGT projects with joint gross capacity of 1,038 MW; capacity contract awarded with the aim to secure stability of the British and Irish electricity market
  - **Italy** – two CCGT with total gross capacity of 1,684 MW with efficiency >60%; capacity contract for 15 years awarded with the aim to secure stability and reliability of the Italian electricity market
  - **Germany** – OCGT project with installed capacity 300 MW; capacity contract awarded for 10 years for security of supply

# EPH takes an active role in transforming the energy system: Key highlights (I/II)

## EPH is highly committed to environmental, social and safety aspects of its operations

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- ❑ Sustainability, social, health and safety topics are cornerstones of EPH's operations
- ❑ EPH already implemented and continues to pursue a number of initiatives to materially **decrease** its **environmental footprint**, whilst keeping focus on social, health and safety aspects of this strategy
- ❑ To assure even greater focus and best practice governance, EPH installed Mr. Gary Mazzotti as the independent member of the boards of directors of EPIF and EPPE in charge of the ESG agenda

## Vast majority of EPH's financial results is stemming from infrastructure assets with negligible CO2 footprint

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- ❑ EPH consists of two pillars: EP Infrastructure (EPIF) and EP Power Europe (EPPE). As the name suggests, EPIF owns and operates infrastructure assets while EPPE owns and operates power and heat generation assets
- ❑ Majority of our EBITDA is generated from regulated and/or long-term contracted businesses of EPIF having only a marginal CO<sub>2</sub> footprint (**55% of EBITDA in 2021; 1% of CO<sub>2</sub> emissions**). These include gas transmission, gas and power distribution or gas storage
- ❑ The gas infrastructure assets also contribute through gas transmission, distribution, storage and supply to final consumers to reliable supply of natural gas which we view as the key bridging fuel in the transition period

## EPH is reducing its CO2 footprint substantially

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- ❑ Emission intensity of EPH **declined by 38% between 2015 and 2021, which resulted in saving of 25 mt of CO<sub>2</sub>** p.a. and we plan further substantial decrease
- ❑ Our goal is to abate another **60% of CO emissions until 2030** from the basis of year 2021

# EPH takes an active role in transforming the energy system: Key highlights (II/II)

## EPH is one of the leading players in decarbonization of conventional power plants

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- ❑ In our decarbonization efforts, we strive to seek **real solutions** - not merely offloading but truly **decommissioning** the most **carbon-intensive sources** while investing and actively **converting** our plants **to** low-carbon or fully **renewable sources**
- ❑ We endorse decarbonization efforts and actively pursue it. As a major European energy player, EPH acknowledges its role in the energy transition and supports the process by already realized as well as planned decommissioning and conversion projects
- ❑ For each of the assets we have prepared a **clear transition plan**. In cases without any restrictions (power system stability, social or other) we typically implement the transition very quickly. In the remaining cases with restrictions we strive to communicate with the regulators and/or stakeholders to agree upon the **fastest possible transition** that would reflect the specific requirements and constraints (e.g. in case of Czech CHP<sup>1</sup> where we through the industry association communicate with the Government on a new regulatory framework that would enable much faster decarbonization)
- ❑ Recently, Mehrum, Emile Huchet 6 and two Jämschwalde units have been put back in operation on requests of the relevant governments in order to fight against the gas crisis caused by Russian invasion in Ukraine

## EPH massively invests to carbon footprint reduction

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- ❑ EPH Group has already invested or committed to invest more than **EUR 2.4 billion** in the coming years to build a path to carbon neutrality and energy independence in Europe into **zero and/or low carbon footprint** power plants (primarily biomass and modern CCGTs)
- ❑ EPH continues to invest to developing a fleet of dispatchable low carbon footprint assets (biomass, waste to energy, natural gas, and storage), to either replace its existing coal fired power plants or to build completely new ones to back up intermittent renewables and provide much needed security of supply. Beyond that we invest into cutting edge technologies and innovations involving storage, hydrogen and smart technology couplings

## EPH through EPPE operates a balanced portfolio of power generation assets with a key weight on natural gas

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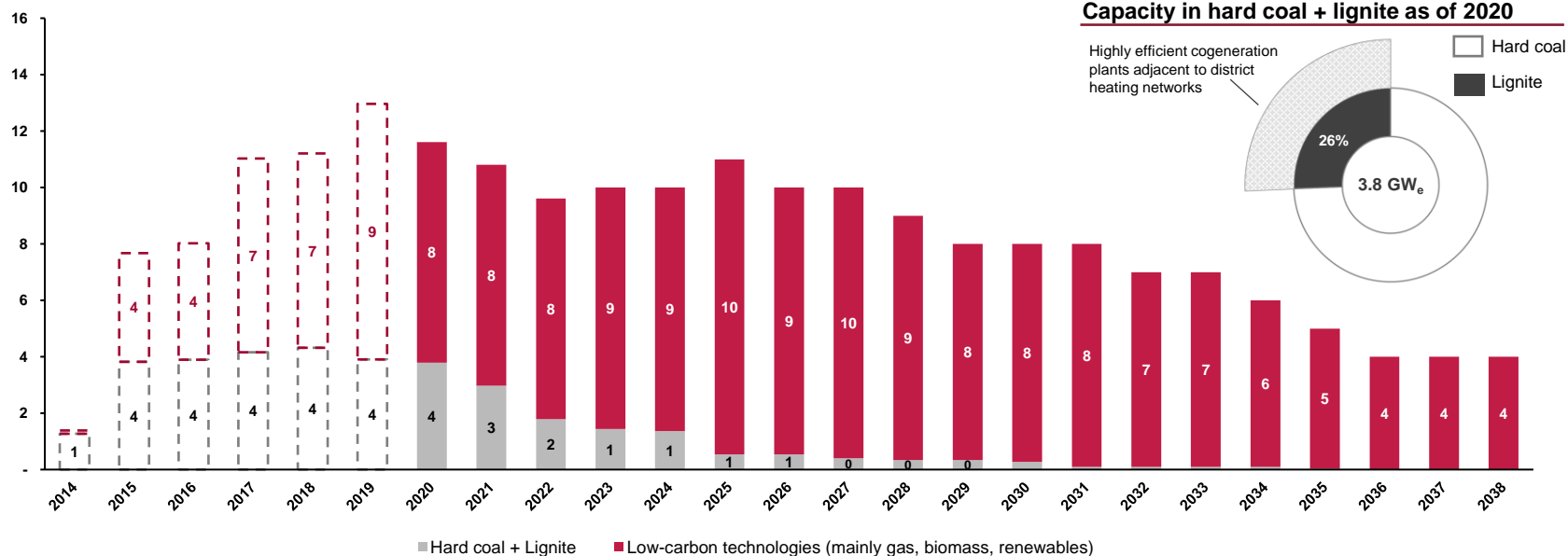
- ❑ The share of **low emission generation** (natural gas, biomass and hydro) in our portfolio **was around 78% in 2021**
- ❑ The share of low emission generation will further grow, as large portion of coal-based assets will be either decommissioned or shifted to capacity reserve or converted to zero or low carbon footprint technologies and we invest into expanding the share of low emission power generation

1. Combined heat and power



# Installed capacity in coal will gradually decline as a result of both decommissioning and conversion projects

## Installed capacity development: Low or zero emission capacities vs. coal capacities (GWe)<sup>1,2</sup>



- ❑ Total installed capacity in hard coal and lignite of ca 3.8 GW as of Dec-2021 will gradually decline as the coal-fired power plants in our portfolio will be either decommissioned or converted to a more environmentally friendly fuel source in near or not too distant future. Current operations of our conventional assets are often driven by stability needs of electricity grids (e.g. coal power plants Mehrum in Germany, Kilroot in the UK) or are the vitally needed, irreplaceable source of power (Fiume Santo in Sardinia, Italy). Specifically in Germany, our transition plans are a key part of *Kohleausstieg* plans coordinated with the German federal government
- ❑ Major decommissioning and conversion projects have been already realized, primarily in the UK where we decommissioned Eggborough power plant (2000 MW) and Lynemouth power plant converted to pure biomass (407 MWe)
- ❑ The remaining installed capacity in lignite is operated in highly efficient cogeneration mode (CHPs located mainly in the Czech Republic) supplying heat to district heating networks. This avoids a lot of primary energy that would otherwise be needed, resulting in overall CO2 savings
- ❑ Overview of realized and planned closures and conversion projects is presented on the following slide

1. Operating data for year 2021 are presented consistent with IFRS consolidation scope, excluding equity consolidated companies such as LEAG and SE

2. Projections of future development of installed capacity are only indicative and are based solely on management estimates in respect of closures and refurbishments of individual plants. This forward-looking information is subject to future management decisions, market development as well as numerous risks and uncertainties

# EPH actively decommissions coal-fired power plants or converts them to low or zero carbon capacities

## Specific examples of realized initiatives

- ❑ **Lynemouth** is a power plant (net installed capacity 407 MW) running on biomass, which was converted from hard coal. The conversion helped to significantly reduce SOx and NOx emissions. This conversion saves approximately 2.7 Mt of CO<sub>2</sub>-eq emissions annually
- ❑ **Eggborough** power plant (net installed capacity 1960 MW) was decommissioned in 2018, saving 11.5 Mt of CO<sub>2</sub>-eq emissions annually (compared to baseload operations in 2013). There are several site development plans in consideration, especially a new build CCGT project (<http://www.eggboroughccgt.co.uk>)
- ❑ **Buschhaus** power plant (net installed capacity 352 MW) in Helmstedter Revier was transferred into security stand-by mechanism in October 2016 until September 2020 and then was finally decommissioned
- ❑ Decommissioning of our **Mumsdorf** power plant (net installed capacity 110 MW) in Germany led to an annual saving of about 800 kt of CO<sub>2</sub>-eq emissions
- ❑ Decommissioning of 2 older oil units (Unit 1 and Unit 2) in **Fiume Santo** (net installed capacity approx. 80 MW)
- ❑ Our investment in Czech CHP **Elektrárny Opatovice** (net installed capacity 378 MW) led to almost 50% reduction amount of SOx and NOx emissions and dust particles

## Planned closures and conversion projects<sup>1</sup>

- ❑ Coal Coal-fired assets operated by **Gazel Energie** (net installed capacity 1190 MW) in France were to be decommissioned no later than by 2022 due to the coal phase-out decided by the French government. Provence 5, located in Bouches du Rhone, was decommissioned in 2021. The second power plant Emile Huchet 6, located in Moselle, is expected to be operated in limited regime at the request of the French government to provide electricity in terms of the gas crisis and nuclear outages
- ❑ Commercial operations of **Mehrum** power plant (net installed capacity 690 MW) in Germany have ended in 2021 following the participation in coal exit auction. We have been initially requested to run the power plant for grid stability and during summer 2022, we have been requested to return to full operations to ease the gas crisis
- ❑ **Kilroot** power plant (net coal installed capacity 350 MW) in the UK planned to be decommissioned in 2023. Power production from coal is driven by a capacity contract to ensure grid stability. The closed coal capacity will be replaced by newly built natural gas units
- ❑ One of the lignite-fired boilers operated by **United Energy** (net installed capacity 239 MW) in the Czech Republic will be refurbished for biomass combustion (tender already ongoing) with operation to commence in 2021. The remaining lignite units are planned to be replaced by CCGT technology in 2025
- ❑ Coal power plant **Fiume Santo** (net installed capacity 599 MW) in Sardinia, Italy where sustained operations are required by local government is expected to be decommissioned in 2025. As the power plant is a key source of power on the island, an alternative source of power needs to be identified prior to the shutdown. The selected technology depends on discussions with local authorities, biomass is considered optimal by EPH provided that adequate generation subsidy is provided. In addition, we expect to build photovoltaic panels on the site
- ❑ In 2027-2035, the rest of predominantly **lignite-fired heating plants operated by EPIF** in the Czech Republic (net installed capacity 848 MW) are planned to be gradually replaced by a balanced mix of CCGTs, biomass boilers and waste-to-energy plants

1. The described actions are only indicative and are based solely on management estimates in respect of closures and refurbishments of individual plants. These plans are subject to future management decisions, market development as well as numerous risks and uncertainties

# EPH is one of the leading players in decarbonisation having actively implemented measures leading to abatement of 18 Mt of CO<sub>2</sub> emissions per annum<sup>1</sup>

Country	Company	Plant	Capacity (GW)	Savings (Mt CO <sub>2</sub> )	Fuel	Note <sup>3</sup>
UK	EPL	Eggborough	2.0	11.5	Coal	EPH decommissioned plant in 2018, saving 12 mt CO <sub>2</sub> p.a. .
UK	LPL	Lynemouth	0.4	2.7	Coal	EPH executed biomass conversion saving 3 Mt CO <sub>2</sub> p.a.
DE	HSR	Buschhaus	0.4	2.7	Lignite	Voluntarily placed to security stand-by (no generation) in 2016, saving 3 Mt CO <sub>2</sub> p.a.
DE	MBG	Mummsdorf	0.1	0.8	Lignite	EPH decommissioned plant in 2013, saving 0.8 Mt CO <sub>2</sub> p.a.
DE	MBG	Deuben	0.1	0.7	Lignite	EPH decommissioned plant in 2021, saving 0.7 Mt CO <sub>2</sub> p.a.
FR	Gazel	Provence 5	0.6	-	Coal	Decommissioned in 2021
<b>Realized closures / conversions</b>			<b>2.9</b>	<b>18.4</b>		
FR	Gazel	Emile Huchet 6	0.6		Coal	The French government announced its plan to close coal power plants in the country by 2022, however, the operations were extended due to gas crisis
UK	KIL	Kilroot	0.4		Coal	The coal unit is currently required for system stability and expected to be needed for its remaining life (expected decommissioning by 2023) and refurbishment to natural gas
CZ	EOP	Opatovice	0.4		Lignite CHP <sup>2</sup>	All three plants are highly efficient CHPs utilized for public district heating; EPH invested into DeSOx and DeNOx equipment reducing emissions significantly. The assets are planned to be gradually replaced by a balanced mix of CCGTs, biomass boilers and waste-to-energy plants
CZ	UE	Komorany	0.2			
CZ	PLTEP	Plzenska teplarenska	0.3			
DE	KWM	Mehrum	0.7		Coal	Closure in 2021 at EPH decision; requested by the TSO and the German government to prolong operations to ensure grid stability and replace gas consumption
DE	MBG	Deuben	0.1		Lignite CHP	CHP utilised for industrial purposes, Closure expected in 2035
ITA	FS	Fiume Santo	0.6		Coal	Must-run infrastructure, ongoing discussion for gas or biomass conversion
<b>Planned closures / conversions</b>			<b>3.8</b>			

1. CO<sub>2</sub> savings are calculated for year 2019 based on IFRS consolidation scope, excluding equity consolidated companies such as LEAG and SE. The year with peak emissions is used as a base year

2. Combined heat and power generation plants

3. The described actions are only indicative and are based solely on management estimates in respect of closures and refurbishments of individual plants. These plans are subject to future management decisions, market development as well as numerous risks and uncertainties

## EPH plans in the Netherlands





# EPH has signed an agreement to acquire Sloe Centrale and Wholesale business unit of PZEM N.V, thereby investing into low emission power generation

## Highlights of strategic plans of EPH in the Netherlands

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- ❑ In September 2022, EPH has signed an agreement to acquire a modern gas-fired power plant Sloe Centrale located in Zeeland with an installed capacity of 870 MW from PZEM and EDF as well as the Wholesale business unit of PZEM N.V., comprising of PZEM Energy Company B.V and PZEM Pipe B.V. (100%). With this acquisition, EPH will expand its presence to the Dutch energy market
- ❑ EPH investment into these assets fits with our strategy to invest into low emission power generation assets and in the Western European markets. We find the investment complementary to EPH's existing asset portfolio. We view the Dutch power generation market attractively, as the market will be driven by an expected future growth. Low emission and flexible assets, like Sloe Centrale, will be essential during the energy transition and will continue to provide security of supply to the wider European power market
- ❑ **EPH is dedicated to meeting strict environmental targets in operation of all of our assets.** We continuously invest in our power plants and make use of innovative technologies gaining additional operational efficiencies. We plan to do the same in the Netherlands. For example, we are already exploring options how we can improve the operating parameters of Sloe Centrale, thereby leading to saving of gas consumption and decreased CO2 emissions
- ❑ In the medium term, we plan to explore options how **Sloe Centrale** can be used in connection with the developing **hydrogen economy**. We stand ready to participate on development projects involving all of our assets in connection with the energy transition assuming project feasibility and economic operation
- ❑ EPH is an investor with a **long-term investment horizon**. We believe this should provide all relevant stakeholders with the assurance that the long-term interests of the acquired companies will be satisfied. We have high regard of the credentials and skills of employees of PZEM and of Sloe Centrale and we find it essential, that the employees remained motivated and dedicated to further development of the business
- ❑ EPH plans to look at new development projects to create jobs in the Dutch energy sector and also how we can further contribute towards the **security of supply and the energy transition** and also at further acquisitions in the Dutch market

# Coal-based generation sources closure or conversion plan



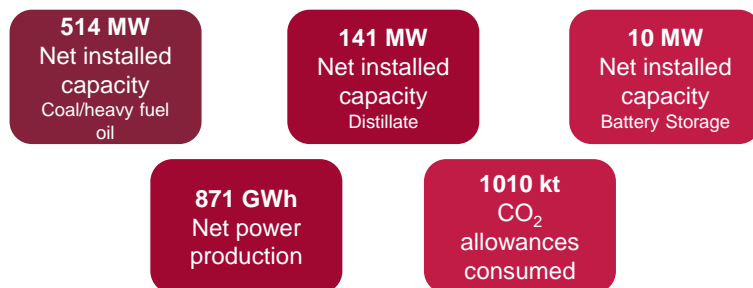
## Overview

- ❑ The coal unit is currently required for system stability in Northern Ireland (“NI”) and expected to continue to be needed for system stability for its remaining life until 2022/2023
- ❑ The OCGTs provide the needed capacity and fast-acting response
- ❑ Kilroot contains the only grid scale operational battery storage unit in NI with the potential to install a further 30-100MW of battery storage
- ❑ Kilroot brownfield site represents an excellent repowering opportunity to develop additional 2x300 MW of OCGTs (construction preparation process already ongoing) that is expected to be on demand in 2023/24 and potential for additional battery storage
- ❑ Kilroot is strategically located and together with Ballylumford (closely located CCGT plant owned by EPH) it represents 62% of NI’s capacity. Moreover, a grid stability rule in NI requires, that minimum 3 thermal units must be in operation at the same time and EPH owns 5 out of 6 such units in NI

## Decommissioning / conversion plans<sup>2</sup>

- ❑ Kilroot power plant is expected to be decommissioned in 2023 in line with the coal phase-out deadline set at 2024/2025 by the UK government. Current power production from coal is driven by a capacity contract to ensure grid stability. The closed coal capacity is planned to be replaced by newly built OCGT units (2x300 MW), of which substantial portion is supported by already secured capacity contracts (390 MW) with the remaining capacity to be tendered
- ❑ Construction of new natural gas units for providing grid stability services commenced in 2021

## Operational KPIs for 2019<sup>1</sup>



1. Pro-forma numbers for the whole year 2019

2. The projected actions are only indicative and are based solely on management estimates in respect of closures and refurbishments of individual plants. This forward-looking information is subject to future management decisions, market development as well as numerous risks and uncertainties

# Coal power plants operated by Gazel Energie in France. Decommissioning by 2022 but probably sooner with one power plant not expected to operate starting 2020

## Overview

- ❑ In France, EPH owns two coal power plants Emile Huchet 6 and Provence 5 under Gazel Energie brand with a holding company called EP France
- ❑ Each plant has an installed capacity of 595 MW
- ❑ While Emile Huchet power plant generated 444 GWh of power in 2019, Provence power plant is de facto in a stand-by mode
- ❑ Operation of Emile Huchet plant in its remaining lifetime will be driven by grid stability needs, while no generation of base load electricity is planned

## Decommissioning / conversion plans<sup>2</sup>

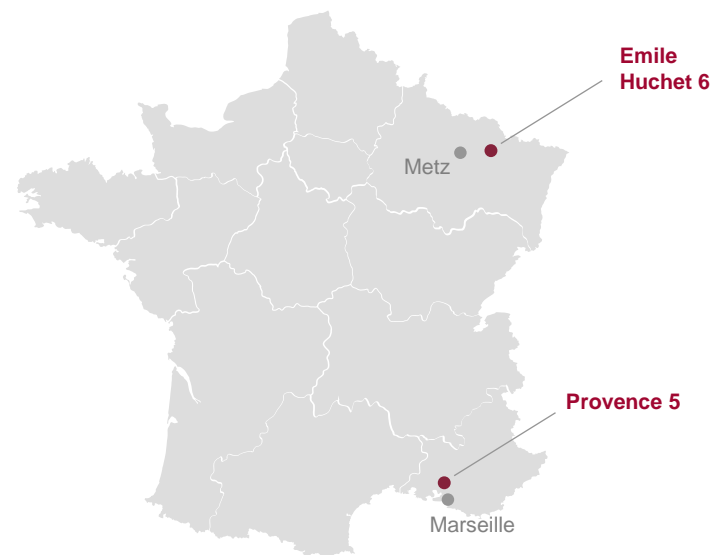
- ❑ Power plants Provence 5, located in Bouches du Rhone, ended operations in 2021
- ❑ The second power plant Emile Huchet 6, located in Moselle, is expected to be operated until 2022

## Operational KPIs for 2019<sup>1</sup>

**1190 MW**  
Net installed capacity  
(conventional)

**447 GWh**  
Net power production

**432 kt**  
CO<sub>2</sub> allowances consumed



1. Pro-forma numbers for the whole year 2019 only related to coal power plants. Further information on portfolio operated by Gazel Energie is presented in the next section  
2. The projected actions are only indicative and are based solely on management estimates in respect of closures and refurbishments of individual plants. This forward-looking information is subject to future management decisions, market development as well as numerous risks and uncertainties



# Coal power plant Fiume Santo in Italy: Decommissioning by 2025 depending on replacement possibility

## Overview

- ❑ A coal-fired Fiume Santo power plant with 24% of thermal installed capacity in Sardinia is a key local generation source, which currently operates in a „must-run“ regime
- ❑ The power plant is situated in the north west of Sardegna region, in the Sassari province. The plant is considered, thanks to its net installed capacity of approximately 600 MW, to be one of the most important industrial facilities in northwestern Sardinia
- ❑ Operated by EP Produzione along with a fleet of 5 CCGT plants mainly in the North of Italy



## Decommissioning / conversion plans<sup>1</sup>

- ❑ Due to the shortage of power generation capacities in Sardinia, Fiume Santo is operating in must run mode until 2024
- ❑ The power plant is expected to be decommissioned in 2025 in line with the coal phase-out deadline announced the government.<sup>2</sup>
- ❑ As the power plant is a key source of power on the island, an alternative source of power must be identified prior to the shutdown. Existing renewable sources installed on the island are not able to provide sufficient base load generation. The island also lacks sufficient capacity connection to the gas distribution network to support potential gas-fired plants
- ❑ The selected alternative technology depends on discussions with local authorities, biomass is suggested as optimal by EPH
- ❑ PV plant is planned to be installed on the site to complement the main generation source

## Operational KPIs for 2019

**599 MW**  
Net installed  
capacity

**3317 GWh**  
Net power  
production  
In 2019

**3370 kt**  
CO<sub>2</sub> allowances  
consumed  
In 2019

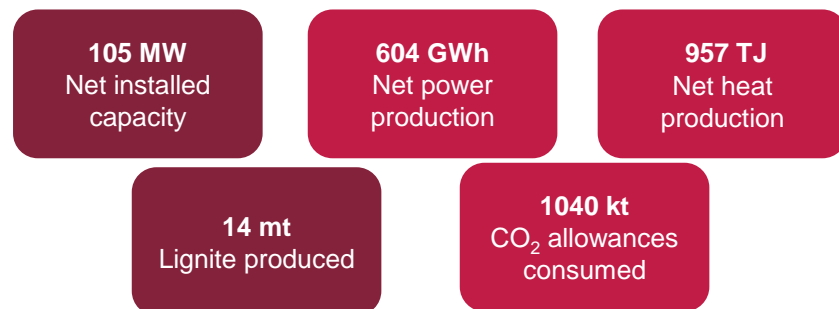
1. The projected actions are only indicative and are based solely on management estimates in respect of closures and refurbishments of individual plants. This forward-looking information is subject to future management decisions, market development as well as numerous risks and uncertainties

2. We fully support the government targets by operations of existing CCGT fleet in mainland of Italy with additional 806 MW of capacity to be added in 2023 in the Tavazzano power plant

## Overview

- ❑ MIBRAG directly enables **operations of Germany's critical infrastructure** (according to §2 BSI-Kritisverordnung) by ensuring fuel deliveries based on **long-term contracts**.
- ❑ Key customers of MIBRAG (mainly Lippendorf, Schkopau and Chemnitz power&heat plants) provide the following and thus being the back-bone of Germany's industry. **District heating:** i) Leipzig, Chemnitz and 15 other communities, in total supplying energy equivalent to for more than 200 000 households, ii) **Process steam** (365 days a year) to connected international chemical industry sites (e.g. DOW, Trinseo), iii) **Single phase AC** ensuring grid stability of Deutsche Bahn (special turbine and generator) and iv) **Baseload power** 13-15 000 GWh of baseload power available on demand to the German TSO's, which is critical for stability of the power grid (Fed into the 50Hz grid close to Südostlink (Germany DC current transport capacity, strategic location))
- ❑ Furthermore, MIBRAG represents one of the largest employers and purchaser in the Saxony / Saxony-Anhalt region (total spend in EUR hundred millions p.a.)

## Overview of operational KPIs for 2019



## Decommissioning / conversion plans<sup>1</sup>

- ❑ Flexibility in discontinuation of mining activities is limited by existing lignite sourcing contracts
- ❑ Decommissioning of Deuben power plant is planned by 2023/2024, while Wühlitz power plant is expected to be in operation until 2035. Wühlitz is projected to deliver 240 GWh of electricity annually, along with 400 TJ of heat produced in efficient cogeneration mode
- ❑ The phase-out timetable of lignite cogeneration plants is derived from government exit plan which considers social implications in affected regions, primarily in economically weaker districts of eastern Germany. While we are bound by government decisions to continue operating the plants, we are also fully aware of the environmental aspects and have undertaken numerous initiatives to reduce the impact of our operations
- ❑ Intensive work on new projects in renewable power generation<sup>4</sup> are under way to co-exist parallel with lignite operations and after lignite switch off



1. The projected actions are only indicative and are based solely on management estimates in respect of closures and refurbishments of individual plants. This forward-looking information is subject to future management decisions, market development as well as numerous risks and uncertainties

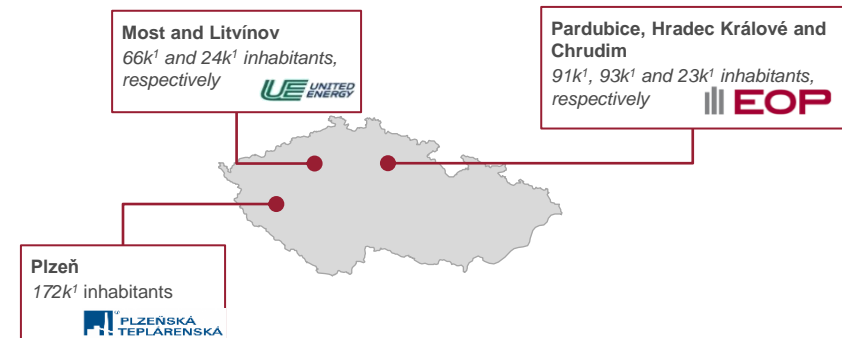
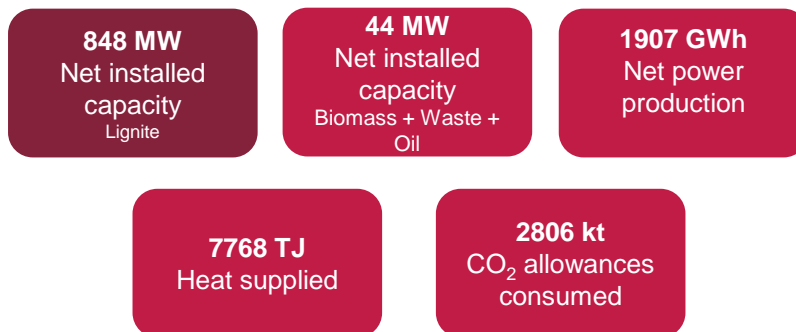
## Overview

- ❑ All plants are cogeneration plants, i.e. operate in a mode of combined heat and power production with high overall efficiency (supported by a cogeneration subsidy)
- ❑ All entities operate district heating networks adjacent to the cogeneration heating plants, supplying heat to a large number of municipal and residential customers at affordable prices. District heating is also viewed as a more ecological source of heat compared to decentralized local boilers
- ❑ The plants, primarily CHP **Elektrárny Opatovice** (“EOP”), are an important provider of grid balancing services to ČEPS, the Czech TSO
- ❑ While lignite represents the major fuel for heat and power generation, CHP **Plzeňská Teplárenská** (“PLTEP”) also operates a biomass unit and a waste-to-energy plant. These alternative sources will be complemented by a new biomass unit in CHP **United Energy** (“UE”) in the North of Bohemia

## Decommissioning / conversion plans<sup>2</sup>

- ❑ Lignite-fired units operated by **UE** (239 MW) are planned to be replaced by state of the art CCGT technology around 2025, complemented by a biomass boiler after refurbishment of an existing boiler for lignite combustion (expected to be in operation from 2021, tender currently ongoing) and potentially a waste incinerator plant
- ❑ Two out of six lignite units operated by CHP **EOP** will be shut down in 2021. The remaining units (4x65 MW) are expected to be gradually replaced with 4 CCGT units (4x75 MW) targeting realization by 2028. Similarly to UE, discussions on development of a waste incinerator plant with local authorities are ongoing
- ❑ **PLTEP** operates two heating plants
  - “Teplárna” where we expect to gradually increase share of biomass in the energy mix (40MW planned for biomass units) with the lignite units expected to be fully replaced with 2 CCGT units (2x75 MW) between 2027 and 2030
  - “Energetika” where the lignite units are planned to be replaced with a CCGT unit (75 MW) around 2031

## Overview of operational KPIs for 2019



1. Source: Czech Statistical Office as of 1/1/2019 and Hungarian statistical office 2019

2. The projected actions are only indicative and are based solely on management estimates in respect of closures and refurbishments of individual plants. This forward-looking information is subject to future management decisions, market development as well as numerous risks and uncertainties

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