March 2020

Technical information on Projects of Common Interest

accompanying the Commission Delegated Regulation (EU) 2020/389 final of 31 October 2019 amending Regulation (EU) 347/2013 of the European Parliament and of the Council on guidelines for trans-European energy infrastructure as regards the Union list of projects of common interest

1. Priority Corridor Northern Seas offshore grid ('NSOG')

No	TYNDP Reference	Definition in Delegated Act	Details on location	Promoter(s)	Type / technology employed	Implementation status	Date of commissioning
1.3	183-1018	Cluster Denmark - Germany including the following PCIs: 1.3.1 Interconnection between Endrup (DK) and Klixbüll (formerly Niebüll) (DE)	1.3.1 Endrup (DK) to Klixbüll (in the vicinity of Niebüll) (DE)	1.3.1 Energinet (DK) TenneT TSO GmbH (DE)	1.3.1 New 400 kV AC lines (OHL) of about 92 km (80 km in Denmark and 12 km in Germany) and new 400 kV substations for integration of the available and further forecasted onshore wind in Schleswig-Holstein (500 MW).	1.3.1 Permitting	1.3.1 12/2023
1.6	107-810	1.6 France — Ireland interconnection between La Martyre (FR) and Great Island or Knockraha (IE) [currently known as "Celtic Interconnector"]	1.6 Brittany La Martyre substation (FR) to East Cork Knockraha substation (IE)	1.6 EirGrid plc (IE) Réseau de Transport d'Electricité RTE (FR)	1.6 A new 600 km 320 kV – 500 kV (depending on the technology, to be fixed at a later stage in detailed design studies) HVDC (VSC) subsea connection of approximately 500 km and with a capacity of around 700 MW between Ireland and France (offshore).	1.6 Permitting	1.6 06/2026
1.7	153-987	Cluster France-United Kingdom interconnections including the following PCIs: 1.7.1 Interconnection between Cotentin (FR) and the vicinity of Exeter (UK) [currently known as FAB project]	1.7.1 Cotentin (FR) to the vicinity of Exeter (UK)	1.7.1 FABLink Ltd (UK) Réseau de Transport d''Electricité RTE (FR)	1.7.1 Two 220 km HVDC Links with a capacity of 700 MW each between France, Britain via the island of Alderney, using Voltage Source Converters in balanced monopole configuration with XLPE or MI cables.	1.7.1 Permitting	1.7.1 04/2025
	172-1487	1.7.3 Interconnection between Coquelles (FR) and Folkestone (UK) [currently known as "ElecLink"]	1.7.3 Coquelles (FR) to Folkestone (UK)	1.7.3 ElecLink Limited (UK)	1.7.3 A new 51 km 320 kV DC electricity interconnector with a capacity of 1000 MW between Coquelles and Folkestone, via the Channel Tunnel (onshore and offshore).	1.7.3 Under construction	1.7.3 2020
	285-1383	1.7.5 Interconnection between the vicinity of Dunkerque (FR) and the vicinity of Kingsnorth (UK) [currently known as "Gridlink"]	1.7.5 Dunkerque (FR) to Kingsnorth (UK)	1.7.5 GridLink Interconnector Ltd	1.7.5 A new UK - France 1,4 GW, 525kV HVDC VSC Interconnector to improve European electricity network integration, comprising 140km subsea HVDC cable (108km in UK and 32km in France), 13km underground HVDC cable in France, converter stations in UK and France, 1,5 km	1.7.5 Permitting	1.7.5 06/2024

					underground 400 kV HVAC cable in UK, and 3km underground 400 kV HVAC cable and a new 400 kV sub-station at Bourbourg, near Dunkerque in France.		
1.8	37-142	Cluster Germany - Norway [currently known as "NordLink"] including the following PCIs: 1.8.1 Interconnection between Wilster (DE) and Tonstad (NO)	1.8.1 Ertsmyra / Tonstad (NO) to Wilster (DE)	1.8.1 KfW (DE) Statnett SF (NO) TenneT TSO GmbH (DE)	1.8.1 A new HVDC subsea cable of 525 kV and longitude of 514 km with a capacity of 1400 MW between Southern Norway and Northern Germany (total length onshore and offshore 623 km).	1.8.1 Under construction	1.8.1 2020
1.9	286-1385	Cluster connecting generation from renewable energy sources in Ireland to United Kingdom including the following PCIs: 1.9.1 Ireland — United Kingdom interconnection between Wexford (IE) and Pembroke, Wales (UK) [currently known as "Greenlink"]	1.9.1 Wexford (IE) to Pembroke, Wales (UK)	1.9.1 Greenlink Interconnector Limited (IE)	1.9.1 A new 320 kV HVDC subsea interconnector of 172 km and with a capacity of 500 MW between Wexford, Ireland and Pembroke, Wales (UK).	1.9.1 Permitting	1.9.1 2023
1.10	110-424	Cluster United Kingdom - Norway interconnections including the following PCIs: 1.10.1 Interconnection between Blythe (UK) and Kvilldal (NO) [currently known as "North Sea Link"]	1.10.1 Blythe (UK) to Kvilldal (NO)	1.10.1 National Grid Interconnector Holdings Limited (UK) Statnett SF (NO)	1.10.1 A new HVDC subsea interconnection with a capacity flow of 1400 MW between Norway and the United Kingdom (515 kV, 720 Km).	1.10.1 Under construction	1.10.1 2021
	190-1382	1.10.2 Interconnection between Peterhead (UK) and Simadalen (NO) [currently known as "NorthConnect"]	1.10.2 Peterhead (UK) to Simadalen (NO)	1.10.2 NorthConnect KS (NO)	1.10.2 A new 525 kV subsea HVDC interconnection of about 665km (224 in UK and 441 in NO) with a capacity flow of 1400 MW between Norway and the United Kingdom.	1.10.2 Permitting	1.10.2 2024
1.12	1022	Cluster of electricity storage facilities in United Kingdom including the following PCIs: 1.12.3 Compressed air energy storage near Middlewich [currently known as "CARES"] (UK)	1.12.3 Middlewich (UK)	1.12.3 Storelectric Ltd (UK)	1.12.3 Transmission grid-scale energy storage innovative adiabatic Compressed Air Energy Storage (CAES). Storage Capacity 2.5 GWh (+200 MWh). The installations of 500 MW (+40 MW), with zero or low emissions, operate at 67-70% round trip efficiency. Potential when rolled out Europe-wide to store the entire continent's energy requirements for over a week.	1.12.3 Planned but not yet in permitting	1.12.3 12/2027
	1015	1.12.4 Hydro-pumped electricity storage	1.12.4 Argyll and Bute (UK)	1.12.4 Drax	1.12.4 The Cruachan II development is a reversible pumped-	1.12.4 Planned	1.12.4

		at Cruachan II (UK)		Generation Enterprise Ltd (UK)	storage hydroelectric power station. The project would sit adjacent to the existing Cruachan hydro-electric pumped storage generating station. The turbines to be used at Cruachan II would be housed in a new cavern located within Ben Cruachan (circa 600 MW).	but not yet in permitting	30/09/2027
1.14	167-998	1.14 Interconnection between Revsing (DK) and Bicker Fen (UK) [currently known as "Viking Link"]	1.14 Revsing (DK) to Bicker Fenn (UK)	1.14 Energinet (DK) National Grid Interconnector Holdings Limited (UK)	1.14 A new HVDC subsea cable of 525 kV, approximately 765 km and with a capacity of up to 1400 MW between the UK and Denmark (onshore and offshore).	1.14 Under construction	1.14 12/2023
1.15	121-934	1.15 Interconnection between the Antwerp area (BE) and the vicinity of Kemsley (UK) [curently known as “Nautilus”]	1.15 Antwerp (BE) to Vicinity of Kemsley (UK)	1.15 Elia Transmission Belgium (BE) National Grid Interconnector Holdings Limited (UK)	1.15 This project considers the possibility of a multi-purpose ~ 1-2 GW HVDC interconnector between UK and Belgium at the earliest by 2028 (indicative timing). The timing as well as location, routing, capacity are subject to further studies. In this context, Elia and NGIHL are conducting a bilateral feasibility study.	1.15 Under consideration	1.15 2028
1.16	260-1255	1.16 Interconnection between Netherlands and United Kingdom	1.16 Netherlands to United Kingdom	1.16 National Grid Interconnector Holdings Limited (UK) TenneT TSO BV (NL)	1.16 This project considers a multi-purpose HVDC interconnection between GB and The Netherlands, that combines the benefits of connecting electricity markets and offshore wind generation in GB and The Netherlands. The base capacity of the cross border interconnection is around 2GW, but more can be considered.	1.16 Under consideration	1.16 2030
1.17	1013	1.17 Compressed air energy storage in Zuidwending (NL)	1.17 Zuidwending (NL)	1.17 Corre Energy Storage BV (IE)	1.17 Compressed air energy storage using air storage caverns with 3,84 GWh of storage capacity is to be developed in salt deposits. Technical capability: 250 MW compression x 12 hrs, 320 MW generation x 12 hrs.	1.17 Permitting	1.17 2025
1.18	1002	1.18 Offshore hydro-pumped electricity storage facility in Belgium [currently known as "iLand"]	1.18 An artificial island off the coast (5 km offshore) of Belgium (BE)	1.18 THV iLand (BE)	1.18 iLand consists of building an innovative hydro-pumped storage facility on an artificial island off the coast of Belgium (approximately 5 km offshore with an imprint of 4 x 2,5 km). iLand should provide a total hydraulic storage capacity of ca. 2,2 GWh, i.e., a total net storage capacity of 2,0 GWh, assuming a 90% efficiency in turbine-mode, and a net annual electricity generation of approximately 750 GWh.	1.18 Planned but not yet in permitting	1.18 2024

1.19	335-1505 | 1506 | 1507 | 1508 | 1509 | 1511 | 1504	1.19 One or more hubs in the North Sea with interconnectors to bordering North Sea countries (Denmark, Germany, Netherlands) [currently known as "North Sea Wind Power Hub"]	1.19 Denmark, Germany, Netherlands	1.19 ENERGINET (DK),TENNET (NL), TenneT (DE)	1.19 A large scale European electricity system for offshore wind is proposed to be developed in the North Sea. It includes a construction of one or more hubs at a suitable location in the North Sea with interconnectors to bordering North Sea countries. The whole system may function as a hub for transport of wind energy, an interconnection hub to the connected countries, a working hub for offshore wind developers and a location for possible power-to-gas solutions. This project is a first building block in the hub-and-spoke concept (NSWPH) connecting up to 12 GW future offshore wind parks to the systems of Denmark, the Netherlands and Germany after 2035. An integral part of the NSWPH is to assess the perspectives of coupling large-scale wind power production with the gas system through power-to-gas (PtG) technology.	1.19 Under consideration	1.19 2035
1.20	309-1628	1.20 Interconnection between Germany and United Kingdom [currently known as NeuConnect"]	1.20 Isle of Grain in Kent (UK) - Wilhelmshaven region (DE)	1.20 NeuConnect Britain Limited	1.20 New subsea ~525kV HVDC interconnector of approx. 720km between United Kingdom and Germany (~270km in United Kingdom, ~265km in Netherlands and 185km in Germany) integrating the available and forecasted renewable electricity sources in each country	1.20 Permitting	1.20 10/2022

2. Priority Corridor North-South electricity interconnections in Western Europe ('NSI West Electricity')

No	TYNDP Reference	Definition in Delegated Act	Details on location	Promoter(s)	Type / technology employed	Implementation status	Date of commissioning
2.4	299-1458	2.4 Interconnection between Codrongianos (IT), Lucciana (Corsica, FR) and Suvereto (IT) [currently known as "SACOI 3"]	2.4 Codrongianos (IT); Lucciana (Corsica, FR); Suvereto (IT)	2.4 EDF (FR) Terna- Rete Elettrica Nazionale S.p.A. (IT)	2.4 The project will replace the existing link SACOI 2, close to the end of its lifetime. The project consists in a revamping of the HVDC link (OHLs, underground cables and marine cables) for a total length of about 400 km (about 50% in Italy and 50% in Corsica), and new 200kV DC/AC converter stations in Corsica, Tuscany and Sardinia replacing the existing ones. The main link between Italy mainland and Sardinia will have a rated power of 400 MW, while the Corsican system will be allowed to withdraw 100 MW in Lucciana during normal operating conditions. The new HVDC converter stations will ensure an improvement in technological performance and an increase of the transmission capacity among the three areas involved.	2.4 Permitting	2.4 31/12/2024
2.7	16-38	2.7 Interconnection between Aquitaine (FR) and the Basque country (ES) [currently known as "Biscay Gulf" project]	2.7 Nouvelle Aquitaine (FR) to the Basque Country (ES)	2.7 REE - Red Eléctrica de España (ES) RTE - Réseau de Transport d''Electricité (FR)	2.7 New 400 kV HVDC subsea cable interconnection of approximately 370 km with a capacity of 2x1000 MW between Nouvelle Aquitaine and the Basque country, via the the Biscay Gulf (offshore).	2.7 Permitting	2.7 30/09/2027
2.9	254-660	2.9 Internal line between Osterath and Philippsburg (DE) to increase capacity at Western borders [currently known as "Ultranet"]	2.9 Osterath to Philippsburg (DE)	2.9 Amprion GmbH (DE) TransnetBW GmbH (DE)	2.9 New 380kV HVDC lines (OHL) with a length of 40 km and 300 km of existing routes with new technology and with a total capacity of 2 GW from Osterath to Philippsburg to integrate new wind generation especially from North/Baltic Sea towards Central-South for consumption and storage (onshore).	2.9 Planned but not yet in permitting	2.9 2024
2.10	235-664	2.10 Internal line between Brunsbüttel/Wilster and Groβgartach/ Bergrheinfeld-West (DE) to increase capacity at northern and southern borders [currently known as "Suedlink"]	2.10 Brunsbüttel (DE) to Groβgartach (DE); Wilster (DE) to area Bergrheinfeld-West (DE)	2.10 TenneT TSO GmbH (DE) TransnetBW GmbH (DE)	2.10 New HVDC connection with a total capacity of 4 GW, with one line having a length according to the suggested corridor route of approx. 700 km and the other of 550 km, to integrate new wind generation from Northern Germany towards Southern Germany and Southern Europe for consumption and storage (onshore).	2.10 Planned but not yet in permitting	2.10 2026

2.13		Cluster Ireland – United Kingdom interconnections including the following PCIs:					
	81-462	2.13.1 Interconnection between Woodland (IE) and Turleenan (UK) [currently known as "North-South interconnector"]	2.13.1 Woodland (IE) to Turleenan, Northern Ireland (UK)	2.13.1 EirGrid plc (IE) System Operator for Northern Ireland (SONI) ltd (UK)	2.13.1 A 400 kV AC single circuit (OHL) of 138 km (103 km in Ireland and 35 km in Northern Ireland) and with a capacity of 1,500 MVA from a proposed new 400/275 kV substation at Turleenan in Northern Ireland (UK) to the existing Woodland 400/220 kV Substation (IE) (onshore).	2.13.1 Permitting .	2.13.1 12/2023
	82-463 | 896 | 897	2.13.2 Interconnection between Srananagh (IE) and Turleenan (UK) [currently known as "RIDP1"]	2.13.2 Srananagh in Co. Sligo (IE) to Turleenan in Northern Ireland (UK)	2.13.2 EirGrid plc (IE) System Operator for Northern Ireland (SONI) ltd (UK)	2.13.2 A cross border circuit of approximately 200 km at 220 kV or greater with a capacity up to 710 MVA between Srananagh 220/110 kV station in Co. Sligo (IE) and Turleenan 400/275 kV station in Northern Ireland (UK) (onshore).	2.13.2 Planned but not yet in permitting	2.13.2 12/2030
2.14	174-1014	2.14 Interconnection between Thusis/Sils (CH) and Verderio Inferiore (IT) [currently known as "Greenconnector"]	2.14 Verderio Inferiore, near Milano (IT) to Thusis, Graubünden Canton (CH)	2.14 Greenconnector (CH) (IT)	2.14 A +/- 400 kV HVDC cable interconnector of 165 km, 45 km in Switzerland and 120 km in Italy (of which 47 km under Como lake) and with a capacity of 1000 MW (1200 MW overload) between Verderio, near Milano (IT) to Bonaduz, Graubünden Canton (CH) (onshore). Great part of the cables route will exploit a section of an existing oil pipeline, no longer in service since January 1997 and that crosses the Italian and Swiss border at Splügenpass and is running close by the two grid interconnection points of the Greenconnector project (Bonaduz in Graubünden and Verderio, Lecco).	2.14 Permitting	2.14 31/12/2024
2.16		Cluster of internal lines (PT, ES) including the following PCIs:					
	1-2	2.16.1 Internal line between Pedralva and Sobrado (PT), formerly designated Pedralva and Alfena (PT)	2.16.1 North Portugal near Spanish border; Pedralva (PT) – Sobrado (PT)	2.16.1 REN - Rede Eléctrica Nacional S.A. (PT)	2.16.1 New 400 kV AC double circuit (OHL) of about 67 km Pedralva – Sobrado (formerly designated Alfena) (initially with only one circuit installed) , with a capacity of 1630/1860 MVA per circuit correspondent to summer/winter (onshore).	2.16.1 Planned but not yet in permitting	2.16.1 09/2024
	1-4 | 474	2.16.3 Internal line between Vieira do Minho, Ribeira de Pena and Feira (PT), formerly designated Frades B, Ribeira de Pena and Feira (PT)	2.16.3 North Portugal near Spanish border; V. Minho (by Ribeira de Pena) - Feira; including Ribeira de Pena (PT) Substation	2.16.3 REN - Rede Eléctrica Nacional S.A. (PT)	2.16.3 New 400 kV AC double circuit (OHL) of about 131 km Vieira do Minho – Ribeira de Pena – Feira, along with the new substation of R. Pena. Capacity is 2x (1630/1860 MVA) (summer/winter) between Vieira do Minho and R. Pena, and 2080/2370 MVA (summer/winter) along R. Pena – Feira (onshore).	2.16.3 Planned but not yet in permitting	2.16.3 06/2021

2.17	4-18 | 496 | 498 | 499 | 500	2.17 Portugal — Spain interconnection between Beariz — Fontefría (ES), Fontefria (ES) — Ponte de Lima (PT) (formerly Vila Fria / Viana do Castelo) and Ponte de Lima — Vila Nova de Famalicão (PT) (formerly Vila do Conde) (PT), including substations in Beariz (ES), Fontefría (ES) and Ponte de Lima (PT)	2.17 Portugal — Spain interconnection between Beariz — Fontefría (ES); Fontefria (ES) — Ponte de Lima (PT)	2.17 REE - Red Eléctrica de España S.A.U. (ES) REN - Rede Eléctrica Nacional S.A. (PT)	2.17 New 400 kV AC double circuit (OHL) of about 169 km (117 km in Portugal and 52 km in Spain) between Beariz (ES) - Fontefría (ES) - Ponte de Lima (PT) – Vila Nova de Famalicão (PT), with only one circuit being installed on the Fontefría – Vila Nova de Famalicão section (on shore) 1499/1706 MVA (summer/winter). New 400 kV substations Fontefría, Beariz and Ponte de Lima.	2.17 Permitting	2.17 30/12/2021
2.18	1001	2.18 Capacity increase of hydro-pumped electricity storage in Kaunertal, Tyrol (AT)	2.18 Tyrol - Kaunertal (AT) Inntal - Ötztaler Alps	2.18 TIWAG-Tiroler Wasserkraft AG (AT)	2.18 The existing Hydro storage power plant “Kraftwerk Kaunertal” will be extended by several additional assets within the given “Kaunertal Extension Project”:- pump capacity (4x Francis Type), total: 400 MWmax - turbine capacity, total: 1076 MWmax - storage Capacity: 64 GWh related to power station Versetz and 152 GWh related to power station Prutz II. Expected annual generation: 1060 GWh by storage function and 787 GWh by additional natural inflow and enhanced water management. Connection to transmission network: transport system: 220 kV (DSO TINETZ) at substations UW Prutz and UW Westtirol as well as via 380 kV level (TSO Austrian Power Grid, APG) at substation UW Westtirol and planned UW Prutz.	2.18 Permitting	2.18 02/2034
2.23	297-445 | 604 | 605	2.23 Internal lines at the Belgian north border between Zandvliet and Lillo-Liefkenshoek (BE),and between Liefkenshoek and Mercator, including a substation in Lillo (BE)[currently known as "BRABO II + III"]	2.23 In Northern Belgium close to the border with the Netherlands, in the district of Antwerp	2.23 Elia Transmission Belgium (BE)	2.23 BRABO II + III: realization of a new 380 kV corridor between Zandvliet and Mercator of about 36 km consisting of a double-circuit overhead line, including a new substation 380kV at Lillo. The overhead lines will have a transport capacity of 1900 MVA each.	2.23 Permitting	2.23 31/12/2025
2.27	270-1211 | 1212 | 1214 | 1215	Cluster 2.27 (FR, ES) including the following PCIs: 2.27.1 Interconnection between Aragón (ES) and Atlantic Pyrenees (FR) [currently known as "Pyrenean crossing 2"]	2.27.1 Aragón (ES) to Marsillon in Atlantic Pyrenees (FR)	2.27.1 REE - Red Eléctrica de España (ES) RTE - Réseau de Transport d'Electrité (FR)	2.27.1 A new interconnection between France and Spain in the Central part of the Pyrenees between Marsillon (France) and Aragon area (Spain). The project is considered as a HVDC project of 2x1000 MW. Internal reinforcements in Spain and France complement the cross border section.	2.27.1 Planned but not yet in permitting	2.27.1 31/03/2030
	276-1206 | 1207 | 1208 | 1210	2.27.2 Interconnection between Navarra (ES) and Landes (FR) [currently known as "Pyrenean crossing 1"]	2.27.2 Navarra (ES) and Landes (FR)	2.27.2 REE - Red Eléctrica de España (ES) RTE - Réseau de Transport d'Electricité (FR)	2.27.2 A new interconnection between France and Spain in the Western part of the Pyrenees between Pamplona area (Spain) and Cantegrit (France). The project is considered as a HVDC project of 2x1000 MW. Internal reinforcements in Spain and France complement the crossborder section.	2.27.2 Planned but not yet in permitting	2.27.2 30/09/2029

2.28		Cluster 2.28 (ES) including the following PCIs:					
	1012	2.28.2 Hydro-pumped electricity storage Navaleo (ES)	2.28.2 Navaleo – Leon (ES)	2.28.2 CDR TREMOR S.L. (ES)	2.28.2 P-PHES NAVALEO is pure pumped plant with an installed capàcity of 552 MW. (3 x 184 MW) and total rated flow of 90 m3/s in generating mode and capacity of 548 Mw and flow of 70 m3/s in pumping mode, with an annual generation capacity between 700 - 1000 Gwh. The project consists in two reservoirs with a volume of 2,23 Mio m3. Normal static head is 710 m. The cycle efficiency is up to 79%.	2.28.2 Permitting	2.28.2 31/12/2024
	1019	2.28.3 Hydro-pumped electricity storage Girones and Raïmats (ES)	2.28.3 Terres de l''Ebre, Tarragona (ES)	2.28.3 J.A.ROMERO POLO, SA (ES)	2.28.3 The two Pumped Hydroelectric Storage stations, GIRONES and RAÏMATS of 3400 MW pumping and storage capacity of 34.9 GWh (34904 MWh) will be build in two phases depending of the demand scenario. The total flow requested of 762 m3/s comes to pump the volume of water between the elevation 70 (normal maximum level of the Riba-roja's reservoir) and a decrease of 1.5 m over a period of 8 hours on continued operation.	2.28.3 Permitting	2.28.3 01/01/2025
	1027	2.28.4 Hydro-pumped electricity storage Cúa (ES)	2.28.4 Leon (ES)	2.28.4 CENTRAL DEPURADORA REVERSIBLE DEL RIO CUA, S.L. (ES)	2.28.4 Hydro-pumped electricity storage in Cúa combines the power storage by pumping with purifying mine water contaminated with toxic metals. The scheme is as follows: mine waters discharged to the river currently untreated and after homogenization and purification, are introduced into the hydraulic circuit of a pumping plant consisting of 2 tanks dug outside the river with a slope of 322 m. Through the transfer of water between reservoirs by pumping and turbine hereinafter the oxygen needed to precipitate contaminants which are removed periodically and managed in accordance with the rules of residues. Subsequently, the water is returned to the river purified allowing to meet the "good ecological status" under Directive 2000/60/EC Water Framework.	2.28.4 Permitting	2.28.4 01/02/2028
2.29	1025	2.29 Hydroelectric Power Station Silvermines (IE)	2.29 Silvermines (IE)	2.29 Siga Hydro Limited	2.29 Silvermines Hydroelectric Power Station will provide 1.8 GWh of storage with 360 MW export capacity and 360 MW of pumping load. The scheme is located close to the transmission system on a former open-cast mining site and consists of upper and lower reservoirs with capacities of approximately 2.6 Mm3 and a head height of 300 m. The project will have 3 x 120 MW synchronous motor/generators and associated turbines.	2.29 Planned but not yet in permitting	2.29 12/2026
2.30	1026	2.30 Hydro-pumped electricity storage Riedl (DE)	2.30 Gottsdorf (DE)	2.30 Donaukraftwerk Jochenstein AG	2.30 Hydro pumped storage in Riedl will provide 3.5 GWh of storage with pumping capacity of 300 MW and generating capacity of 300 MW. A pumped storage power	2.30 Permitting	2.30 07/2026

					plant is planned upstream from Jochenstein hydro power plant at the Danube. Drawdown and return of water will be ensured via Danube and a storage lake to be created southwest of Gottsdorf village, approx. 350 m above the live storage of Jochenstein. The upstream water conduit is designed as an inclined shaft. The power shaft will be located in the best possible situation given the encountered geological conditions. The downstream water conduit joins the intake/outlet structure on the Danube underground.		

3. Priority Corridor North-South electricity interconnections in Central Eastern and South Eastern Europe ('NSI East Electricity')

No	TYNDP Reference	Definition in Delegated Act	Details on location	Promoter(s)	Type / technology employed	Implementation status	Date of commissioning
3.1		Cluster Austria - Germany including the following PCIs:					
	313-1473	3.1.1 Interconnection between St. Peter (AT) and Isar (DE)	3.1.1 St. Peter (AT) to Isar/Altheim/ Ottenhofen (DE)	3.1.1 Austrian Power Grid AG (AT) TenneT TSO GmbH (DE)	3.1.1 380 kV AC OHL between Isar and St. Peter with a total capacity of 4,100 MVA, including 110 km of new line in DE (including Pirach), new 380 kV switchgears in Altheim, Simbach, Pirach and St. Peter and one new 380/220 kV transformer in the substations Altheim and St. Peter. Connections Altheim-St. Peter and Simbach-St. Peter completion expected in 05/2023	3.1.1 Permitting	3.1.1 2028
	312-1472	3.1.2 Internal line between St. Peter and Tauern (AT)	3.1.2 St. Peter (AT) to Tauern (AT)	3.1.2 Austrian Power Grid AG (AT)	3.1.2 Completion of the 380 kV AC line (OHL) with a length of approximately 128 km and a capacity of approximately 2 x 2400 MVA between St.Peter and Tauern (as an important part of the 380 kV Ring) and namely: the upgrade of the existing 380 kV line between St.Peter and Salzburg from 220 kV operation to 380 kV operation and the erection of a new internal double circuit 380 kV line connecting Salzburg and Tauern, replacing the existing 220-kV-line on an optimized route (onshore). Moreover, the erection of the new substation Wagenham and Pongau and the integration of the existing substations Salzburg and Kaprun is planned.	3.1.2 Permitting	3.1.2 2024
	47-219	3.1.4 Internal line between Westtirol and Zell-Ziller (AT)	3.1.4 Westtirol to Zell-Ziller (AT)	3.1.4 Austrian Power Grid AG (AT)	3.1.4 Upgrade of the existing 220 kV-line Westtirol - Zell-Ziller and erection of additional 220/380 kV-Transformers. Line length: 105km.	3.1.4 Under consideration	3.1.4 12/2024
3.4	210-1380	3.4 Interconnection between Wurmlach (AT) and Somplago (IT)	3.4 Carinthia Region (AT) to Friuli Venezia Giulia Region (IT)	3.4 Alpe Adria Energia S.r.l. (IT)	3.4 New 220 kV AC merchant line of about 51 Km (40 Km in Italy and 11 Km in Austria), about 300 MW thermal capacity from Somplago substation to new Wurmlach substation, including Phase Shifter Transformer located in Austria.	3.4 Permitting	3.4 12/2022
3.7		Cluster Bulgaria - Greece between Maritsa East 1 and N. Santa and the necessary internal reinforcements in Bulgaria including the following PCIs:					
	142-256	3.7.1 Interconnection between Maritsa East 1 (BG) and N. Santa (EL)	3.7.1 Substation Maritsa East (BG) to substation Nea Santa (EL)	3.7.1 Elektroenergein Sistemen Operator EAD/ESO (BG) Independent Power Transmission Operator (IPTO)	3.7.1 New AC 400 kV single-circuit interconnector (OHL) of 153 km (123 km on Bulgarian territory and 30 km on Greek territory) and a capacity of 1500MW between Maritsa East (BG) and Nea Santa (EL) (onshore).	3.7.1 Under construction	3.7.1 05/2023

				(EL)			
	142-257	3.7.2 Internal line between Maritsa East 1 and Plovdiv (BG)	3.7.2 Substation Maritsa East to substation Plovdiv (BG)	3.7.2 Elektroenergein Sistemen Operator EAD/ESO (BG)	3.7.2 New AC 400kV line (OHL) of 94 km and a capacity of 1500 MW between Maritsa East and Plovdiv (onshore).	3.7.2 Under construction	3.7.2 05/2022
	142-258	3.7.3 Internal line between Maritsa East 1 and Maritsa East 3 (BG)	3.7.3 Substation Maritsa East to switchyard of TPP Maritsa East 3 (BG)	3.7.3 Elektroenergein Sistemen Operator EAD/ESO (BG)	3.7.3 New 400 kV AC line (OHL) of 13 km and with a capacity of 1500 MW between Maritsa East and Maritsa East 3 (onshore).	3.7.3 Under construction	3.7.3 06/2021
	142-262	3.7.4 Internal line between Maritsa East 1 and Burgas (BG)	3.7.4 Substation Maritsa East to substation Burgas (BG)	3.7.4 Elektroenergein Sistemen Operator EAD/ESO (BG)	3.7.4 New 400 kV AC line (OHL) of 150 km and with a capacity of 1500 MW between Maritsa East and Burgas (onshore).	3.7.4 Under construction	3.7.4 06/2021
3.8		Cluster Bulgaria – Romania capacity increase [currently known as "Black Sea Corridor"] including the following PCIs:					
	138-800	3.8.1 Internal line between Dobrudja and Burgas (BG)	3.8.1 Dobrudja (substation Varna) to Burgas (substation Burgas) (BG)	3.8.1 Elektroenergein Sistemen Operator EAD/ESO (BG)	3.8.1 New 400 kV AC line (OHL) of 87 km and with a capacity of 1,500 MW between Dobrudja (substation Varna) to Burgas (substation Burgas) (onshore).	3.8.1 Under construction	3.8.1 09/2021
	138-273 | 715	3.8.4 Internal line between Cernavoda and Stalpu (RO)	3.8.4 Cernavoda (RO) - Stalpu (RO)	3.8.4 C.N.T.E.E. TRANSELECTRICA S.A. (RO)	3.8.4 New 400 kV AC double circuit line (OHL) Cernavoda - Stalpu of about 159 km with a capacity of 2x1380 MVA with an input/output circuit in the 400 kV Gura Ialomitei substation; The 400 kV existing Cernavoda and Gura Ialomitei substations will be extended to enable of the new connections; The existing 220/110 kV Stalpu substation will be upgraded to 400/110kV (1x250MVA).	3.8.4 Under construction	3.8.4 12/2021
	138-275	3.8.5 Internal line between Gutinas and Smardan (RO)	3.8.5 Gutinas (RO) to Smardan (RO)	3.8.5 C.N.T.E.E. TRANSELECTRICA S.A. (RO)	3.8.5 A new 400 kV AC double circuit line (OHL) (one circuit wired) of 140 km with a capacity of 1380 MVA shall be built between the existing 400 kV Gutinas and Smardan substations.	3.8.5 Permitting	3.8.5 12/2023

3.9	320-1558	3.9.1 Interconnection between Žerjavenec (HR)/Hévíz (HU) and Cirkovce (SI)	3.9.1 Cirkovce(SI)-Heviz(HU)-Žerjavinec(HR)	3.9.1 ELES d.o.o. (SI)	3.9.1 Construction of a new 400 kV double circuit OHL, which will be connected to one circuit of the existing Hévíz (HU)-Žerjavinec (HR) double circuit 400kV OHL by erecting a new AC 80 km double circuit 400 kV OHL with a capacity of 2x1330 MVA in Slovenia, and the construction of a substation 400/110 kV in Cirkovce. The project will result in two new cross-border circuits: Hévíz (HU) - Cirkovce (SI) and Cirkovce (SI) - Žerjavinec (HR) (onshore). The new line will be connected in a new 400 kV substation of Cirkovce (SI).	3.9.1 Permitting	3.9.1 12/2021
3.10		Cluster Israel — Cyprus — Greece [currently known as "EUROASIA Interconnector"] including the following PCIs:					
	219-1407	3.10.1 Interconnection between Hadera (IL) and Kofinou (CY)	3.10.1 Hadera (IL) - Kofinou (CY)	3.10.1 EuroAsia Interconnector Ltd (CY)	3.10.1 The project forms part of the Cluster 3.10 which consists of a 500 kV DC underwater electric cable and any essential equipment and/or installation for interconnecting the Cypriot, Israeli and the Greek transmission networks (offshore). The project will have a capacity of 2000 MW and a total length of around 1208 km (310 km between CY and IL, 898 km between CY and Crete). Converter stations will be of the Voltage Source Converter (VSC) and will allow for reverse transmission of electricity. The dumping depth of the cable in some areas between IL and CY is expected to reach 2200 m and the respective depth in some areas between CY and EL is expected to reach 3000 m.	3.10.1 Permitting	3.10.1 12/2023
	219-1409	3.10.2 Interconnection between Kofinou (CY) and Korakia, Crete (EL)	3.10.2 Kofinou (CY) - Korakia (EL)	3.10.2 EuroAsia Interconnector Ltd (CY)	3.10.2 The project forms part of the Cluster 3.10 which consists of a 500 kV DC underwater electric cable and any essential equipment and/or installation for interconnecting the Cypriot, Israeli and the Greek transmission networks (offshore). The project will have a capacity of 2000 MW and a total length of around 1208 km (310 km between CY and IL, 898 km between CY and Crete). Converter stations will be of the Voltage Source Converter (VSC) and will allow for reverse transmission of electricity. The dumping depth of the cable in some areas between IL and CY is expected to reach 2200 m and the respective depth in some areas between CY and EL is expected to reach 3000 m.	3.10.2 Permitting	3.10.2 12/2023
3.11		Cluster of internal lines in Czechia including the following PCIs:					
	200-306 | 308	3.11.1 Internal line between Vernerov and Vitkov (CZ)	3.11.1 Vernerov (CZ) to Vitkov (CZ)	3.11.1 ČEPS a.s. (CZ)	3.11.1 Building a new 400 kV substation at Vítkov with a 400/110 kV transformer of rating power 350 MVA as an additional reinforcement to the existing 220 kV substation. Building a new 400 kV AC double circuit OHL of about 83 km with a capacity of 2x1730 MVA between Vernerov and Vitkov (onshore).	3.11.1 Permitting	3.11.108/2023

	200-309	3.11.2 Internal line between Vitkov and Prestice (CZ)	3.11.2 Vitkov (CZ) to Prestice (CZ)	3.11.2 ČEPS a.s. (CZ)	3.11.2 Building of a new 400 kV AC double-circuit OHL of about 87 km with a capacity of 2x1730 MVA (onshore) between Vitkov and Prestice. The project includes the extension and upgrading of the existing substation Prestice 420 kV	3.11.2 Under construction	3.11.2 11/2021
	35-311 | 315	3.11.3 Internal line between Prestice and Kocin (CZ)	3.11.3 Kocin (CZ) to Prestice (CZ)	3.11.3 ČEPS a.s. (CZ)	3.11.3 Extension and upgrade of the existing substation 400/110 kV at Kocin that will enable connection of 5 new OHL (onshore). Reinforcement of existing 400 kV AC OHL of about 117 km between Prestice and Kocin from single-circuit with a capacity of 1360 MVA to double-circuit OHL with a capacity of 2x1730 MVA (onshore). In this project the existing 400 kV Kocin substation will have to be extended and upgraded to enable the connection not only of the second-circuit but also other new OHL foreseen to be connected into this substation 400 kV. As a prerequisite to enable the realization of the project, better utilization and optimization of the corridors with other adjacents existing 400 kV overheadlines in the respective area, the project will have to include partial construction of the new double-circuit 400 kV OHL Chrast – Prestice and Kocin-Dasny.	3.11.3 Permitting	3.11.3 12/2028
	200 - 312| 35 - 313	3.11.4 Internal line between Kocin and Mirovka (CZ)	3.11.4 Kocin (CZ) to Mirovka (CZ);	3.11.4 ČEPS a.s. (CZ)	3.11.4 Building a new OHL AC 400 kV which connects two existing 420 kV substations (Kocin and Mirovka) with double-circuit OHL of about 121 km length and a capacity of 2X1730 MVA (onshore). This PCI also includes extension and upgrade of existing substation 400 kV Mirovka to enable the connection of the new 400 kV AC OHL of about 25 km with a capacity of 2x1730 MVA between the existing 400 kV OHL V413 (Reporyje-Prosenice) and 400 kV substation Mirovka (onshore) and OHL Kocin – Mirovka (PCI 3.11.4)..	3.11.4 Permitting	3.11.4 10/2027
	200-314	3.11.5 Internal line between Mirovka and line V413 (CZ)	3.11.5 Mirovka (CZ) to line V413 (CZ)	3.11.5 ČEPS a.s. (CZ)	3.11.5 Building a new double-circuit 400 kV AC OHL of about 25km between an existing 400 kV substation Mirovka and line V413 (Reporyje-Prosenice) with a capacity of 2x1730 MVA (onshore).	3.11.5 Completed	3.11.5 08/2019
3.12	130-665	3.12 Internal line in Germany between Wolmirstedt and Isarto increase internal North-South transmission capacity [currently known as SuedOstLink]	3.12 Wolmirstedt (DE) to Isar, Bavaria (DE)	3.12 50Hertz Transmission (DE) TenneT TSO GmbH (DE)	3.12 New 525 kV DC cable (HVDC) of about 540 km in Germany (min. 2000 MW) from North-East Germany (Area of Wolmirstedt) to the South of Bavaria (area of Isar). New HVDC connection with a capacity of minimum 2 GW from North-East Germany (Area of Wolmirstedt, with high installed capacities of RES), to the South of Bavaria (area of Isar with high consumption and connections to storage capabilities. Further investigations for capacity extension are ongoing (see TYNDP project 130). There was a change in technical layout due to German law: project promoters are obliged to build this connection as underground cable. Current planning investigates the execution of a 540 km	3.12 Planned but not yet in permitting	3.12 2025

					HVDC underground cable system (525 kV).		
3.14		Internal reinforcements in Poland [part of the cluster currently known as "GerPol Power Bridge"] including the following PCIs:					
	230-353 | 1035	3.14.2 Internal line between Krajnik and Baczyna (PL)	3.14.2 Krajnik (PL) to Baczyna (PL)	3.14.2 PSE S.A. (PL)	3.14.2 Construction of new 400 kV AC double circuit OHL of about 90 km with thermal capacity of 2x1870 MVA between Krajnik and Baczyna. One circuit temporarily working at 220 kV on the section between Krajnik and Gorzów. Construction of new 400 kV substation Baczyna which will be connected by splitting and extending of the existing line and upgrading limitations between Krajnik and Plewiska.	3.14.2 Under construction	3.14.2 2024
	230-355	3.14.3 Internal line between Mikułowa and Świebodzice (PL)	3.14.3 Mikułowa (PL) to Świebodzice (PL)	3.14.3 PSE S.A. (PL)	3.14.3 Construction of new 400 kV double circuit line of about 100 km with thermal capacity of 2x1870 MVA between Mikułowa and Świebodzice with one circuit temporarily working at 220 kV. The project provides additional capacity (NTC – Net Transfer Capability) of 1500 MW in terms of import and 500 MW export.	3.14.3 Permitting	3.14.3 2024
	230-1232	3.14.4 Internal line between Baczyna and Plewiska (PL)	3.14.4 Baczyna (PL) to Plewiska (PL)	3.14.4 PSE S.A. (PL)	3.14.4 Construction of 2x400 kV line Baczyna-Plewiska. The project provides additional capacity (NTC – Net Transfer Capability) of 1500 MW in terms of import and 500 MW export; greater level of safety and reliability of operation of the transmission network in Poland due to enhanced control of power flow.	3.14.4 Under Construction	3.14.4 2024
3.16	48-1500	3.16.1 Interconnection Hungary – Slovakia between Gabčikovo (SK) and Gönyű (HU) and Veľký Ďur (SK)	3.16.1 Gabčíkovo (SK) -Gönyű (HU) – Veľký Ďur (SK)	3.16.1 MAVIR (HU) SEPS (SK)	3.16.1 New AC 400 kV double circuit interconnection between the substations Gabčíkovo (SK) and Gönyű (HU) with one circuit connected to the substation Veľký Ďur (SK). The length of the interconnector is 20 km (18,3 km in Slovakia, 1,7 km in Hungary) with a total capacity of 2772 MVA. Clusters 3.16 and 3.17 are co-dependent.	3.16.1 Under construction	3.16.1 12/2020
3.17	48-1501 | 696 | 697	3.17 Interconnection Hungary – Slovakia between Sajóivánka (HU) and Rimavská Sobota (SK)	3.17 Sajóivánka (HU) - Rimavská Sobota (SK)	3.17 MAVIR (HU) SEPS (SK)	3.17 Connection of the two existing substations R. Sobota (SK) and Sajóivánka (HU) by a new 400 kV AC double circuit line (preliminarily armed only with one circuit) , with an approximate total length of 50 km (27,4 km in Slovakia, 22,6 km in Hungary) and a capacity of 1386 MVA, including the installation of the necessary equipment at the R. Sobota (SK) substation and the installation of 2x70 Mvar shunt reactors and a second 400/120 kV transformer in the substation of Sajóivánka (HU). Clusters 3.16 and 3.17 are co-dependent.	3.17 Under construction	3.17 12/2020
3.21	150-616	3.21 Interconnection between Salgareda (IT) and Divača — Bericevo region (SI)	3.21 Salgareda (IT) to Divača/Bericevo (SI) (still under	3.21 ELES d.o.o. (SI)	3.21 The project includes a new 300-500 kV HVDC marine and underground cable between Italy and Slovenia with a length	3.21 Under	3.21 2028

			consideration)	Terna - Rete Elettrica Nazionale SpA.(IT)	between about 150 and 250 km and a capacity up to 1000 MW.	consideration	
3.22		Cluster Romania — Serbia [currently known as "Mid Continental East Corridor"] including the following PCIs:					
	144-238	3.22.1 Interconnection between Resita (RO) and Pancevo (RS)	3.22.1 Resita (RO) to Pancevo (RS)	3.22.1 C.N.T.E.E. TRANSELECTRICA S.A. (RO) Elektromreža Srbije (RS)	3.22.1 Construction of a new 400 kV AC double circuit line (OHL) of about 131 km (63 km in Romania and 68 km in Serbia) and with a capacity of 2x1380 MVA between between the new 400 kV Resita and Pancevo substations (onshore).	3.22.1 Under construction	3.22.1 12/2024
	144-269 | 701	3.22.2 Internal line between Portile de Fier and Resita (RO)	3.22.2 Portile de Fier to Resita (RO)	3.22.2 C.N.T.E.E. TRANSELECTRICA S.A. (RO)	3.22.2 Construction of a new 400 kV AC single circuit line (OHL) of about 116 km and with a capacity of 1380 MVA between existing substation 400 kV Portile de Fier and new 400 kV substation Resita. . The project includes the extension and upgrading of the existing 400 kV substation Portile de Fier and a new 400 kV Resita substation with 400/220 kV 1x400 MVA and 400/110 kV 1x250 MVA transformers as development of the existing 220/110 kV substation.	3.22.2 Under construction	3.22.2 12/2024
	144-270 | 705	3.22.3 Internal line between Resita and Timisoara/Sacalaz (RO)	3.22.3 Resita (RO) to Timisoara/Sacalaz (RO)	3.22.3 C.N.T.E.E. TRANSELECTRICA S.A. (RO)	3.22.3 Upgrade of an existing 220 kV AC double circuit line (OHL) between Resita – Timisoara-Sacalaz to 400 kV of which: new 400 kV AC double circuit line (OHL) Reşiţa-Icloda of about 58 km; new 400 kV AC single-circuit line (OHL) Icloda-Timişoara of about 16 km; new 400 kV AC single-circuit line (OHL) Icloda-Săcălaz of about 34 km. Moreover, the project includes the new 400 kV Timisoara substation (400/110 kV 2x250 MVA).	3.22.3 Permitting .	3.22.3 12/2025
	144-270	3.22.4 Internal line between Arad and Timisoara/Sacalaz (RO)	3.22.4 Arad to Timisoara/Sacalaz (RO)	3.22.4 C.N.T.E.E. TRANSELECTRICA S.A.(RO)	3.22.4 Upgrade of the existing 220 k V AC double circuit line (OHL)Timisoara/Sacalaz-Arad to 400 kV on 78 km of which: 14 km of line will be built with single circuit between Sacalaz-C.Aradului-Racord Sacalaz, 11 km with single circuit from Timisoara to -Racord Sacalaz and the rest 42 km of the line will be double circuit from -Racord Sacalaz to Arad. The project includes the replacement of the existing 220 kV Sacalaz substation with new 400 kV substation (400/110kV 250 MVA).	3.22.4 Planned but not yet in permitting	3.22.4 12/2027
3.23	1003	3.23 Hydro-pumped electricity storage in Yadenitsa (BG)	3.23 Yadenitsa (BG)	3.23 NATSIONALNA ELEKTRICHESKA KOMPANIA EAD (BG)	3.23 Chaira PSHPP is the most significant regulating capacity in the Bulgarian Electrical Power System. Yadenitsa Project will improve the production potential of Chaira PSHPP by increasing of the lower reservoir with 9 mln m3. During the construction will be made a new dam at the level of existing lower reservoir and their connecting by pressure derivation	3.23 Permitting	3.23 05/2026

					will allow transfer of waters in a gravity way from one reservoir to the other.		
3.24	1006	3.24 Hydro-pumped electricity storage in Amfilochia (EL)	3.24 Amfilochia (EL)	3.24 TERNA ENERGY S.A (EL)	3.24 Pumped Storage Complex with two independent upper reservoirs: Agios Georgios and Pyrgos, using as lower reservoir the artificial reservoir of Kastraki (owner Public Power Corporation). The equipment for energy production and energy pumping will be installed in two independent power houses, near Kastraki reservoir.	3.24 Permitting	3.24 12/2024
3.27	29-635	3.27 Interconnection between Sicily (IT) and Tunisia node (TU) [currently known as "ELMED"]	3.27 Sicily (IT) to Tunisia (TU)	3.27 Société tunisienne de l'électricité et du gaz (TN) Terna rete elettrica nazionale SpA (IT)	3.27 ELMED is a new 600 MW interconnection between Tunisia and Sicily via HVDC submarine cable. The total length of the link is about 200 km ÷ 250 km equally shared between Italy and Tunisia	3.27 Permitting	3.27 2027

4. Priority Corridor Baltic Energy Market Interconnection Plan in electricity ('BEMIP Electricity')

No	TYNDP Reference	Definition in Delegated Act	Details on location	Promoter(s)	Type / technology employed	Implementation status	Date of commissioning
4.2		Cluster Estonia – Latvia between Kilingi-Nõmme and Riga [currently known as Third interconnection] including the following PCIs:					
	62-386	4.2.1 Interconnection between Kilingi-Nõmme (EE) and Riga CHP2 substation (LV)	4.2.1 Kilingi-Nõmme (EE) to Riga (LV)	4.2.1 Augstsprieguma tikls (LV) Elering (EE) Latvijas elektriskie tikli (LV)	4.2.1 Estonia – Latvia third interconnection will consist of 211 km of 330 kV AC OHL with a capacity of 1143 MVA, constructed mostly on the existing transmission line routes between Kilingi-Nõmme and Riga CHP2 substations (onshore).	4.2.1 Under construction	4.2.1 2020
	62-735	4.2.2 Internal line between Harku and Sindi (EE)	4.2.2 Harku (EE) to Sindi (EE)	4.2.2 Elering (EE)	4.2.2 New double circuit AC OHL with 2 different voltages 330 kV and 110 kV, with a capacity of 1143 MVA/240 MVA and a length of 175 km. Major part of new internal connection will be established on existing lines on the Western part of Estonian mainland (onshore).	4.2.2 Under construction	4.2.2 2020
	62-1062	4.2.3 Internal line between Riga CHP 2 and Riga HPP (LV)	4.2.3 Riga (LV)	4.2.3 Augstsprieguma tikls (LV) Latvijas elektriskie tikli (LV)	4.2.3 Reinforcement of the existing 330 kV OHL between Riga CHP2 and Riga HPP (onshore) with a length of 12 km and a planned capacity of 600 MW (onshore).	4.2.3 Under construction	4.2.3 2020
4.4	124-733	4.4.2 Internal line between Ekhyddan and Nybro/Hemsjö (SE)	4.4.2 Part 1: Ekhyddan (SE) to Nybro (SE); Part 2: Nybro (SE) to Hemsjö (SE)	4.4.2 Svenska Kraftnät (SE)	4.4.2 New 400 kV AC single circuit OHL of 70-100 km between Ekhyddan and Nybro and a new 400 kV AC single circuit OHL of 85-95 km between Nybro and Hemsjö with total capacity of 2200 MVA (onshore).	4.4.2 Permitting	4.4.2 2025
4.5	123-373	4.5.2 Internal line between Stanisławów and Ostrołęka (PL)	4.5.2 Stanisławów to Ostrołęka (PL)	4.5.2 PSE S.A.(PL)	4.5.2 Construction of new 400 kV AC double-circuit OHL line with a length of 108 km and capacity of 2x1870 MVA between Ostrołęka and Stanisławów. Temporary one circuit will use part of the existing 220 kV single-circuit line between Ostrołęka and Miłosna. In one circuit of 400 kV line, the Wyszków substation will be constructed. After the construction of 400 kV line, the 220 kV line will be disconnected. Extension of 400 kV Ostrołęka and Stanisławów substations for connection of new Ostrołęka - Stanisławów line.	4.5.2 Under construction	4.5.2 31/12/2023

4.6	1004	4.6 Hydro-pumped storage in Estonia	4.6 Paldiski (EE)	4.6 Energiasalv Pakri OÜ	4.6 Estonian Hydro-pumped storage of 500 MW and storage capacity of 6 GWh in Paldiski. Technically feasible as the rock quality for the construction is good and there are no water restrictions for the upper reservoir. This storage project of Estonia enables saving in generation capacity of 16 - 20 Meuro/year and is expected to reduce consumers' energy bills by 5.5MEUR/year. The project constitutes an important infrastructure investment helping shift Estonia's power generation from oil shale-based generation to RES-based generation (mainly wind).	4.6 Permitting	4.6 2028
4.7	1009	4.7 Capacity increase of hydro-pumped electricity storage at Kruonis (LT)	4.7 Kruonis (LT)	4.7 AB Ignitis gamyba (LT)	4.7 Installation of a new 225 MW variable speed unit in Hydro-pumped storage in Kruonis with current installed capacity of 900 MW (4 units of 225 MW each). Existing units have 74% of cycle efficiency in maximum power output and can operate in the range of 160–225 MW in generation mode but have no flexibility in pump mode. It is expected that the new unit will have pump mode ranging from 110 to 225 MW and the cycle efficiency of up to 78%.	4.7 Under consideration	4.7 2024
4.8		Integration and synchronisation of the Baltic States' electricity system with the European networks including the following PCIs:					
	170-1010	4.8.1 Interconnection between Tartu (EE) and Valmiera (LV)	4.8.1 Tartu (EE) to Valmiera (LV)	4.8.1 AS Augstsprieguma Tikls (LV) Elering AS (EE)	4.8.1 Reinforcement of existing 330 kV OHL between Tartu (EE) and Valmiera (LV) with a length of 133 km (48 km in LV and 85 km in EE) and a planned capacity of 1000 MVA.	4.8.1 Planned but not yet in permitting	4.8.1 12/2023
	170-1012	4.8.2 Internal line between Balti and Tartu (EE)	4.8.2 Balti to Tartu (EE)	4.8.2 Elering AS (EE)	4.8.2 Reinforcement of existing 330 kV OHL between Balti and Tartu (EE) with a planned length of 132km and capacity of 1143 MVA.	4.8.2 Under construction	4.8.2 2023
	170-1011	4.8.3 Interconnection Tsirguliina (EE) and Valmiera (LV)	4.8.3 Tsirguliina (EE) to Valmiera (LV)	4.8.3 AS Augstsprieguma Tikls (LV) Elering AS (EE)	4.8.3 Reinforcement of existing 330 kV OHL between Tsirguliina (EE) and Valmiera (LV) with a length of 62 km (49 km in LV and 13 km in EE) and a planned capacity of 1000 MVA.	4.8.3 Planned but not yet in permitting	4.8.3 12/2024
	170-1013	4.8.4 Internal line between Viru and Tsirguliina (EE)	4.8.4 Eesti (EE) and Tsirguliina (EE)	4.8.4 Elering AS (EE)	4.8.4 Reinforcement of existing 330 kV OHL between Eesti and Tsirguliina (EE) with a planned capacity of 1143 MVA (243 Km).	4.8.4 Planned but not yet in permitting	4.8.4 2025
	170-1004	4.8.7 Internal line between Paide and Sindi (EE)	4.8.7 Paide to Sindi (EE)	4.8.7 Elering AS (EE)	4.8.7 Internal reinforcement of Paide-Sindi 330kV overhead line. The operational procedure to overcome the overloading issues has been developed.	4.8.7 Under consideration	4.8.7 2025

	170-382	4.8.8 Internal line between Vilnius and Neris (LT)	4.8.8 Vilnius to Neris (LT)	4.8.8 LITGRID AB (LT)	4.8.8 New single circuit 330kV OHL (943 MVA, 80 km length).	4.8.8 Permitting	4.8.8 12/2025
	170-1668 | 1667 | 1572 | 1571	4.8.9 Further infrastructure aspects related to the implementation of the synchronisation of the Baltic States' system with the continental European network	4.8.9 Estonia (EE); Latvia (LV); Lithuania(LT)	4.8.9 AS Augstsprieguma Tikls (LV) Elering AS (EE) LITGRID AB (LT)	4.8.9 This generic project aims at assessing all possible options for the enhanced integration of the Baltic States' electricity network into the European Network, including their synchronous operation, including development of Baltic AGC and frequency stability assessment system with special protection schemes, upgrades of SCADAs and othet IT systems and theis environment needed for real time operation and planning, network development studies required by ENTSO-E "catalogue of measures", upgading control systems of HVDCs, etc. The project is focusing on several synchronizing scenarios using HVAC interconnections and HVDC-links.	4.8.9 Under consideration	4.8.9 2025
	170-1034	4.8.10 Interconnection between Lithuania and Poland [currently known as "Harmony Link"]	4.8.10 Darbėnai (LT) to Zarnowiec (PL)	4.8.10 LITGRID AB (LT) PSE S.A. (PL)	4.8.10 New HVDC subsea cable connection between Lithuania and Poland, known as Harmony Link, plans to connect Darbėnai (Lithuania) and Zarnowiec (Poland) substations, crossing Baltic Sea – territorial waters and EEZ of Poland and Lithuania, and EEZ of Sweden. The project consists of three following main parts: construction of a converter station in Poland, construction of a converter station in Lithuania and HVDC cable. Planned capacity of the Harmony Link is asssumed at the level of 700 MW and planned technology toi be used is currently VSC.	4.8.10 Permitting	4.8.10 2025
	170-1568	4.8.11 Upgrades in Alytus substation (LT)	4.8.11 Alytus (LT)	4.8.11 LITGRID AB (LT)	4.8.11 Construction of three new 400/330 kV autotransformers in Alytus substation, to make LT-PL border operation in AC mode	4.8.11 Under construction	4.8.11 2020
	170-1566	4.8.12 Reconstructions in North-Eastern Lithuania (LT)	4.8.12 Ignalina, Utena (LT)	4.8.12 LITGRID AB (LT)	4.8.12 Relocation of HV equipment and changing topology of 330 kV overhead lines	4.8.12 Under construction	4.8.12 2021
	170-1632	4.8.13 New 330 kV Mūša substation (LT)	4.8.13 Šiauliai district (LT)	4.8.13 LITGRID AB (LT)	4.8.13 New 330 kV Mūša substation (LT)	4.8.13 Permitting	4.8.13 2025
	170-1634	4.8.14 Internal line between Bitėnai and KHAE (LT)	4.8.14 Bitėnai to Kruonis (Kruonis Pumped Storage Plant) (LT)	4.8.14 LITGRID AB (LT)	4.8.14 New 330 kV OHL Bitėnai - KHAE. One part of the new line will be constructed as second circuit on exicting 330 kV OHL Bitėnai-Jurbarkas, other part as totaly new line, and	4.8.14 Permitting	4.8.14 2025

					third part of new line will be used exicting 330 kV OHL KHAE-Sovetsk.		
	170-1660	4.8.15 New 330 kV Darbėnai substation (LT)	4.8.15 Darbėnai (LT)	4.8.15 LITGRID AB (LT)	4.8.15 New 330 kV Darbėnai substation, necessary for the connection of the new 330 kV lines as well as new HVDC subsea cable known as Harmony Link.	4.8.15 Permitting	4.8.15 2025
	170-1659	4.8.16 Internal line between Darbenai and Bitenai (LT)	4.8.16 Darbėnai to Bitėnai (LT)	4.8.16 LITGRID AB (LT)	4.8.16 New 330 kV OHL Darbėnai -Bitenai in Lithuania.	4.8.16 Permitting	4.8.16 2025
	170-1565	4.8.17 Internal line between LE and Vilnius (LT)	4.8.17 Elektrėnai to Vilnius (LT)	4.8.17 LITGRID AB (LT)	4.8.17 Reconstruction of 330 kV OHL LE-Vilnius from single-cirquit into double-cirquit.	4.8.17 Under construction	4.8.17 2020
	170-1661	4.8.18 Internal line between Dunowo and Żydowo Kierzkowo (PL)	4.8.18 Dunowo and Żydowo Kierzkowo(PL)	4.8.18 PSE S.A. (PL)	4.8.18 Dunowo-Zydowo Kierzkowo 400 kV line is necessary to ensure that after the commissioning of Harmony Link and offshore wind farms, full capabilities would be available on the Polish-Lithuanian subsea interconnector. This project includes: the reconstruction of Dunowo electrical station with installation of 400/110 kV transformers and the construction of new double-circuit 400 kV.	4.8.18 Planned but not yet in permitting	4.8.18 12/2025
	170-1662	4.8.19 Internal line between Piła Krzewina and Żydowo Kierzkowo (PL)	4.8.19 Piła Krzewina and Żydowo Kierzkowo (PL)	4.8.19 PSE S.A. (PL)	4.8.19 Pila Krzewina-Zydowo Kierzkowo 400 kV line is interrelated with the project aiming to build Dunowo-Zydowo Kierzkowo line. This project includes: the reconstruction and modernization of Piła Krzewina electrical station with installation of 400/110 kV transformers and reactive power compensation devices, and the construction of new double-circuit 400 kV.	4.8.19 Planned but not yet in permitting	4.8.19 12/2025
	170-1663	4.8.20 Internal line between Krajnik and Morzyczyn (PL)	4.8.20 Krajnik-Morzyczyn	4.8.20 PSE S.A. (PL)	4.8.20 To allow effective energy flows in the North-Western part of Poland after the commissioning of Harmony Link, the modernization of “North Line” (between Krajnik and Gdańsk Błonia) is necessary. The first project of North Line is the modernization of Krajnik-Morzyczyn 400 kV line. The detailed scope of the project will be determined after the the development of the longitudinal profile of the line and after the analyzing the possibility to adapt the lines to higher load capacity (phase conductors at +80 C°).	4.8.20 Planned but not yet in permitting	4.8.20 01/2025
	170-1664	4.8.21 Internal line between Morzyczyn-Dunowo-Słupsk-Żarnowiec (PL)	4.8.21 Morzyczyn-Dunowo-Słupsk-Żarnowiec (PL)	4.8.21 PSE S.A. (PL)	4.8.21 The modernisation of Morzyczyn-Dunowo-Slupsk-Zarnowiec 400 kV line represents the longest section of modernization of North Line. The detailed scope of the	4.8.21 Planned but not yet in permitting	4.8.21 01/2025

					project will be determined after further analysis. Because of its length this project consists of three sections: The modernization of Morzyczyn-Dunowo 400 kV, The modernization of Dunowo-Słupsk 400 kV, The modernization of Słupsk-Żarnowiec 400 kV.		
	170-1665	4.8.22 Internal line between Żarnowiec-Gdańsk/Gdańsk Przyjaźń-Gdańsk Błonia (PL)	4.8.22 Żarnowiec-Gdańsk/Gdańsk Przyjaźń-Gdańsk Błonia (PL)	4.8.22 PSE S.A. (PL)	4.8.22 The modernisation of Zarnowiec-Gdansk/Gdansk Przyjazn-Gdansk Blonia 400 kV line is the last section of the modernization of North Line. The detailed scope of the project will be determined after further analysis.	4.8.22 Planned but not yet in permitting	4.8.22 01/2025
	170-1669	4.8.23 Synchronous condensers providing inertia, voltage stability, frequency stability and short-circuit power in Lithuania, Latvia and Estonia	4.8.23 Located in 330 kV substations in Lithuania (Alytus and Telšiai), Latvia (Ventspils and Liksna), Estonia (Kisa and Estii EJ)	4.8.23 LITGRID AB (LT) Augstsprieguma Tikls AS (LV) Elering AS (EE)	4.8.23 Synchronous condensers providing inertia, voltage stability, frequency stability and short-circuit power.	4.8.23 Permitting	4.8.23 2024
4.10		Cluster Finland - Sweden [currently known as 'Third interconnection Finland - Sweden'] including the following PCIs:					
	111-396	4.10.1 Interconnection between northern Finland and northern Sweden	4.10.1 Messsaure (SE) to Keminmaa (FI)	4.10.1 Fingrid (FI) SVK (SE)	4.10.1 Third AC 400 kV overhead line interconnector between Finland North and Sweden SE1. The strengthening of the AC connection between Finland and Sweden is necessary due to market needs, security of supply in Finland, new wind power generation and larger conventional units.	4.10.1 Permitting	4.10.1 2025
	96-801	4.10.2 Internal line between Keminmaa and Pyhänselkä (FI)	4.10.2 Keminmaa (FI) to Pyhänselkä (FI)	4.10.2 Fingrid (FI)	4.10.2 The project is 400 kV overhead line in North Finland. It is part of the 3rd AC cross border project between Finland and Sweden. Will also allow for the integration of new RES generation at Bothnian bay.	4.10.2 Permitting	4.10.2 2024

5. Priority Corridor North-South gas interconnections in Western Europe ('NSI West Gas')

No	TYNDP Reference	Definition in Delegated Act	Details on location	Promoter(s)	Type / technology employed	Implementation status	Date of commissioning
5.3	LNG-N-30	5.3 Shannon LNG Terminal and connecting pipeline (IE)	5.3 Tarbert - Ballylongford, County Kerry (IE)	5.3 Shannon LNG Limited (IE)	5.3 Construction of a liquefied natural gas (LNG) regasification terminal (and an associated 500 MW High Efficiency CHP plant), with a capacity of 17 MCM/d at commissioning and 28.3 MCM/d at full build on the southern shore of the Shannon Estuary (County Kerry). The terminal has approval for up to 4 tanks of 200,000 m3 each and a jetty capable of receiving LNG ships of up to 266,000 m3 cargo capacity. Construction of a 26 km gas pipeline to export up to 26.8 MCM/d to the national grid at Foynes (County Limerick, Ireland) with an initial deliverability of 16.1 MCM/d.	5.3 Permitting	5.3 09/2022
5.19	TRA-N-31	5.19 Connection of Malta to the European Gas network — pipeline interconnection with Italy at Gela	5.19 Gela (IT) - Delimara (MT)	5.19 Melita TransGas Co.Ltd	5.19 New 22" Gas Pipeline Interconnection from Malta to Italy of about 159 km length (151 km offshore and 8 km onshore) and two terminal stations, for ending Malta's isolation from the European Gas Network.	5.19 Permitting	5.19 01/09/2025
5.21	TRA-N-429 | TRA-N-500	5.21 Adaptation low to high calorific gas in France and Belgium	5.21 Hauts de France area (FR), including Taisnières/Blaregnies Several locations (BE)	5.21 Fluxys Belgium (BE) GRTgaz (FR) Storengy (FR)	5.21 The PCI covers the required infrastructure to ensure the transport of H-gas to the newly converted L-zones in Belgium and in France. In France, the project consists in creating 9 new connections between H-gas and L-gas grids, the construction of a new 12 km pipeline of 300 mm of diameter in Bethune and Lens area, the adaptation of facilities at Taisnières entry point (GRTgaz) and the conversion to H-gas of the Gournay underground storage (Storengy). In Belgium, the project consists in constructing or adapting pressure reduction stations (Winksele and Ville-sur-Haine), in installing new isolation valves separating the converted parts of the network from the remaining L gas pipelines, and carrying out the necessary adaption of the former L-gas stations (St-Martens-Bodegem, Anderlecht De Lo, Anderlecht CBG, Lillo, Loenhout) in order to progressively supply the domestic L-gas grid with H-gas by 2029.	5.21 Permitting	5.21 12/2026

6. Priority Corridor North-South gas interconnections in Central Eastern and South Eastern Europe ('NSI East Gas')

No	TYNDP Reference	Definition in Delegated Act	Details on location	Promoter(s)	Type / technology employed	Implementation status	Date of commissioning
6.2		Interconnection between Poland, Slovakia and Hungary with the related internal reinforcements including the following PCIs:					
	TRA-F-275 | TRA-F-190	6.2.1 Poland – Slovakia interconnection	6.2.1 Strachocina (PL) – Veľké Kapušany (SK)	6.2.1 Eustream, a.s. (SK) Gas Transmission Operator GAZ-SYSTEM S.A (PL)	6.2.1 The new cross-border pipeline DN1000 has a length of 164 km (length of the pipeline on SK side is 103 km and 61 km on PL side) and maximum capacity of 15.6 mcm/d in the direction SK->PL and of 12.9 mcm/d in the direction PL->SK. Construction of the gas node in Strachocina,construction of the compressor station in Strachocina (PL) with an estimated power of 30 MW, modification of the compressor station at Veľké Kapušany (Slovakia) with an existing power of 283 MW and construction of border gas metering station on the SK territory	6.2.1 Under construction	6.2.1 31/12/2021
	TRA-N-245	6.2.2 North – South Gas Corridor in Eastern Poland	6.2.2 Rembelszczyzna - Strachocina (PL); Tworóg - Strachocina (PL)	6.2.2 Gas Transmission Operator GAZ-SYSTEM S.A. (PL)	6.2.2 New onshore pipelines and compressor stations in Eastern Poland which are required to ensure an effective and efficient cross-border network expansion, namely: Rembelszczyzna - Wronow pipeline – 155 km, DN1000 Rozwadów – Końskowola - Wronów pipeline – 103 km, DN1000 Jarosław - Rozwadów pipeline – 85 km, DN1000 Hermanowice - Jarosław pipeline – 39 km, DN1000 Hermanowice - Strachocina pipeline – 72 km, DN700 Tworóg – Tworzeń pipeline – 56 km, DN1000 Pogórska Wola - Tworzeń pipeline – 168 km, DN1000 Strachocina - Pogórska Wola pipeline – 98 km, DN1000 Gustorzyn - Wronów pipeline – 316 km, DN1000. Part of the project is in the permitting phase, part of it is in construction.	6.2.2 Permitting	6.2.2 31/12/2022
	TRA-N-636 | TRA-N-524	6.2.13 Development and enhancement of transmission capacity of Slovakia – Hungary interconnection	6.2.13 Szada-Balassagyarmat (HU)	6.2.13 FGSZ ltd.	6.2.13 The objectives of the PC projectsI are: reducing the flow direction switch operation time, developing the transmission capacity in HU->SK and SK->HU directions from interruptible capacity to non-interruptible (firm) capacity. , These projects are completed in 2019. Enhancement of Exit transmission capacity with 102 GWh/d in HU->SK direction and enhancement of Entry transmission capacity with 26 GWh/d in SK->HU direction at Balassagyarmat with adding power on Szada compressor station. Gödöllő node modification, connecting the HUSK interconnector with other major pipeline. Equal level of transmission capacities of 153 GWh/d will be available in both directions at the SK-HU interconnection. Market test will be done in 2020, realization FID+4 year.	6.2.13 Permitting	6.2.13 09/2024

6.5		Cluster Krk LNG terminal with connecting and evacuation pipelines towards Hungary and beyond including the following PCIs:					
	TRA-N-90 | LNG-N-82	6.5.1 Development of a LNG terminal in Krk (HR) up to 2.6 bcm/a– Phase I and connecting pipeline Omišalj – Zlobin (HR)	6.5.1 Omišalj, Krk (HR); Omišalj - Zlobin (HR)	6.5.1 LNG Hrvatska d.o.o. (HR) Plinacro d.o.o. (HR)	6.5.1 The development of the Krk LNG terminal is based on a migration concept with the 1st Phase being Floating Storage and Regasification Unit (FSRU), with correspondent capacity of up to 2.6 bcm/y and minimum storage capacity of 135,000 m3. The project includes deployment of the FSRU, construction of the adjacent infrastructure, construction of a new pipeline of 18 km, DN 800 between Omišalj-Zlobin (HR) connecting the future LNG terminal to the Croatian gas transmission system (a continuation of the existing Hungary-Croatia interconnection (Városföld – Slobodnica)). The pipeline represents the 1st Phase development of the LNG evacuation and will allow the flow of 2.6 bcm/y from the LNG terminal and 1,7 bcm/y toward Hungary..	6.5.1 Under construction	6.5.1 12/2020
	TRA-F-334	6.5.5 "Compressor station 1" at the Croatian gas transmission system	6.5.5 Sisak (HR)	6.5.5 Plinacro d.o.o. (HR)	6.5.5 Construction of a compressor station of an installed power of 4.5 MW to provide 2.6 bcm/y transmission capacity and natural gas delivery pressure conditions. The Compressor station is integral part of the transmission system and concerns investment in reverse flow capacity in accordance with the EU Regulation EC 1938/2017.	6.5.5 Completed	6.5.5 31/12/2019
6.8		Cluster of infrastructure development and enhancement enabling the Balkan Gas Hub including the following PCIs:					
	TRA-F-378 | TRA-N-128	6.8.1 Interconnection Greece – Bulgaria [currently known as "IGB"] between Komotini (EL) – Stara Zagora (BG); compressor station at Kipi (EL)	6.8.1 Komotini (EL) – Stara Zagora (BG); Kipoi (EL); Komotini (EL)	6.8.1 DESFA S.A. (EL) ICGB AD (EL-BG)	6.8.1 Construction of a bi-directional gas interconnector between the high pressure natural gas systems of Greece (TAP and DESFA) and Bulgaria (Bulgartransgaz) with a technical capacity of up to 3 BCM/year, capable to be increased to up to 5 BCM/year with the installation of a Compressor Station (CS). New onshore pipeline with a length of 185 km and a daily capacity of approximately 13.7 MCM/day. A compressor station at Kipoi will be needed to ensure the supply with gas of the IGB from the DESFA system. The power of the CS is of approximately 12 MW. The metering station at Komotini will enable the Gas Transmission System of Greece to supply gas into the IGB pipeline.	6.8.1 Under construction	6.8.1 2021
	TRA-F-298	6.8.2 Rehabilitation, modernization and expansion of the Bulgarian transmission system	6.8.2 Losenets , Ihtiman, Petrich, Strandja (BG); CS Losenets – Nedyalsko (BG); sections of the North semi-ring of the network, Gorni Bogrov-Novi Iskar, CS Bogrov (BG)	6.8.2 Bulgartransgaz EAD (BG)	6.8.2 PCI 6.8.2 is a complex/multi-component project comprising various activities for the modernization, rehabilitation and expansion of the existing gas transmission infrastructure on the territory of Bulgaria. - Stage 1: Modernization of 4 compressor stations (CS) (CS Lozenets, CS Ihtiman, CS Petrich, CS Strandja) by integration of 6 gas-turbine compressor units (GTCU); Construction of gas pipeline CS Lozenets –Nedyalsko (20 km, 1000 mm); Carrying out inspections and implementation of systems for optimization of the management process of the network technical condition. - Stage 2: Second phase of the compressor stations' modernization by integration of 4 gas-turbine compressor units (GTCU) in 3 compressor	6.8.2 Permitting	6.8.2 2022

					stations (CS Lozenets, CS Ihtiman, CS Petrich); Large-scale rehabilitation involving replacement of sections of the Northern semi-ring of the gas transmission network of 81 km in total – the rehabilitation/sections' replacement will impact other regional projects (Interconnection Bulgaria-Serbia (IBS), Chiren expansion project), as well as the use of the Interconnection Bulgaria-Romania (IBR); Carrying out inspections. - Stage 3: Conditional infrastructure necessary after taking the final investment decision for realization of Stage 2 of the project Interconnection Bulgaria-Serbia (IBS), related to tthe increase of the interconnector capacity from 1.8 to 2.4 bcm/year. The infrastructure to be built includes: Construction of gas pipeline Gorni Bogrov - Novi Iskar of 19 km approximate length and diameter DN 700 and the construction of the CS Bogrov of 20 MW.		
		6.8.3 Gas interconnection Bulgaria — Serbia [currently known as "IBS"]	6.8.3 Novi Iskar (BG) - Nis (RS)	6.8.3 Bulgartransgaz EAD (BG) Srbijagas (RS)	6.8.3 The new gas pipeline will have a length of 170 km (BG 62 km, RS 108 km) and a transmission capacity of 4.93 mcm/d. The pipeline will be interconnecting the BG and RS gas systems between Sofia (BG) and Nis (RS). The project intends to make use of both existing and future infrastructures on territories of BG and RS, namely, Chiren UGS capacity (BG), existing UGS Banatski Dvor (RS) and future Banatski Itebej (RS) UGS capacity; it will provide new entry/exit points. The overall objective of the project is to ensure diversification of routes, intersystem connectivity and gas transmission	6.8.3 Permitting	6.8.3 05/2022
6.9	LNG-N-62 | TRA-N-63 | TRA-N-1090 | TRA-N-128 |	6.9.1 LNG terminal in Northern Greece	6.9.1 Region of Thrace, Sea of Thrace (EL); Alexandroupolis (EL)	6.9.1 DESFA S.A. (EL) Gastrade S.A. (EL)	6.9.1 The PCI consists of: 1) An LNG offshore Floating Storage and Regasification Unit (FSRU), permanent mooring position 17.6 km SW of Alexandroupolis port and a pipeline system, connecting the floating unit to the Greek National Natural Gas Transmission System (NNGTS). The FSRU will have a storage capacity of up to 170,000 m3 of LNG and a maximum gas send out capacity of 22,7 mcm/day. The FSRU will be connected to the pipeline through two 12" flexible risers. 2) The gas transmission pipeline will have a total length of 28 km (4 km onshore and 24 km subsea), a send out capacity of 15.1 mcm/d, DN30" and a design pressure of up to 110 bar. The pipeline will be connected to the NNGTS through a Metering and Regulating Station, which will be constructed and operated by DESFA, the NNGS TSO. 3) A Metering and Regulating Station, which will be constructed and operated by DESFA, near the connection point of above pipeline with the NNGS. 4) A Compressor station at Kipi that will allow the flow of gas, from Turkey to the NNGS, to continue, after the entry in operation of the FSRU, which will inject gas to the NNGS at higher pressure.	6.9.1 Permitting	6.9.1 03/2024

					More detail on the status: LNG-N-62: Permitting completed TRA-N-1090: under construction and TRA-N-128: Planned but not yet in permitting		
6.20		Cluster increase storage capacity in South-East Europe, including one or more of the following PCIs including the following PCIs:					
	UGS-N-138	6.20.2 Chiren UGS expansion (BG)	6.20.2 Chiren (BG)	6.20.2 Bulgartransgaz EAD (BG)	6.20.2 Expansion of the underground gas storage facility in depleted gas field in Chiren, Bulgaria, with the following technical characteristics: - Projected working gas volume up to 1000 MCM - Projected withdrawal capacity maximum 8 MCM/day - Injection capacity 8 MCM/day - Cycling rate 1 times/year.	6.20.2 Permitting	6.20.2 2025
	UGS-N-385 | TRA-N-1092	6.20.3 South Kavala UGS facility and metering and regulating station (EL)	6.20.3 South Kavala (EL)	6.20.3 Hellenic Republic Asset Management Fund, HRADF (EL) DESFA S.A. (EL) DESFA S.A. (EL)	6.20.3 The project consists in converting the depleted offshore gas field of South Kavala to an underground gas storage (UGS) facility. It involves the construction of: - One Metering and Regulating Station of 55 GWh/day capacity at Kavala for the interconnection of the Greek transmission system with the UGS in South Kavala. - New underground storage facility in depleted gas field, connected via a 34 km pipeline (of which 32 km offshore) to the National Natural Gas System. - Projected Working Gas Volume 360 MCM; Withdrawal capacity 4 MCM/day; Injection capacity 5 MCM/day; Cycling rate 2 times/year.	6.20.3 Under consideration	6.20.3 01/12/2023
	UGS-N-233	6.20.4 Depomures storage in Romania	6.20.4 Targu Mures (RO)	6.20.4 Engie Romania S.A. (RO)	6.20.4 The project consists in the revamping and expansion of an existing gas storage facility of 300 MCM situated in Targu Mures, Central Romania. The rationale of the project is threefold (i) to increase operational independence by building its own compression unit and connection of the storage to high pressure gas transport network, (ii) to expand the storage capacity from 300 MCM to 400 MCM in a first stage and to 600 MCM in a second stage and (iii) to increase flexibility of the storage by increasing injection and withdrawal capacity from an existing average of 1.7 MCM/day to approx. 3.5 MCM/day in a first stage and to 5 MCM/day after implementation of the second stage.	6.20.4 Under construction	6.20.4 31/12/2024
	UGS-N-371	6.20.6 Sarmasel underground gas storage in Romania	6.20.6 Sarmasel (RO)	6.20.6 SNGN ROMGAZ SA - Filiala de Înmagazinare Gaze Naturale DEPOGAZ Ploiești S.R.L. (RO)	6.20.6 The Sarmasel underground gas storage Romania project aims to increase the existing working capacity of the UGS Sarmasel. This upgrade will increase the flexibility of the storage system and will contribute to the security of supply in SE Europe. It involves extension and upgrading of the storage facility in depleted field Sarmasel, with the following technical characteristics: - Working Gas Volume 1550 MCM (900 existing + 650 new) with a cushion gas of 1.130 mln m3 - Supplementing the gas cushion by approximately 400 MCM; - Withdrawal capacity 12 (8 existing + 4 new) MCM/day - Injection capacity 10 (6 existing + 4 new) MCM/day	6.20.6 Under consideration	6.20.6 31/12/2024

					- Cycling rate 1 times/year New infill wells for injection/withdrawal will be drilled and the surface facilities of the injection/withdrawal well need to be upgraded and completed.		
6.23	TRA-N-325 | TRA-N-112 | TRA-N-92 | TRA-N-108 | TRA-N-1227	6.23 Hungary – Slovenia - Italy interconnection (Nagykanizsa (HU) — Tornyiszentmiklós (HU) — Lendava (SI) – Kidričevo (SI) – Ajdovščina (SI) – Šempeter (SI) – Gorizia (IT))	6.23 Nagykanizsa (HU) - Gorizia (IT)	6.23 FGSZ Ltd. (HU) Plinovodi, d.o.o (SI)	6.23 The PCI will establish a bidirectional interconnection between SI and HU gas transmission systems and with that a connection of the national gas markets. It will improve possibilities for diversification of gas sources (LNG sources from the Adriatic region and any other sources), which are available in SI and enable access to gas storages in HU for SI users. The security of supply (N-1 criteria) will be improved for the existing SI gas system as well as for the HU gas market to a certain extent. Phase I (planned to be commisisoned 01/10/2023). The length of the gas pipeline between Nagykanizsa (HU) and Kidričevo (SI) will be approximately 114 km and the expected maximum transmission capacity will be up to 12.9 GWh/d by 2023 Phase I: Enabler projects: Kozármisleny-Kaposvár pipeline and compressor station at Dorog. . Phase II (planned to be comissioned 01/10/2025). The length of the gas pipeline between Kozármisleny (HU) and Kidričevo (SI) will be approximately 272 km together with phase I sections, compressor stations are needed and the expected maximum transmission capacity will be up to 49,0-93,3 GWh/d by 2025 depending on real market demand.	6.23 Permitting	6.23 01/10/2025
6.24	TRA-F-286 | TRA-F-358	Cluster phased capacity increase on the (Bulgaria) — Romania — Hungary — (Austria) bidirectional transmission corridor (currently known as "ROHUAT/BRUA") to enable a capacity at the Romania-Hungary interconnection of 1.75 bcm/a in the 1stphase, 4.4 bcm/a in the 2nd phase, and including new resources from the Black Sea in the 2nd phase including the following PCIs: 6.24.1 ROHU(AT)/BRUA – 1st phase	6.24.1 Csanádpalota (HU), Bacia (RO) – Nadlac (HU); Podisor – Corbu – Hateg – Recas route (RO);	6.24.1 FGSZ Ltd. (HU) SNTGN TRANSGAZ SA (RO)	6.24.1 Development of transmission capacity in RO from Podişor to Recas, including a new DN813, 479 km pipeline Podişor - Haţeg - Recas with a transmission capacity of 1.75 bcm/y, as well as new compressor stations in Podisor, Bibesti and Jupa of a total power of 27.6 MW. The project will create the link between the existing interconnection points of the RO, BG and HU transmission systems. Hungarian section is completed. Romanian section is currently under construction.	6.24.1 Under construction	6.24.1 10/2020

	TRA-N-123 | TRA-N-1322 | TRA-N-362 | TRA-N-377	6.24.4 ROHU(AT)/BRUA – 2nd phase	6.24.4 ROHU(AT)/BRUA –2nd phase, including: — Városföld compressor station (HU) — Expansion of the transmission capacity in Romania from Recas to Horia towards Hungary up to 4.4 bcm/a and expansion of the compressor stations in Podisor, Bibesti and Jupa — Black Sea shore — Podișor (RO) pipeline for taking over the Black sea gas — Romanian-Hungarian reverse flow: Hungarian section 2nd stage compressor station at Csanádpalota (HU)	6.24.4 FGSZ Ltd. (HU) SNTGN TRANSGAZ SA (RO)	6.24.4 The project consists of: - Upgrade of Csanádpalota IP (RO/HU) compressor station (HU) (2nd phase) with 4.5 MW additional power. - Városföld node modification. It will improve bidirectional transmission capacity at Csanádpalota IP (RO/HU) up to 11.4 mcm/d. The project will ensure up to 13.6 mcm/d bidirectional capacity at Balassagyarmat (HU/SK) together with 6.2.13 (2) project. - Expansion of the transmission capacity in RO towards HU up to 4.4 bcm/y (2nd phase) by constructing 50 km, DN800 pipeline Recas - Horia and upgrade of the compressor stations Jupa, Bibești and Podișor with total additional power of 13.8 MW and upgrade of GMS Horia.. - Constrcution of the 308 km Black Sea shore — Podișor (RO) pipeline for taking over the Black Sea gas. The expected transmission capacity will be 6 bcm/y, DN1200 -1000.6) - RO-HU reverse flow: HU section, 2nd stage Csanádpalota / Algyő CSs (HU) (2nd phase). One 4.5 MW additional power at Csanadpalota, which will improve the bidirectional capacity of Csanádpalota IP (RO/HU) up to 11.4 mcm/d.	6.24.4 Permitting	6.24.4 10/2022
6.26	TRA-N-86 | TRA-N-94 | TRA-N-1057 | TRA-N-361 | TRA-N-389 | TRA-N-390	Cluster Croatia — Slovenia — Austria at Rogatec including the following PCIs: 6.26.1 Cluster Croatia - Slovenia - Austria at Roagtec including: - Interconnection Croatia - Slovenia (Lučko - Zabok - Rogatec) - CS Kidričevo, 2nd phase of upgrade (SI) - Compressor stations 2 and 3 at the Croatian gas transmission system - GCA 2015/08 Entry/Exit Murfeld (AT) - Upgrade of Murfeld/Ceršak interconnection (AT-SI) - Upgrade of Rogatec interconnection	6.26.1 Lucko (HR), Zabok (HR), Rogatec (SI), Kidričevo (SI) Murfeld (AT) - Ceršak (SI)	6.26.1 Plinacro d.o.o. (HR) Plinovodi d.o.o. (SI) Gas Connect Austria GmbH (AT)	6.26.1 The PCIs includes: - Construction of a new pipeline of a capacity up to 5 bcm/y in both directions: Lučko - Zabok (HR), DN700 with 36 km length and Zabok - Rogatec (SI) DN700 with 34 km length. - Upgrade of CS for higher operational pressure in the existing M1/1 and M2/1 pipelines, higher flow and bidirectional operation. The project aims to assure additional necessary compressor power (30 MW) for the PCI 6.26 Cluster Croatia - Slovenia - Austria at Rogatec. - Two compressor stations (CS2 Slobodnica: 5 MW and CS3 Zabok: 5 MW) on the HR gas transmission system that will enable reverse flow with the neighbouring countries and transport of gas from the Krk LNG terminal to the neighbouring countries. - Construction of a new compressor station of 13.7 MW in Murfeld (AT) and a pipeline of 26.1 km ensuring the physical reverse flow capacity between SI and AT. - Adjustment of SI part to operating parameters of the transmission system	6.26.1 Planned but not yet in permitting	6.26.1 2025

					of the Austrian TSO, increasing the transmission capacity and enabling bidirectional operation. The project consits of a pipeline with a length of 0.2 km and a diameter of DN800. The expected incremental capacity brought by the project in the direction Murfeld (AT) -> Ceršak (SI) is 78.5 GWh/d and 162 GWh/d in the opposite direction. - Adjustment to operating parameters of the transmission system of the Croatian TSO, increasing the transmission capacity and enabling bidirectional operation. The project consits of a pipeline with a length of 3.8 km and a diameter of DN800. The expected bidirectional incremental capacity brought by the project at IP Rogatec (SI/HR) is 162 GWh/d. Lučko-Zabok-Rogatec section and other elements in SI are already in permiting phase. The remaining part of the project is currently under planned but not yet in permitting phase. The planned date of commisioning for the 1st phase is 2023, while the phase two is expectedby end of 2025.		
6.27	LNG-N-947	6.27 LNG Gdansk (PL)	6.27 Gdańsk (PL)	6.27 GAZ-SYSTEM (PL) S.A.	6.27 The FSRU Polish Baltic Sea Coast project is the first floating terminal in Poland, with a planned regasification capacity from approx 4.5 bcm/y. Terminal will consist of storage tanks with the capacity of approx. 165 tcm and other equipment to be used during the loading and reloading of LNG. The project includes also necessary development of internal system needed for extraction of gas towards customers in Poland and in the CEE region: - offshore pipeline connecting the FSRU unit with onshore infrastructure (DN1000), - onshore pipelines Kolnik – Gustorzyn (DN1000), Kolnik – Reszki (DN700) and Kolnik – Gdańsk (DN1000), - a new compressor station in Pomerania The project will offer its regasification capacities to the gas consumers in Poland and possibly to other countries in the Baltic Sea region and/or in Central-Eastern Europe. The implementation of the project has the potential to support the EU's efforts to reduce the sulfur content of marine fuels by ensuring LNG supplies for short and long-haul shipping (for bunkering service). The FSRU terminal also supports the development of alternative fuels infrastructure for both road and sea transport.	6.27 Permitting	6.27 2025

7. Priority Corridor Southern Gas Corridor ('SGC')

No	TYNDP Reference	Definition in Delegated Act	Details on location	Promoter(s)	Type / technology employed	Implementation status	Date of commissioning
7.1		PCI Cluster of integrated, dedicated and scalable transport infrastructure and associated equipment for the transportation of a minimum of 10 bcm/a of new sources of gas from the Caspian Region, crossing Azerbaijan, Georgia and Turkey and reaching EU markets in Greece and Italy. including the following PCIs:					
	TRA-N-339 | TRA-F-1138	7.1.1 Gas pipeline to the EU from Turkmenistan and Azerbaijan, via Georgia and Turkey, [currently known as the combination of "Trans-Caspian Gas Pipeline" (TCP), "South-Caucasus Pipeline Future Expansion" (SCPFX)	7.1.1 TCP : From Turkmenistan (tie-in to the East-West Pipeline or offshore collection points) to Azerbaijan through the Caspian Sea. SCPFX: From Sangachal Terminal (AZ) through Azerbaijan and Georgia to Georgia/Turkey border with subsequent tie-in to TANAP.	7.1.1 TCP): W-Stream Caspian Pipeline Company Ltd (GE) SCPFXSOCAR MIDSTREAM OPERATIONS (AZ)	7.1.1 TCP: Offshore pipeline in the Caspian Sea with a length of 300 km and an ultimate capacity of 32 bcm/a will branch-off at a connection with the East-West pipeline in Turkmenistan or, for the first stage, from a collection point of offshore Caspian production/treatment in Turkmenistan. It will feed into Sangachal terminal/SCP in Azerbaijan. SCPFX): Upgrade of the existing SCP pipeline system between Azerbaijan and Turkey via Georgia with throughput capacity upgrades of 5 bcm/y by 2024 (on top of the expanded capacities under SCPX project). SCPFX project currently envisages the construction of 3 additional loops in Georgia, with the total length of about 93 km and 1 additional compressor station in Azerbaijan	7.1.1 Under consideration	7.1.1 09/2024
	TRA-F-51 | TRA-F-941 | TRA-N-971 | TRA-F-1193 | TRA-N-1276	7.1.3 Gas pipeline from Greece to Italy via Albania and the Adriatic Sea [currently known as "Trans-Adriatic Pipeline" (TAP)] including metering and regulating station and compressor station at Nea Messimvria as well as the TAP Interconnection.	7.1.3 From the Greece-Turkey border point at Kipoi (tie-in to TANAP) to Melendugno Entry Point and interconnection with the Italian network via Nea Messimvria (EL), Albania and the Adriatic Sea	7.1.3 DESFA S.A. (EL) Trans Adriatic Pipeline A.G. (TAP Pipeline) (AL, EL, IT)	7.1.3 TAP Pipeline: new onshore and offshore pipeline between Greece/Turkey and Italy with a total length of approx. 878 km (773 km onshore and 105 km offshore). Connecting with TANAP at the Greek-Turkish border, TAP will cross Northern Greece, Albania and the Adriatic Sea before reaching Southern Italy, , where it lands at Melendugno in Province of Lecce. The pipeline will be connected through a 55 km pipeline to the Italian gas network The initial capacity is 10 bcm/y. The power of the compressor station(s) is 90 MW.For the interconnection of TAP with the Greek transmission system a metering and Regulating station (capacity of 114 GWh/d) will be built in Nea Messimvria. Furthermore, a compressor station (27 MW) will be built in Nea Messimvria in order to enable flow from the Greek system to TAP. Commissioning of TAP is expected by the end of 2020, while the last element of the PCI project enabling the Greek gas transmission system to inject gas to TAP will be commissioned in 2023.	7.1.3 Planned but not yet in permitting.	7.1.3 06/2023

7.3		PCI Cluster infrastructure to bring new gas from the East Mediterranean gas reserves including the following PCIs:					
	TRA-N-330 | TRA-N-1091	7.3.1 Pipeline from the East Mediterranean gas reserves to Greece mainland via Crete [currently known as "EastMed Pipeline"], with metering and regulating station at Megalopoli	7.3.1 Levantine Basin gas fields to Greece mainland via Crete (EL)	7.3.1 DESFA S.A.(EL) IGI Poseidon S.A. (EL/IT)	7.3.1 New onshore and offshore pipeline (excluding upstream pipeline section) of approximately 1870 km.The pipeline will have the initial capacity of 10 bcm/y. The total power of the compressor stations to be installed will be around 225 MW.The Metering and Regulating station at Megalopoli, once carried out, will give the potential to connect the Greek gas transmission system with the EastMed pipeline.	7.3.1 Planned but not yet in permitting	7.3.1 12/2025
	TRA-N-10	7.3.3 Offshore gas pipeline connecting Greece and Italy [currently known as "Poseidon Pipeline"][1]	7.3.3 Thesprotia (EL) to Otranto (IT)	7.3.3 IGI Poseidon S.A. (EL/IT)	7.3.3 The Poseidon project aims to transport gas between Greece and Italy at an initial volume of 14 bcm/y (first phase) and up to 20 bcm/y on a second phase. PCI 7.3.3 is part of this project and includes: compression station in Thesprotia (120 MW); onshore pipeline between the compression station and the Greek landfall; new offshore pipeline of approximately 216 km between the Greek and Italian landfalls; onshore pipeline between the Italian landfall and the metering station in Otranto. Since this pipeline is depending on the main PCI of this cluster (PCI 7.3.1), its commissioning date should be equal or subquent to the one of PCI 7.3.1.	7.3.3 Permitting	7.3.3. 12/2025
	TRA-N-7 | TRA-N-1195	7.3.4 Reinforcement of internal transmission capacities in Italy, including reinforcement of the South-North internal transmission capacities [currently known as "Adriatica Line"] and reinforcement of internal transmission capacities in Apulia region [Matagiola - Massafra pipeline]	7.3.4 Pipeline: Sulmona (IT) to Minerbio (IT) and Matagiola (IT) to Massafra (IT); Compressor station: Sulmona (IT)	7.3.4 Snam Rete Gas S.p.A. (IT)	7.3.4 The project consists in a new onshore pipeline of approx. 430 km and in a new compressor station of 33 MW that will create a new transmission capacity of approximately 24 MCM/day (264 GWh/day) to transport gas from new or existing entry points in the south of Italy.	7.3.4 Under consideration	7.3.4 2026
7.5	LNG-N-1146	7.5 Development of gas infrastructure in Cyprus [currently known as "Cyprus Gas2EU"]	7.5 Vassiliko (CY)	7.5 Natural Gas Infrastructure Company (ETYFA) LTD (CY)	7.5 The CyprusGas2EU project aims to create an entry point for natural gas and end energy isolation of the island of Cyprus, enabling connection with the wider European gas market while providing security of energy supply at national and regional level and contributing to EU's energy diversification policy.The infrastructure to be developed comprises an LNG Floating Storage and Regasification Unit (FSRU), a jetty intended for the unit's safe mooring, a jetty	7.5 Permitting	7.5 12/2022

[1] For the transport of gas from Greece to Italy, the Member States concerned are considering the offshore section of the Poseidon pipeline as well as other alternative infrastructure not included in this PCI list.

					borne natural gas pipeline and an onshore gas pipeline, a shoreside block valve facility, an onshore natural gas buffer solution and a pressure reduction and metering station. The planned LNG facility will have an LNG storage capacity approximately of 136,000-m3 and will aim to provide a send-out capacity of regasified natural gas of up to 220 T/hour (max yearly send out of approx. 2.44 bcm/year and a max daily average of approx. 76.17 GWh/day) initially and be able to cover additional capacity requirement in the future.		

8. Priority Corridor Baltic Energy Market Interconnection Plan in gas ('BEMIP Gas')

No	TYNDP Reference	Definition in Delegated Act	Details on location	Promoter(s)	Type / technology employed	Implementation status	Date of commissioning
8.2		Cluster infrastructure upgrade in the Eastern Baltic Sea region including the following PCIs:					
	TRA-N-382 | TRA-N-342	8.2.1 Enhancement of Latvia — Lithuania interconnection	8.2.1 Riga (LV) - Iecava (LV) - Kiemenai (LT)	8.2.1 Amber Grid (LT) Conexus Baltic Grid (LV)	8.2.1 PCI 8.2.1 "Enhancement of Latvia-Lithuania interconnection" aims to increase the overall cross-border interconnection capacity between the gas systems of Latvia and Lithuania. It will integrate the gas and energy markets in the Baltic Sea region with the internal EU energy market which will contribute to the improvement of market competition and security of gas supply.The PCI will include a number of infrastructure elements. The project provides, on the Latvian side, the reconstruction of the existing pipelines in order to increase the maximal allowed pressure to 50 bar in gas transmission system, as well as, on the Lithuanian side, the upgrade of the existing gas metering station in Kiemenai and readjustment of piping in the territory of Panevezys compressor station. These infrastructure elements will allow removing possible bottlenecks and reaching a daily throughput capacity of up to 131 GWh/d (LT->LV) and up to 120 GWh/d (LV->LT)	8.2.1 Planned but not yet in permitting	8.2.1 12/2023
	UGS-N-374	8.2.4 Enhancement of Inčukalns Underground Gas Storage (LV)	8.2.4 Inčukalns (LV)	8.2.4 Conexus Baltic Grid (LV)	8.2.4 "Enhancement of Inčukalns Underground Gas Storage (LV)" aims to upgrade and extend an existing aquifer gas storage facility in Latvia. The surface infrastructure works include the rehabilitation of the existing Gas Collection Point (GCP) and consist in the demolition and replacement of 30 technological lines and the installation of additional 3-5 technological lines. The current Maximum Operating Pressure (MOP) of the GCP amounts to 64 bar and is expected to reach 105 bar after the implementation of the rehabilitation works. The enhancement works of the existing 36 wells will increase the overall wells' productivity by 5% (from 8,145 mcm/day to approx. 8,600 mcm/day). The compression units' infrastructure works will cover the installation of one additional gas compression unit to increase the injection productivity (from the current 17 mcm/day with approx. additional 4-6 mcm/day), the installation of a compression extraction to allow the gas withdrawal capacity (from the current 0 mcm/day to 12-15 mcm/day) as well as the enhancement of the existing five reciprocating gas compression units to increase the productivity (from 12 mcm/day to approx. 12.5 mcm/day).	8.2.4 Permitting	8.2.4 12/2025

					The implementation of the project will significantly improve the operational efficiency of the (Underground Gas Storage) UGS facility. Overall the project will increase the gas injection UGS capacity, allow gas compression withdrawal as well as increase the overall wells' productivity.		
8.3	TRA-N-780	Cluster infrastructure including the following PCIs: 8.3.1 Reinforcement of Nybro — Poland/Denmark Interconnection	8.3.1 Egtved (DK) - Everdrup (DK)	8.3.1 GAZ-SYSTEM S.A. (PL) Energinet (DK)	8.3.1 "Reinforcement of Nybro - Poland/Denmark Interconnection" is part of the PCI cluster 8.3 (PCI 8.3.1 and 8.3.2) related to the Baltic Pipe. PCI 8.3.1 relates to a number of infrastructure elements, which are part of the Baltic Pipe project, namely reinforcement of the Danish Transmission System from Egtved to the Baltic Pipe entry/exit point in DK to enable transportation of approx. 10 bcm/year. The project includes: 200 km (estimated length) new onshore pipeline in Denmark (DN 900-DN 1000) 4 km offshore crossing (estimated length) of Lillebælt (DN 900) and one compressor station in DK, i.e. Zealand CS (approx. 36 MW).	8.3.1 Under construction	8.3.1 01/10/2022
	TRA-N-271 | TRA-N-1173	8.3.2 Poland–Denmark interconnection [currently known as "Baltic Pipe"]	8.3.2 Everdrup (DK); Goleniów (PL); Odolanów (PL); Lwówek (PL)	8.3.2 Energinet (DK) Gas Transmission Operator GAZ-SYSTEM S.A. (PL)	8.3.2 Poland–Denmark interconnection [currently known as "Baltic Pipe"]" is part of the PCI cluster 8.3 (PCI 8.3.1 and 8.3.2) related to Baltic Pipe. The PCI 8.3.2 relates to a number of key infrastructure elements, which are part of the Baltic Pipe project, namely: A new, bi-directional offshore gas pipeline DN 900 connecting PL and DK through the Baltic Sea (estimated length of approx. 275 km), the receiving terminal (PL), the onshore pipelines connecting the offshore pipeline with the national grids in PL and DK, the DN 1000 Goleniow –Lwowek pipeline (PL) of approx 191 km, and three compressor stations in PL i.e. Goleniow CS , Odolanow CS and Gustorzyn CS. Baltic Pipe will make possible the import of up to 10 bcm/y of gas from Norway to Poland through Denmark and the transmission of 3 bcm/y of gas from Poland to Denmark. Up-to-date information is available at www.baltic-pipe.eu.	8.3.2 Permitting	8.3.2 01/10/2022

8.5	TRA-F-341 | TRA-F-212	8.5 Poland-Lithuania interconnection [currently known as "GIPL"]	8.5 Holowczyce (PL) - Jauniunai (LT)	8.5 AB Amber Grid (LT) Gas Transmission Operator GAZ-SYSTEM S.A. (PL)	8.5 The objective of the PCI 8.5 “Poland-Lithuania interconnection", currently known as GIPL, is to establish a physical interconnection between the Polish and Lithuanian gas transmission systems. On the Polish side, GIPL includes: - a gas pipeline between Hołowczyce and the PL-LT border (gas pipeline length of approx. 343km, DN 700); - the construction of a new compressor station in Gustorzyn (approx. 16 MW of installed power without spare); - the extension, modernization and connection of the pipeline to the Hołowczyce node and the compressor station; - as well as related necessary improvements of the Hołowczyce compressor station. On the Lithuanian side, GIPL consists of: - a gas pipeline between the PL-LT border and Jauniunai (approx. 165 km, DN 700); - the construction of gas pressure reduction and metering station(s) located near the PL-LT border in Lithuania aimed at decreasing the Maximum Operating Pressure (MOP) of the pipeline (from 8.4 MPa down to 5.4 MPa, preliminary max capacity 275,000 Nm3/h with a possibility of extension up to 468,000 Nm3/h). Overall, the new gas pipeline will have a capacity of 2.4 bcm/year in the direction PL to LT and up to 1.9 bcm/year in the direction LT to PL.	8.5 Under construction	8.5 31/12/2021

9. Priority Corridor Oil supply connections in Central Eastern Europe ('OSC')

No	TYNDP Reference	Definition in Delegated Act	Details on location	Promoter(s)	Type / technology employed	Implementation status	Date of commissioning
9.1	NOT_APPLICABLE	9.1 Adamowo — Brody pipeline: pipeline connecting the JSC Uktransnafta's handling site in Brody (Ukraine) and Adamowo Tank Farm (Poland)	9.1 From Main Oil Transfer Pumping Station in Brody (UA) to Oil Tank Farm in Adamowo (PL)	9.1 MPR „Sarmatia" sp. z o.o. (PL)	9.1 The Adamowo-Brody oil pipeline project involves the construction of the pipeline, which will connect the Main Oil Transfer Pumping Station in Brody (the end point of the existing Odessa – Brody oil pipeline in Ukraine) with the Oil Tank Farm in Adamowo (the connection point to northern line of the Druzhba pipeline system in Poland). It is an integral part of the Euro-Asian Oil Transportation Corridor (EAOTC), through which Caspian and Central Asian crude oil will be delivered to consumers in Poland and other European countries. The Adamowo-Brody oil pipeline also creates the possibility to transport the crude oil in opposite direction – from the Baltic Sea to consumers in Ukraine, Slovak and Czech Republic.The Project provides for the construction of the following infrastructure: - Pipeline between the Main Oil Transfer Pumping Station in Brody (Ukraine) and the Oil Tank Farm in Adamowo (Poland). Its total length is 397,9 km (270,5 km in Poland + 127,4 km in Ukraine). The diameter of the pipe is 700 mm (28"). The Initial capacity is 10 MTA with possibility to increase it up to 20 MTA in the future. The working pressure is 6,5 MPa. - Head pump station in Brody (UA) (for the capacity up to 10 MTA). - SCADA control system with fiber optic cable along the pipeline. - valve stations (6 on the Ukrainian side and 22 on the Polish side).	9.1 Permitting	9.1 12/2023
9.2	NOT_APPLICABLE	9.2 Bratislava — Schwechat — Pipeline: pipeline linking Schwechat (Austria) and Bratislava (Slovak Republic)	9.2 From Bratislava (SK) to Schwechat (AT)	9.2 BSP GmbH (AT)	9.2 A pipeline of 80 km length linking Schwechat (AT) and Bratislava (SK) and with a diameter of 400 mm and the maximal throughput capacity of 5.0 million tonnes per year.	9.2 Under consideration	9.2 01/11/2022
9.4	NOT_APPLICABLE	9.4 Litvinov (Czechia) — Spergau (Germany) pipeline: the extension project of the Druzhba crude oil pipeline to the refinery TRM Spergau	9.4 From Litvinov (CZ) to Spergau (DE)	9.4 MERO CR (CZ)	9.4 A pipeline between Litvinov (CZ) and Spergau (DE) with a diameter of 700 mm, length of 160 km and capacity of 5-6 MTA: extension project of the Druzhba crude oil pipe line to the refinery TRM Spergau.	9.4 Under consideration	9.4 31/03/2025

9.5	NOT_APPLICABLE	Cluster Pomeranian pipeline (Poland) including the following PCIs: 9.5.1 Construction of oil terminal in Gdańsk (phase II)	9.5.1 Gdańsk Oil Terminal (PL)	9.5.1 PERN S.A (PL)	9.5.1 Handling terminal of 5 crude oil tanks and related installations within the oil terminal. Total Capacity 390,000 m3. Oil terminal of the Pomeranian pipeline (PCI 9.5.2)	9.5.1 Under consideration	9.5.1 2020
	NOT_APPLICABLE	9.5.2 Expansion of the Pomeranian pipeline: the second line of the pipeline	9.5.2 From Miszewko Strzalkowskie (near Plock, PL) to Gorki Zachodnie (near Gdansk, PL)	9.5.2 PERN S.A (PL)	9.5.2 A pipeline of 242 km with a maximum technical capacity of 25 MTA	9.5.2 Under consideration	9.5.2 2025
9.6	NOT_APPLICABLE	9.6 TAL Plus: capacity expansion of the TAL pipeline between Trieste (Italy) and Ingolstadt (Germany)	9.6 From Trieste (IT) to Ingolstadt (DE)	9.6 TAL consortium (IT, AT, DE)	9.6 Increasing capacity of the TAL pipeline (100 kb/d) in its first section between Trieste and Ingolstadt to allow for full diversification of oil supply to the Czech Republic.	9.6 Planned but not yet in permitting	9.6 31/03/2023

10. Priority Thematic Area Smart grids deployment ('Smart grids')

No	TYNDP Reference	Definition in Delegated Act	Details on location	Promoter(s)	Type / technology employed	Implementation status	Date of commissioning
10.3	NOT_APPLICABLE	10.3 SINCRO.GRID (Slovenia, Croatia) - An innovative integration of synergetic, mature technology-based solutions in order to increase the security of operations of the Slovenian and Croatian electricity systems simultaneously	10.3 Slovenia (SI) to Croatia (HR)	10.3 ELES d.o.o. TSO (SI) HEP-ODS d.o.o. DSO (HR) HOPS d.o.o. TSO (HR) SODO d.o.o. DSO (SI)	10.3 A virtual cross-border control centre in Slovenia and Croatia which will consist of dedicated IT infrastructure and software to be used by system operators for the efficient and coordinated management of RES, using advanced algorithms for VVC optimization, secondary reserve, managing battery storage, advanced real time operation of the grid with advanced forecasting tools and using dynamic thermal rating. Furthermore, telecommunication support for the RES control and communication platform for the DSM will be established. - Reactive power sources (substations Divača, Beričevo, Cirkovce/Krško) in Slovenia and in Croatia (substations Konjsko, Melina, Mraclin) using compensation devices at each TSO involved. - An advanced dynamic thermal rating system in Slovenia and Croatia.• In Slovenia a set of storage (batteries) and DG sources for relieving local power flows and alternative source for secondary control. - Activation of wind power plants in Croatia into the VVC optimization process.	10.3 Under construction	10.3 30/11/2021
10.4	NOT_APPLICABLE	10.4 ACON (Czechia, Slovakia) - The main goal of ACON (Again COnnected Networks) is to foster the integration of the Czech and the Slovak electricity markets	10.4 CZ and SK	10.4 Západoslovenská distribučná, a.s. (SK) E.ON Distribuce, a.s. (CZ)	10.4 The ACON project consists of several works towards modernization and efficiency improvement of the distribution grid, such as: Border areas and cross-border connections improvement with focus on improvement of existing distribution grid in the border areas of the Czech Republic and Slovakia, which will include operation change of interconnection 2x110 kV line at the High Voltage level, together with reconstruction and automation of Medium Voltage and Low Voltage feeders and construction of new 22 kV lines connecting Holíč (SK) and Hodonín (CZ) substations. Taking such steps will create technical backup to enable cross-border cooperation in case of emerged accidents or any other safety threatening operational situations. All these activities shall be concluded merely at DSO level. Construction and improvement of existing distribution grid backbone leading to increased reliability of electricity supply and more flexible connection of additional points of delivery.	10.4 Permitting	10.4 2024

					Deployment of technology improving the reliability of electricity supply, increasing added value of applied equipment. Applying advanced communication and diagnostic methods with the aim to increase the convenience of customers receiving energy services. Deployment of distribution grid communication (smart) elements including implementation of communication (smart) elements to existing distribution grid which will enable more efficient management of distribution system through remote access, data transmission regarding failures, information on system load and remote switching (deployment of optical cables on selected existing overhead lines and implementation of GPRS (LTE) and BPL communication technology). Implementation and integration of smart grids IT solutions supporting smart grids, which will allow DSOs to gather larger volumes of data as a major enabler for more accurate data analysis and more addressed decisions towards the requirements of distribution grid during the whole lifecycle of distribution assets (direct impact on distribution system management, process management, optimization of distribution system operation or distribution grid maintenance and renewal planning).		
10.6	NOT_APPLICABLE	10.6 The Smart Border Initiative (France, Germany) - The Smart Border Initiative will connect policies designed by France and Germany in order to support their cities and territories in their energy transition strategies and European market integration	10.6 Saarland (DE) - Lorraine (FR)	10.6 Enedis -DSO (FR) Energis-Netzgesellschaft mbH DSO (DE)	10.6 A cross-border smart grid will be designed and implemented integrating flexibility linked to smart mobility as well as energy efficiency/sector-coupling in the DSO grid.The project will enable the Saarland and Lorraine regions to develop joint solutions for common challenges by making better use of the region''s energy efficiency and renewable energy potential.The aim is to provide a cost effective way of enhancing security and encouraging investment in renewables.	10.6 Planned but not yet in permitting	10.6 2022
10.7	NOT_APPLICABLE	10.7 Danube InGrid (Hungary, Slovakia) – the project enhances cross-border coordination of electricity network management, with focus on smartening data collection and exchange	10.7 Hungary (HU), Slovakia (SK)	10.7 Západoslovenská distribučná, a.s. (SK) E.ON Észak-dunántúli Áramhálózati Zrt. (DSO) (HU) Slovenská	10.7 The project enhances cross-border coordination of electricity network management, with focus on smartening data collection and exchange. It contains smart grids applications related to security of supply, smartening of substations (sensors, information devices, applications), data exchange, data flow and smart metering. The cooperation at DSO level will primarily be based on data exchange and know-how sharing. The physical connection is at TSO level. A new smart 400/110 kV substation will be	10.7 Permitting	10.7 2027

				electrizačná prenosová sústava a.s. (TSO) (SK)	built in Slovakia which will improve the robustness and stability of the power grid in the area. Within the project, around 150 existing transformer stations at DSO level will be modernised, optical fibre network for MV grid management will be constructed, and a new 110/22 kV substation in Samorin (SK) will be built, as well as installation of smart metering devices.		
10.8	NOT_APPLICABLE	10.8 Data Bridge (Estonia, Latvia, Lithuania, Denmark, Finland, France) – aims to build a common European Data bridge Platform, to enable integration of different data types (smart metering data, network operational data, market data), with a view to develop scalable and replicable solutions for the EU	10.8 Estonia (EE), Latvia (LV) , Lithuania (LT), Denmark (DK), Finland (FI), France FR)	10.8 Elering (TSO) Fingrid (TSO) Rte (TSO) Sadales tikls (DSO) ESO (DSO) Energinet (TSO) Elektrilevi (DSO)	10.8 The project aims to build a common European Data Bridge Platform, to enable integration of different data types (smart metering data, network operational data, market data), with a view to develop scalable and replicable solutions for the EU. The project aims at interoperability of energy data systems, It connects data hubs and other information systems with parties requesting the data. The Data Bridge enables energy suppliers, aggregators and other service providers to access data from a single API. An important element is to ensure that personal data is shared securely and only with the consent of final consumers.	10.8 Under consideration	10.8 2024
10.9	NOT_APPLICABLE	10.9 Cross-border flexibility project (Estonia, Finland) –aims to support RES integration and increase security of supply by cross-border provision of flexibility services to Estonia, Finland and Aaland provided by distributed generation.	10.9 Estonia (EE), Finland (FI)	10.9 Fingrid (TSO) Elering (TSO) Kraftnat Aland (FI) (TSO)	10.9 The project will support RES integration and increase security of supply by cross-border provision of flexibility services to Estonia, Finland and Åland islands, provided by distributed generation. In Nordic countries the need for flexibility services has been raised by concerns for inertia in the long term. The project targets to modify existing cross-border HVDC systems and existing distributed resources to better facilitate the provision of system services across borders. The project re-evaluates the different local and regional use cases for smart grid and flexibility features from earlier and demonstration projects, and implements new flexibility resources according to refined comprehensive technical requirement. The flexibility resources will provide extensive services to both distribution and transmission grid levels.	10.9 Under consideration	10.9 30/06/2025

12. Priority Cross-border carbone dioxide network ('CO2')

No	TYNDP Reference	Definition in Delegated Act	Details on location	Promoter(s)	Type / technology employed	Implementation status	Date of commissioning
12.2	NOT_APPLICABLE	12.2 CO2-Sapling Transport and Infrastructure Project (United Kingdom,in further phases Netherlands, Norway)	12.2 From St Fergus gas plant in North East UK to Captain Sandstone Formation storage site in the outer Moray Firth of the central North Sea (UK)	12.2 Pale Blue Dot Energy Ltd (UK)	12.2 This PCI aims to establish, through a phased build out programme, a strategic and transnational CO2 transportation infrastructure capable of delivering over 12 Mt/y of CO2 from emissions sources around the North Sea for permanent sequestration in deep geological storage sites located beneath the North Sea. The PCI is the transportation infrastructure component of the Acorn full chain Carbon Capture and Storage (CCS) project, based at St Fergus, and its subsequent national and international build out programme.It will aim to:1. Use existing offshore North Sea natural gas pipelines that are no longer required for petroleum use, as dedicated CO2 transportation infrastructure, which along with new CO2 compression facilities will enable cost effective, accelerated deployment of CCS. 'Atlantic' pipeline: CO2 transport capacity of 5 Mt/y and 78 km length; 'Goldeneye' pipeline: CO2 throughput capacity of ~4 Mt/y in dense phase and 102 km length; offshore pipeline 'Miller Gas System': capacity of some 15 MT/y of CO2 and 240 km length.2. Develop new CO2 ship offloading and transfer facilities at Peterhead Port in North East Scotland in order to enable national and international shipping of CO2. Port facilities and 20km onshore link line to St Fergus : capacity ~6 Mt/y (dense phase) and 120 bar.3. Re-purpose an onshore natural gas pipeline between Central Scotland and St Fergus, enabling decarbonisation of industry across Scotland. Pipeline 'Feeder 10': capacity ~4 Mt/y CO2 (gas phase), 70 bar maximum operating pressure and 280 km .	12.2 Planned but not yet in permitting	12.2 2024
12.3	NOT_APPLICABLE	12.3 CO2 TransPorts: infrastructure forlarge-scale capture, transport and storage of CO2 from Rotterdam, Antwerp and North Sea Port	12.3 Rotterdam (NL), Antwerp (BE) and North Sea Port (BE/NL)	12.3 Havenbedrijf Rotterdam N.V (NL) Havenbedrijf Antwerpen NV van publiek recht (BE), North Sea Port SE NL)	12.3 CO2TransPorts is comprised of multiple pipelines proposed to be developed in three distinct project phases. The onshore transport pipeline has a diameter of 900 mm (36 inch) or 1080 mm (42 inch) up to the compressor and a maximum length of 33 kilometres. The pipeline will operate under an operating pressure between 15 and 40 bar. This is the operational pressure in the system up to the compressor, ensuring the CO2 is in gaseous state. Depending on the operational pressure, the capacity of the pipeline is between 4-10 Mt per year. The 20 MW compressor station will operate at a suction pressure of about 30 bar (at maximum). The supplied	12.3 Planned but not yet in permitting	12.3 2026

					CO2 is then exclusively in gas phase. The compressor station brings the CO2 for the offshore transport pipeline to pressures of approximately 85 bar (and a maximum of 120 bar). The offshore transport pipeline has a length of approximately 25 km and a diameter of up to 600 mm. The operational pressure in the offshore transport pipeline will be at a maximum of 120 bar. The pipeline consists of a carbon steel pipe and is insulated to minimize the heat loss. The entire proejct is to comisisoned 2026 but the Porthos part of the porject is to be operational in 2023.		
12.4	NOT_APPLICABLE	12.4 Northern lights project – a commercial CO2 cross-border transport connection project between several European capture initiatives (United Kingdom, Ireland, Belgium, the Netherlands, France, Sweden) and transport the captured CO2 by ship to a storage site on the Norwegian continental shelf	12.4 Weser-Ems, Sør-Østlandet, Agder og Rogaland, Vestlandet (NO); Tees Valley, Durham (UK); Eemshaven (NL)	12.4 Equinor ASA (NO), AS Norske Shell (NO), Total E&P Norge AS (NO), Air Liquide Industries Belgium (BL), ArcelorMittal Flat Carbon Europe S.A. (FR) (DE), Preem (S), Stockholm Exergi (S), Havenbedrijf Antwerpen NV van publiek recht (BE)		12.4 Under consideration	12.4 2023
12.5	NOT_APPLICABLE	12.5 Amsterdam-IJmuiden CO2 Transport Hub & Offshore Storage - Athos	12.5 Amsterdam, Ijmuiden (NL) and Ireland (IE)	12.5 GasUnie New Energy B.V. (NL)	12.5 This project entails the development of a large-scale, open-access interoperable high-volume CO2 transportation infrastructure from mainland Europe and Ireland to CO2 storage locations in the Dutch section of the North-Sea to enable emission reduction for industrial CO2 emitters in the NZKG (and potentially from the Irish capture plants (located at the Aghada & Whitegate CCGTs and the Irving Oil refinery) and the Ruhr area of Germany. The project has the potential to transport 100 Mton CO2 cumulatively over the 20 year assessment period. The CCU component of the project means that the cumulative net reduction is even higher at 120 Mton CO2. The ATHOS infrastructure consists out of a central backbone consisting of 3 onshore pipeline segments that merge near the TATA premises:	12.5 Planned but not yet in permitting	12.5 2027

					- a segment connecting AEB to the TATA junction (17 km); - a segment connecting HVC to the TATA junction (25 km); - and,a segment connecting TATA to the compression station (0.5 km). The compressor station compresses the CO2 and connects to an offshore pipeline towards a storage location. Suction pressure is assumed to be approximately 30 bar. Maximum discharge is charge pressure of approximately 120 bar. The compressor configuration strongly depends on the design volume, ranging from 4 MW tot 12 MW. The offshore pipeline connects the compressor with the storage location(s). A number of pipeline alternatives are available.		
12.6		12.6 Ervia Cork Carbon Capture Utilisation & Storage (CCUS) Project	12.6 Whitegate area of County Cork (IE)	12.6 Ervia (IE), Gasunie (NL) and Equinor (NO)	12.6 The project will be located in the Whitegate area of County Cork in Ireland and will have start points at each of the proposed capture plants located in the greater Whitegate area. The end points will be the existing oil terminal and the existing pipe from the Kinsale Head gas field to the Aghada CCGT and a new dedicated CO2 pipeline spur to the Whitegate CCGT and oil refinery site. The length for the new pipeline will be approximately 3 km and the remaining pipe work will be within the greater oil refinery site, which will total approximately 10 km of pipe. The capture plants will be located at the Aghada & Whitegate CCGTs and the Irving Oil refinery. The potential maximum volume of captured CO2 by the CCGTs could be in the range of [1.1 – 1.4] MT CO2/year each [assuming high load factor] and the Irving Oil refinery will be circa 280 KT CO2/year. The condensation/evaporation plant and buffer storage will be located on an existing industrial site adjacent to the carbon capture plants. The plant will have a projected capacity of 5,500 T/CO2/day and the buffer storage would be for 27,500 T/CO2. The location of the primary CO2 store is the Kinsale Head gas field, which is c. 50 km off the coast of County Cork. The capacity of the storage at Kinsale head gas field is circa 300 MT/CO2 and the usage in the food and drinks industry within Ireland is currently 37,000 TCO2/year. The key physical characteristics of the transport infrastructure will be circa 10 km of new dedicated CO2 pipeline, the repurposing of an existing c.7.2 km of onshore pipeline and 56 km of offshore pipelines. These	12.6 Under consideration	12.6 2029

					will have capacities of greater than 6 MTCO2/year which will be further confirmed as part of the feasibility study. The import/export facilities will have an approximate capacity of 5 MTCO2/year, the actual amount will be determined by a detailed feasibility study. The onshore CO2 pipeline is a 600 mm diameter carbon steel pipe (API 5L) with a maximum operating pressure of 37.5 bar (g) and design pressure of 70 bar (g). The existing offshore pipeline is a 600 mm nominal bore pipe has a current rated pressure of 50 bar (g).		