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**OPINION OF THE AGENCY FOR THE COOPERATION OF ENERGY
REGULATORS No 22/2014**

of 23 December 2014

**ON THE IMPLEMENTATION
OF THE INVESTMENTS IN GAS NETWORK DEVELOPMENT PLANS**

THE AGENCY FOR THE COOPERATION OF ENERGY REGULATORS,

HAVING REGARD to Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators¹, and, in particular, Articles 6(7) and 6(8) thereof,

HAVING REGARD to Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005², and, in particular, Article 8(11) thereof,

HAVING REGARD to the favourable opinion of the Board of Regulators of 17 December 2014, provided pursuant to Article 15(1) of Regulation (EC) No 713/2009,

WHEREAS:

- (1) Articles 6(7), 6(8) and 6(9) of Regulation (EC) No 713/2009 task the Agency for the Cooperation of Energy Regulators (“the Agency”) with monitoring the progress as regards the implementation of investments to create new interconnector capacity and the implementation of the gas Community-wide network development plan (“TYNDP”).
- (2) Article 8(11) of Regulation (EC) No 715/2009 tasks the Agency with providing an opinion on the national network development plans to assess their consistency with the TYNDP,

HAS ADOPTED THIS OPINION:

1. Introduction

Articles 6(7) and 6(8) of Regulation (EC) No 713/2009 task the Agency with the monitoring of the implementation of the TYNDP and of new interconnector capacity, and, where inconsistencies are identified between such a plan and its implementation, with the investigation of the reasons for those inconsistencies and the making of recommendations to transmission system operators

¹ OJ L 211, 14.8.2009, p. 1.

² OJ L 211, 14.8.2009, p. 15.

(“TSOs”), national regulatory authorities or other competent bodies concerned, with a view to implement the investments in accordance with the TYNDP.

Pursuant to Article 8(11) of Regulation (EC) No 715/2009, the Agency shall also review national development plans (“NDP”) to assess their consistency with the TYNDP.

Furthermore, Article 6(9) of Regulation (EC) No 713/2009 tasks the Agency with the monitoring of the regional cooperation of TSOs referred to in Article 12 of Regulation (EC) No 714/2009 and Article 12 of Regulation (EC) No 715/2009, and requires the Agency to take due account of the outcome of that cooperation when formulating its opinions, recommendations and decisions.

This Opinion provides a review of the monitoring results, in accordance with the reporting obligations of the Agency as described above, and highlights the Agency’s findings regarding the development of infrastructure projects of pan-European significance contained in Annex A of the TYNDP 2013-2022, released by ENTSOG on 10 July 2013³. The monitoring of the TYNDP infrastructure investments also covers investments submitted to ENTSOG by project promoters by the end of 2013. These updated investment data were used for the development of the Gas Regional Investment Plans (“GRIPs”) in 2013 and 2014⁴.

The National Regulatory Authorities (“NRAs”) provided input to this Opinion by submitting information on gas infrastructure investment items⁵ in an online data collection process from 8 April to 25 June 2014. The information provided on investment items for the purpose of developing the GRIPs and for the consistency check of the NDPs has also been assessed for the purposes of this Opinion.

The objective of the implementation and consistency (alignment) monitoring is to support the development of the gas infrastructure of European importance. In particular, in this Opinion the Agency:

- Reports on its findings regarding progress in the development of the gas infrastructure investment projects of pan-European significance contained in Annex A of the TYNDP 2013-2022⁶. The monitoring has been performed with reference to the specific investment items (distinct parts of a single project or entire projects, as the case may be);
- Identifies broad areas in which NRAs have expressed concerns about delays in the development of the projects contained in the TYNDP 2013-2022 and other plans;
- Identifies possible inconsistencies or lack of alignment of investment items in the NDPs and the TYNDP 2013-2022;
- Where inconsistencies or lack of alignment have been identified, proposes the advisable course of action to the TSOs, NRAs, ENTSOG or other competent bodies concerned, with a

³ ENTSOG TYNDP 2013-2022: Annex A – Infrastructure projects corrigendum (e)
<http://www.entsog.eu/publications/tyndp/2013#ENTSOG-TEN-YEAR-NETWORK-DEVELOPMENT-PLAN-2013-2022>

⁴ <http://www.entsog.eu/publications/gas-regional-investment-plan-grips>

⁵ In this Opinion, “investment item” means the national part of an infrastructure project (e.g. cross-border pipeline).

⁶ ENTSOG TYNDP 2013-2022: Annex A – Infrastructure projects corrigendum (e)
<http://www.entsog.eu/publications/tyndp/2013#ENTSOG-TEN-YEAR-NETWORK-DEVELOPMENT-PLAN-2013-2022>

view to implementing the investments in accordance with the TYNDP 2013-2022 and/or aligning different development plans;

- Reports on the ways and means used for fulfilling its obligations under Articles 6(7), 6(8) and 6(9) of Regulation (EC) No 713/2009 and Article 8(11) of Regulation (EC) No 715/2009, including:
 - Monitoring tools;
 - Monitoring indicators;
 - Monitoring outputs;
 - Interpretation of monitoring results;
 - Providing guidance to ENTSOG and NRAs.

The Agency provides this Opinion reasonably ahead of the adoption of the next TYNDP 2015-2024, which is expected in 2015, to allow ENTSOG to take the observations and proposals formulated in this Opinion into account. More detailed monitoring results and information on the monitoring method are presented in Annexes I, II, III and IV.

2. Data availability

For the purposes of its monitoring, the Agency established a projects database. The database has been populated with available data on all gas infrastructure projects as listed in the TYNDP 2013-2022, the list of Projects of Common Interest (“PCIs”) adopted by the European Commission in 2013⁷, the GRIPs available in June 2014, and the NDPs submitted to the Agency by NRAs. NRAs were asked to review the investment items in the database. In addition to the hosting NRAs, NRAs from other affected countries were also asked to provide data according to pre-specified templates. This resulted in additional entries for the same projects. The number of investment items is higher than the number of projects, as shown in Table 1⁸.

Table 1 Database entries

Description	Pipelines	Underground Gas Storage (UGS)	Liquefied Natural Gas (LNG)	Total
Investment items	368	46	66	480
Projects (items with identical project code)	267	42	51	360

For pipeline investment items, 217 out of 368 data entries (59%) were at least partially assessed by the concerned NRAs, and are considered to be “verified” for the purpose of this Opinion. Similarly, 21 out of 46 investment items (46%) for Underground Gas Storages (“UGS”) and 38 out of 66 investment items (58%) for Liquefied Natural Gas (“LNG”) infrastructures were “verified” by the concerned NRAs, as shown in Table 2.

⁷ Commission Delegated Regulation (EU) No 1391/2013 of 14 October 2013, OJ L 349, 21.12.2013, p. 28.

⁸ In the database, each entry is for a single investment item of a particular Member State. Each investment item is considered to be in the domain of a single NRA (the “hosting NRA”) and can be a part of a larger project, i.e. have the same project code and/or project name as other investment items pertaining to the same project.

Table 2 Scope of assessments by NRAs⁹

Description	Pipelines	UGS	LNG
Investment items assessed by NRAs	217/368 (59%)	21/46 (46%)	38/66 (58%)

The “sample” of assessed investment items thus comprises 58% of all items appearing in the TYNDP 2013-2022, the updated GRIPs, the PCI list of 2013, and NDPs, although NRAs were not always able to provide or even assess all the data describing the investment items in the templates. The Agency considers this extent of monitoring (the number of investment items on which input from NRAs was provided) sufficient for drawing sound conclusions and elaborating guidance or recommendations for the purposes of this Opinion, but would nevertheless strongly suggest that NRAs (especially those that did not provide any feedback) include all items in the scope of subsequent monitoring¹⁰.

The Agency also notes that, apart from the incomplete participation of NRAs in the process for the assessment of investment items for the purpose of this Opinion, an important reason for participating NRAs not being able to provide information about certain investment items is the inclusion, in the scope of the investment monitoring, of items (e.g., LNG and UGS investment items) which, in some jurisdictions, are either completely or partially not subject to the national regulatory oversight. In such cases, the information needed for the monitoring is not available to the NRAs.

For items not assessed by the NRAs, data from the TYNDP and the PCI list were taken into consideration for the purpose of this Opinion, where appropriate. For further review of available data and of the results of the survey, please refer to Annexes II and III.

3. TYNDP implementation

3.1 Current implementation status

The NRAs assessed the current implementation status of only 168 investment items, out of the 276 investment items for which they provided some feedback. The most frequent implementation phases are those of consideration (29 items) and planning approval (29 items). 8 items are under construction and 10 are already in operation, as shown in Table 3. The last completed phase of the assessed projects is indicated in Annex III (Table 20, Table 22, Table 24).

⁹ “Assessed investment items” means the total number of investment items which were assessed at least for one data point, and not necessarily for all data points requested. For this reason, the number of assessments of particular data point may be lower than the total number of assessed investment items.

¹⁰ By the date of the survey closure (25 June 2014), 19 NRAs provided input for pipelines (AT, CZ, CY, DK, DE, EL, ES, FI, FR, HR, HU, IE, IT, LT, LU, MT, NL, SI, and the UK). No responses were received about UGS from BG, CY, EE, HU, LT, PL, PT, RO, UK, and no response was received for LNG from BG, BE, CY, EE, LT, LV, PL, PT, RO, SI, UK. Some NRAs (for example, PT and SE) provided important information about investment items after the survey closure date. While the Agency appreciates the input received from NRAs at any time, even after the survey closing date, information received after that date is not used for the purposes of this Opinion, in pursuit of consistency and the establishment of a definite baseline for the analyses and the conclusions at a cross-border, regional and European level.

Table 3 Overview of current implementation status

Implementation status	Pipelines	UGS	LNG
Consideration phase	26	1	2
Planning approval	29		
Preliminary design studies	6		
Preliminary investment decision	1		
Market test	3		3
Permitting	8	1	5
Financing	2	1	1
Final investment decision	6		1
Detailed design	4		
Tendering	1		
Construction	6		2
Commissioning	1		
Implemented - in operation	8	1	1
Cancelled	4		
Other	1	1	1
Unknown to NRAs	30		11
Total assessed	136	5	27

3.2 TYNDP implementation timeline assessment

In this section, the consistency (alignment) of the status of development of investment items with their published implementation timeline in the TYNDP 2013-2022 is assessed, based on input from NRAs.

Pipeline investments

Out of 368 pipeline investment items, 139 were assessed by NRAs regarding their implementation status compared to their respective timelines in the TYNDP 2013-2022, while for the remaining 229 investment items, no information about the implementation status was provided by the NRAs.

The implementation of 81 items is in line with their respective timelines in the TYNDP 2013-2022. The implementation of 49 investment items is not in line with their respective timelines in the TYNDP 2013-2022. For 6 investment items, the implementation status is unknown (to the concerned NRAs), while 3 other items are not included in the TYNDP 2013-2022, and therefore their current status cannot be assessed against a timeline published therein and their status data are marked as “not applicable”¹¹ in the survey.

Investments in storage facilities

Out of 46 investment items in gas storage, 8 were assessed by NRAs regarding their implementation status compared to their respective timelines in the TYNDP 2013-2022, while for the remaining 38 investment items, no information about the implementation status was provided by the NRAs. However, several NRAs do not, or only in a limited way, regulate storage facilities and therefore have no information on the projects.

¹¹ A project’s implementation status vs. the TYNDP is indicated as “not applicable” if the project is not included in the TYNDP.

The implementation of 4 investment items is in line with their respective timelines in the TYNDP 2013-2022. The implementation of 2 investment items is not in line with their respective timelines in the TYNDP 2013-2022, for 1 investment item the implementation status is unknown, while 1 investment item is not included in the TYNDP 2013-2022 and therefore its current status cannot be assessed against a timeline published therein.

Investments in LNG facilities

Out of 66 investment items in LNG facilities, 29 were assessed by NRAs regarding their implementation status compared to their respective timelines in the TYNDP 2013-2022, while for the remaining 37 investment items, no information about the implementation status was provided by the NRAs. However, several NRAs do not, or only in a limited way, regulate LNG facilities and therefore have no information on the projects.

The implementation of 9 investment items is in line with their respective timelines in the TYNDP 2013-2022. The implementation of 12 items is not in line with their respective timelines in the TYNDP 2013-2022, and for 8 investment items the implementation status is unknown (to the concerned NRA).

Overview of implementation

The NRAs assessed the implementation status of 37% of the investment items, of which most (53%) were found to be implemented in line with the respective timelines in the TYNDP 2013-2022, and 36% were found not to be in line with the respective timelines in the TYNDP 2013-2022. Table 4 provides an overview of the results of the assessment of the implementation alignment with a breakdown by infrastructure type.

Table 4 Alignment of the implementation of investment items vs. the TYNDP

Investment item	Assessed investment items / total ¹²	Implementation in line with the TYNDP	Not in line with the TYNDP	Unknown	Not applicable (not listed in the TYNDP) ¹³
Pipelines	139 / 368 (38%)	81 (58%)	49 (35%)	6	3
Storage	8 / 46 (17%)	4 (50%)	2 (25%)	1	1
LNG	29 / 66 (44%)	9 (31%)	12 (41%)	8	0
All investment items	176 / 480 (37%)	94 (53%)	63 (36%)	15	4

3.3 Reasons for implementation deviations from the TYNDP

The Agency finds that implementation delay is the only indicated reason of implementation deviations from the TYNDP for pipelines, storage and LNG¹⁴. Table 5 provides the results for implementation delays compared to the TYNDP 2013-2022 timeline.

¹² The number of assessed items is the sum of all items on which response from NRAs was received by the Agency, including the responses of “unknown” and “non-applicable”.

¹³ LNG and storage projects do not have to be included in the NDPs on an obligatory basis, which may to a certain extent explain the low number of UGS and LNG items as listed in the table. The Agency plans to take into consideration these circumstances for the next monitoring report.

Table 5 Delays in implementation

Investment item	Delay in implementation	No delay in implementation
Pipelines	30 (75%)	10 (25%)
Storage	3 ¹⁵	
LNG	15 ¹⁶ (88%)	2 (12%)
All investment items	48 (80%)	12 (20%)

3.4 Reasons for implementation delays

Pipeline investments

The NRAs confirmed delays in implementation for 30 investment items. An overview of the reasons for the delays in the implementation of the corresponding 25 projects is presented in Table 6. Out of these projects, 10 are PCIs. The Agency notes that delays in the implementation of pipeline projects are mainly due to the lack of market interest and demand or dependence on the development of related projects (including LNG terminals).

Table 6 Reasons for delays of the implementation of pipeline investments

Reasons for delays	Number of projects	Number of PCI projects
Lack of market interest/capacity demand and bookings	9	4
Postponed related projects (power plants, CHP, South Stream)	5	1
Related LNG terminals delayed/postponed	4	4
Rerouting	2	
Unknown to the NRA	5	1
Total	25	10

The list of 30 delayed pipeline projects is provided in Annex I (Table 12).

Investments in storage facilities

According to additional information provided by the NRAs, 3 UGS investment items¹⁷ are delayed in implementation. The reasons for the delay are unfavourable gas storage market conditions and a pending decision at national ministerial level.

Investments in LNG facilities

The Agency finds that 15 of the 17 assessed LNG projects are delayed in comparison to the TYNDP timeline. The reasons for the delays are provided in Table 7. The only reason given by NRAs is low market demand for LNG and existing excess re-gasification capacity. For 10 LNG investments, the NRAs recommend a revision or reassessment of the investment needs.

¹⁴ Apart from delays, there can be other possible deviations from the implementation plan, such as, for example, rerouting, resizing, changes in off-take points, etc. Besides, the reasons for delays can be different (*cf.* Table 6).

¹⁵ One investment item is delayed while having unknown status of alignment with the TYNDP timeline.

¹⁶ There is some discrepancy between 2 LNG investment items identified as implemented in line with TYNDP (Table 4) and at the same time notified as delayed in implementation. One investment item is delayed while having unknown status of alignment with the TYNDP timeline.

¹⁷ Out of the three delayed investment items, one was considered to be still in line with the TYNDP regarding the overall scope of the project.

Table 7 Reasons for delays of the implementation of LNG investments

Reasons for delay	Number of investment items
The current demand and its possible evolution require reassessment of the project	8
The terminal has been finalised in 2012 but didn't start operation due to the excess of re-gasification capacity. The LNG terminals currently in operation have problems in reaching the minimum level of throughput necessary to work in a continuous mode due to demand decrease and the increase of imports through pipelines.	1
No information provided on reasons for delay	6
Total	15

4. Alignment of investment items between different development plans

In this section, the Agency analyses the alignment of investment items' information between the NDPs, TYNDP 2013-2022, PCI list and GRIPs. In this context, “non-alignment” means that an investment item which is included in one “reference” development plan is not included in the other plan(s) or, if it is included, that there is a mismatch of basic technical data or the implementation schedule for the investment item between the different development plans. In such cases, it can be concluded that the two (or more) plans involved are not fully aligned. The more such occurrences take place between plans, relative to the overall number of investment items covered in these plans, the less these plans are aligned.

In principle, each investment item is linked to one and only one “reference” development plan, which is supposed to reflect its most accurate status. In most cases the “reference” plan for this alignment assessment is the NDP, as NDPs tend to be the plans which scored highest in NRAs' consistency assessment. In other cases it is one of the recently published development plans. To avoid double counting, potential “reference” development plans are ordered in the following sequence: NDPs, TYNDP, PCI list and GRIPs. This means that if an investment item is present in more than one plan, the first one in this sequence is taken as its “reference” plan, unless that would be the same plan as the one whose alignment is being checked. In such cases, in order to avoid a plan being judged against itself, the next one in the list is taken as the reference plan. In some instances, the NRAs indicated misalignment (mainly of commissioning dates) between the investment item and all development plans; such cases are indicated as “not aligned with any plan”.

Tables 8 to 11 present an overview of the degree of (non)alignment of the investment item entries between each of the development plans considered (TYNDP, NDPs, PCI list and GRIPs) and the remaining development plans. As it can be seen from the tables, the NDPs (72%) and PCI list (72%) are the plans with the highest level of alignment with a reference plan, followed by GRIPs (69%) and TYNDP (59%). A reason for these differences may be that the collection of data for the TYNDP 2013-2022 took place during the summer of 2012, while the other plans were mostly adopted afterwards. The highest assessment level is for TYNDP (41%) and for the NDPs (36%).



Table 8 Alignment of the TYNDP 2013-2022

Inv. items	Total number of investment items	Assessed inv. items (% of total)	TYNDP aligned with reference plan/s	TYNDP not aligned with reference plan				
				Reference NDP	Reference PCI list	Reference GRIPs	Not aligned with any plan	Total non-aligned
Pipelines	368	161 (44%)	100 ¹⁸ (62%)	36	4	12	9	61
UGS	46	11 (24%)	7 (64%)	4	0	0	0	4
LNG	66	23 (35%)	9 (39%)	2	1	1	10	14
Total	480	195 (41%)	116 (59%)	42	5	13	19	79

Table 9 Alignment of the NDPs

Inv. items	Total number of investment items	Assessed inv. items (% of total)	NDPs aligned with reference plan/s	NDPs not aligned with reference plan				
				Reference TYNDP	Reference PCI list	Reference GRIPs	Not aligned with any plan	Total non-aligned
Pipelines	368	149 (40%)	112 (75%)	4	4	13	16 ¹⁹	37
UGS	46	3 (7%)	3	0	0	0	0	0
LNG	66	21 (32%)	9 (43%)	1	1	1	9	12
Total	480	173 (36%)	124 (72%)	5	5	14	25	49

Table 10 Alignment of the PCI list

Inv. items	Total number of investment items	Assessed inv. items ²⁰	PCI list aligned with reference plan/s	PCI list not aligned with reference plan				
				Reference NDP	Reference TYNDP	Reference GRIPs	Not aligned with any plan	Total non-aligned
Pipelines	368	78	64 (82%)	9	3	0	2	14
UGS	46	9	1 (11%)	4	4	0	0	8
LNG	66	9	4 (44%)	3	2	0	0	5
Total	480	96	69 (72%)	16	9	0	2	27

Table 11 Alignment of the GRIPs

Inv. items	Total number of investment items	Assessed inv. items	GRIPs aligned with reference plan/s	GRIPs not aligned with reference plan				
				Reference NDP	Reference TYNDP	Reference PCI list	Not aligned with any plan	Total non-aligned
Pipelines	368	78 (21%)	58 (74%)	17	1	0	2	20
UGS	46	14 (22%)	5 (36%)	7	2	0	0	9
LNG	66	10 (15%)	7 (47%)	1	1	1	0	3
Total	480	102 (21%)	70 (69%)	25	4	1	2	32

The TYNDP 2013-2022 is not aligned with the relevant reference plan regarding 61 pipeline, 4 UGS and 14 LNG investment items.

¹⁸ 88 investment items are at least aligned between NDP and TYNDP.

¹⁹ 7 out of 16 non-aligned investment items are only included in the draft NDP.

²⁰ For PCIs, the assessed investment items are not expressed as a percentage of all investments items, since not all investment items are a PCI.

The list of the 61 pipeline investment items for which the TYNDP²¹ is assessed as “non-aligned” and the main reasons considered by the Agency for that non-alignment are provided in Annex II. In order to improve the alignment of the data in the TYNDP for some of the 61 non-aligned pipeline investment items, the Agency proposes:

- To include the updated project information for 45²² (74%) non-aligned investment items in the next TYNDP 2015-2024 (cf. Annex II, Table 13);
- To amend the data for 8 investment items of entries in the TYNDP 2013-2022 (cf. Annex II, Table 13). All proposed TYNDP amendments are at the same time proposed amendments in the relevant NDPs;
- In the case of 23 investment items, to align additionally the GRIPs;
- To exclude from all development plans the 4 cancelled projects (cf. Annex II, Table 14).

The list of UGS projects for which the TYNDP is assessed by NRAs as non-aligned and the reasons for their non-alignment are provided in Annex II. For 3 out of the 4 UGS investment items for which non-alignment is identified, the Agency proposes to include the relevant correct information in the TYNDP 2015-2024 (cf. Annex II, Table 15).

The list of 14 LNG projects for which the TYNDP²³ is assessed by NRAs as “non-aligned” and the reasons for the non-alignment are provided in Annex II. For all 14 LNG investment items for which non-alignment is identified, the Agency proposes to enter the correct information in the TYNDP 2015-2024. Furthermore, the Agency proposes to align at the same time the NDPs in 10 cases (see Annex II, Table 16).

The main reason for the mis-alignment of the different plans often rests in the different timing of their preparation and publication - the GRIPs, the PCI list and the NDPs were published more recently than the TYNDP 2013-2022, and in the TYNDP 2013-2022 project information dates back to the second half of 2012. The Agency suggests that project promoters strive as much as possible to achieve greater harmonisation of the data used for the characterisation of projects in various plans and a more frequent update of the information to NRAs regarding the investment items.

Only 11 NDPs were submitted to the Agency²⁴. For 2 of the 17 Member States for which NDPs were not received, the relevant NRAs (HU and HR) informed the Agency of their inability to submit them because the plans were in the process of approval at the time when the request for submission of information was issued by the Agency. The Agency invites NRAs to submit the NDPs at the earliest opportunity and to regularly and timely inform the Agency about any changes to the NDPs thereafter.

²¹ And in some cases also the NDPs, as can be seen in Annex II, Table 13.

²² In one instance, it was also proposed to align or amend the TYNDP for nine additional pipeline investment items, but these items were not assessed as “not being in line” with the TYNDP.

²³ And in some cases also the NDPs, as can be seen in Annex II, Table 16.

²⁴ NDPs were submitted by AT, CZ, DE, EL, ES, FR, LT, LU, NL, SI, UK.

5. Considerations in the view of the forthcoming TYNDP 2015-2024 and the new NDPs

According to ENTSOG, *'the principal aim of the TYNDP is to provide a consistent view of the pan-European gas infrastructure and signal potential gaps in future investment'*²⁵. The overall aim of this Opinion is to facilitate gas infrastructure development in view of the completion of the internal energy market and to achieve a reasonable and affordable level of security of gas supply. The specific objectives of this Opinion are to analyse the implementation of the TYNDP 2013-2022 and to contribute to the continuous development and timely implementation of the gas infrastructure projects in a way aligned with the TYNDP and the PCI list.

The results from the monitoring of the implementation of the gas infrastructure projects and of the alignment of the different plans, including the alignment of NDPs and the TYNDP 2013-2022, demonstrates that the development of a considerable number of investment items, especially pipelines and LNG terminals, appear not to be in line with the implementation schedule of the TYNDP 2013-2022. 4 pipeline projects and 1 LNG project were even cancelled since the adoption of the TYNDP 2013-2022, and scores of other projects have been delayed or postponed²⁶.

In view of the two-year period required for the development and adoption of the TYNDP editions, the Agency considers it appropriate to identify potential non-alignment instances in the current TYNDP 2013-2022 and rectify them in the TYNDP 2015-2024, rather than to amend the current TYNDP 2013-2022, and to apply this approach subsequently. In practice, this means that the observations and findings provided by the Agency in the context of its monitoring activity during the period of validity of a TYNDP should lead to amendments in the next TYNDP. The Agency considers this approach to be reasonable also in the light of the fact that the TYNDP implementation monitoring can only be meaningfully performed if a certain time has elapsed since the TYNDP adoption, i.e. only if a reasonably long "implementation window" for the TYNDP projects is provided before the monitoring takes place.

The Agency finds that data on the extent to which the projects or the investment items are coordinated, at least in terms of interdependencies, are extremely useful for investment implementation purposes. For example, data seem to indicate that many projects are delayed due to uncertainties in other projects, i.e. being dependent or related to other projects, especially in neighbouring markets. The Agency has identified that such uncertainties stem mostly from different demand forecasts, changing market conditions, lack of market interest, causing non-alignments and delays in implementation.

The NRAs did not assess at all a considerable part (204 out of 480, i.e. 42%) of the investment items, primarily because some NRAs did not respond by the closing date of the survey (25 June 2014) or lacked the required information (e.g., because the investment is planned in non-regulated

²⁵ <http://www.entsog.eu/publications/tyndp/2014#ENTSOG-TEN-YEAR-NETWORK-DEVELOPMENT-PLAN-2013-2022>

²⁶ The list of cancelled projects is provided in Annex II. The Agency notes that projects in the TYNDPs are of varying maturity and it may well happen that a promoter decides to cancel a project or one or more of several competing projects are eliminated. Furthermore, while strong interlinks exist between the various plans, there is clearly no obligation to implement all projects listed in all plans, as due to market changes certain projects may not be needed any longer.

infrastructures), a circumstance which implies that for many projects the data either do not exist at all, or that it would take considerable additional effort by NRAs to obtain it. The Agency considers that for future implementation and consistency monitoring it would be not just useful, but essential that information on the last completed phase of gas infrastructure investment items is collected by NRAs, irrespective of whether the project falls within or outside the scope of regulation. Data on the last completed phase are an essential “snapshot” of the status of investments (the one used for this Opinion has the reference date of 25 June 2014), and as such provides a reliable basis for comparative analyses in the future.

In addition to the findings, advice and suggestions indicated above, the Agency provides the following comments and guidance, to be considered for the preparation of the next TYNDPs and NDPs, and in other infrastructure related activities:

- The NRAs and the Agency shall endeavour to achieve enhanced NRAs responsiveness and participation by raising awareness of the importance of successful and timely implementation of projects aimed at market integration and/or security of supply, by streamlining the monitoring process and providing additional focus on projects which are well advanced (for example, projects with final investment decision), and obtaining additional information from other monitoring processes (for example, from the PCI implementation monitoring in 2015).
- ENTSOG should remove all abandoned projects from the next edition of the TYNDP and the relevant authorities should do the same in the other development plans.
- Delayed projects should be rescheduled by the project promoters to a realistic schedule according to the known updates and credible forecasts, and the rescheduling duly notified to ENTSOG, NRAs and other relevant authorities.
- Certain level of non-alignment (inconsistency) between the different development plans will remain inevitable as a consequence of the different development schedule and publication timing of the plans. However, assessments by NRAs shall identify the reasons for non-alignment, which could also be of a market-related reason or other nature.
- Repeatedly delayed projects and projects which appear continually in the same last completed phase over a considerable timeframe should be evaluated for the main reasons for the delays or the lack of progress in the course of the preparation of the TYNDP and of the NDPs, including the re-assessment of the project promoters’ plans and the measures proposed by the promoters to achieve progress in the future. The Agency considers it useful that such projects and the measures provided to achieve progress in their implementation are highlighted in special sections of the TYNDP and of the NDPs, and invites ENTSOG and the NRAs to include the information in the next edition of the TYNDP and the NDPs.
- Guidance for stakeholders provided by the Agency²⁷ should be applied for the assessment of different levels of project maturity at the time of their inclusion in development plans. The assessment of a project’s maturity should be based on objective and transparent criteria. For the purpose of gas system modelling, projects could be categorised by maturity level, thus facilitating the provision of more reliable results for

²⁷ Cf. Agency's Recommendation No 7/2013 of 25 September 2013, available at www.acer.europa.eu.

the purpose of future transmission system development. Projects with the lowest maturity level (e.g., in case where the project/ investment item's need is still under consideration) could be excluded from the network modelling.

- Market and demand forecast uncertainties and changes are among the main reasons for delays, and, accordingly, the Agency invites ENTSOG to provide coordinated and harmonised market and demand scenarios for application by project promoters in the investment planning process of (complementary) projects, and project promoters to appropriately adjust the technical parameters and schedules of the (complementary) gas infrastructure projects.
- Enhanced coordination of gas infrastructure development plans will help ensure that the technical parameters and the implementation schedules of the projects are properly coordinated and consistent across borders. For the next edition of the TYNDP, coordination should be built into the process in order to prevent inconsistencies.
- In the next edition of the TYNDP, gas supply and demand scenarios should take into account the recent supply and demand changes in natural gas, coal, CO₂ and electricity markets, in order to deliver a reasonably manageable number of scenarios for gas infrastructure investments which are as realistic as possible.
- In order to better align the NDPs with the TYNDP, GRIPs and the PCI list, and to enhance the monitoring activities of the Agency and NRAs, the development of specific data submission ways and means, and the establishment of a common framework for NDPs and TYNDP transparency could be considered in the framework of the NRA cooperation. For example, consistency of basic infrastructure data and information definition and submission templates would accelerate and ease the monitoring activities of the Agency and the NRAs²⁸.
- Uncertainties pertinent to each project should be assessed on a stochastic basis by credible sensitivity analyses as part of the cost-benefit analysis applied for the TYNDP in line with the provisions of Article 11 of Regulation (EC) No 347/2013²⁹, rather than using only a scenarios approach.

Done at Ljubljana on 23 December 2014.

For the Agency:


Alberto Pototschnig
Director

²⁸ The Agency notes that its database established for the monitored gas infrastructure investment items encompasses in a rather comprehensive and harmonised way almost all projects listed in the TYNDP, the GRIPs, the PCI list and the NDPs. The database characterises the projects with their technical and economic parameters, benefits, and implementation schedule and implementation status. The Agency remarks that the database and the tools associated with it could help the PCI implementation monitoring, facilitate the cross-regional consistency of the PCI selection process, and of the CBA application, as well as help assess unit investment cost.

²⁹ Regulation (EU) No 347/2013 of the European Parliament and of the Council of 17 April 2013 on guidelines for trans-European energy infrastructure and repealing Decision No 1364/2006/EC and amending Regulations (EC) No 713/2009, (EC) No 714/2009 and (EC) No 715/2009; OJ L 115, 25.4.2013, p.53.

ANNEX I: Delayed pipeline projects

Table 12 Delayed pipeline projects

Project code	Project name	Country
POW-F-028	Megalopoli pipeline	EL
TRA-F-105	M5 + R51 Vodice – TE-TOL	SI
TRA-F-155	Bilbao Terminal-Treto	ES
TRA-F-231	Extension of existing gas transmission capacity in the direction to Denmark - 1. Step	DE
TRA-N-013	OS GRTgaz/Creos	
TRA-N-066	Interconnection Croatia/Bosnia and Herzegovina (Slobodnica- Bosanski Brod-Zenica)	HR
TRA-N-068	Ionian Adriatic Pipeline	HR
TRA-N-070	Interconnection Croatia/Serbia Slobodnica - Sotin (Croatia) - Bačko Novo Selo (Serbia)	HR
TRA-N-075	LNG main gas transit pipeline (Part of North-South Gas Corridor) Zlobin - Bosiljevo - Sisak - Kozarac - Slobodnica	HR
TRA-N-083	International Pipeline Omišalj - Casal Borsetti	HR
TRA-N-086	Interconnection Croatia/Slovenia (Bosiljevo - Karlovac - Lučko - Zabok - Rogatec)	HR
TRA-N-090	LNG evacuation pipeline Omišalj - Zlobin (Croatia) - Rupa (Slovenia)	HR
TRA-N-092	CS Ajdovščina (3rd unit up to 5 MW)	SI
TRA-N-094	CS Kidričevo (2nd phase - up to 3 units with total power up to 30 MW)	SI
TRA-N-098	M9a Lendava - Kidričevo (including CS Kidričevo 3rd phase with up to 5 units of total power up to 80 MW)	SI
TRA-N-099	M3/1a Gorizia/Sempeter - Ajdovščina	SI
TRA-N-100	M10 Vodice - Rateče	SI
TRA-N-101	M8 Kalce - Jelšane	SI
TRA-N-107	M6 Ajdovščina - Lucija	SI
TRA-N-112	R15/1 Lendava - Kidričevo	SI
TRA-N-261	M3/1c Kalce - Vodice	SI
TRA-N-262	M3/1b Ajdovščina - Kalce	SI
TRA-N-302	Interconnection Croatia - Bosnia and Herzegovina (South)	HR
TRA-N-303	Interconnection Croatia - Bosnia and Herzegovina (Lička Jesenica - Rakovica - Trzac - Bosanska Krupa with branches to Bihać and Velika Kladuša)	HR
National development plan (NDP)	Hajduszoboszlo CS	HU
NDP	Csepel connecting pipeline	HU
NDP	Városföld-Ercsi-Győr	HU
NDP	Ercsi-Szazhalombatta	HU
NDP	Városföld CS	HU
NDP	South Stream Hungary	HU

ANNEX II: Investment items identified as “non-aligned” in TYNDP

Table 13 contains a list of pipeline investment items identified as “non-aligned” in the TYNDP 2013-2022 and some of them also at the same time non-aligned in the NDPs, and the Agency’s proposals for alignment/ amendment of the next TYNDP and the NDPs.

Table 13 Non-aligned pipeline investment items in the TYNDP

Project Code	Project Name	Aligned in the NDP	Reasons for “non-alignment”	To align the TYNDP	To align the NDP
TRA-F-105	M5 + R51 Vodice – TE-TOL	Yes	Project is delayed. Reasons are on the side of investor in CHP station. The year of commissioning in TYNDP should be updated due to delay.	X	
TRA-F-155	Bilbao Terminal-Treto	No	Different start-up dates		
TRA-F-157	Power increase CS Haro	No	Different start-up dates	X	X
TRA-F-158	New Utilities CS Tivissa	Not applicable		X	X
TRA-F-160	CS Zaragoza power increase	No	Different start-up dates	X	X
TRA-F-164	Guitiriz-Lugo	No	Different start-up date	X	X
TRA-F-166	Loop Bermeo-Lemona	No	The infrastructure Loop Bermeo-Lemona has not been included in the GRIP 2011 because it does not affect the cross border capacity. The reason for inconsistency is the different start up years between National Plan - and TYNDP.		
TRA-F-169	Loop Castelnou-Villar de Arnedo	No	Different start up dates in the TYNDP, the GRIP and the National Plan:		
TRA-F-170	Loop Llanera-Otero	No	Different start up dates in the TYNDP, the GRIP and the National Plan		
TRA-F-171	Loop Treto-Llanera	No	Different start up dates in the TYNDP the GRIP and the National Plan		
TRA-F-173	Loop Villapresente-Burgos	No	Different start up dates in the TYNDP the GRIP and the National Plan		
TRA-F-175	Martorell-Figueras	No	Different start up dates in the TYNDP the GRIP and the National Plan		
TRA-F-180	Nuevo Tivissa-Arbós	No	Different start up dates in the TYNDP the GRIP and the National Plan		
TRA-F-181	Musel Terminal-Llanera	No	Different commissioning dates in the TYNDP the GRIP and the National Plan		
TRA-F-231	Extension of existing gas transmission capacity in the direction to Denmark - 1. Step	Yes	BNetZA: in the German Gas NDP, three projects (007-01, 009-01, and 011-01) match with two ENTSOG TNYDP projects (TRA-N-231, TRA-N-232). However, the expected commissioning dates differ (2016 vs. 2014, whereby 2016 seems to be feasible). We suggest to adjust the projects in the TYNDP, since the projects in the German NDP are binding.	X	

Project Code	Project Name	Aligned in the NDP	Reasons for “non-alignment”	To align the TYNDP	To align the NDP
TRA-F-251	Artère de l'Adour (former Euskadour) (FR-ES interconnection)	Yes	ENTSOG's plan presents firm capacity of 60 GWh/d from France to Spain as from early 2016, while this capacity is interruptible in the TIGF plan.	X	
TRA-N-013	OS GRTgaz/Creos	Yes	Project on hold due to lack of interest of the market during the binding phase of the open season procedure (closed in Q2-2013) Different commissioning date and different status	X	
TRA-N-046	Exit capacity increase to CH at Oltingue	Yes	Commissioning date has been postponed. This information is in the National Development Plan and needs to be updated in the next ENTSOG TYNDP.	X	
TRA-N-047	Reverse capacity from France to Germany at Obergailbach	Yes	The commissioning date has been postponed. The information is in the National Development Plan and needs to be updated in the next ENTSOG TYNDP.	X	
TRA-N-066	Interconnection Croatia/Bosnia and Herzegovina (Slobodnica-Bosanski Brod-Zenica)	Yes	The project has been postponed by the promoter. National development plan 2014-2023 with the updated status of the project is currently under approval.	X	
TRA-N-068	Ionian Adriatic Pipeline	Yes	The project has been postponed by the promoter. National development plan 2014-2023 with the updated status of the project is currently under approval.	X	
TRA-N-070	Interconnection Croatia/Serbia Slobodnica - Sotin (Croatia) - Bačko Novo Selo (Serbia)	Yes	The project has been postponed by the promoter. National development plan 2014-2023 with the updated status of the project is currently under approval.	X	
TRA-N-075	LNG main gas transit pipeline (Part of North-South Gas Corridor) Zlobin - Bosiljevo - Sisak - Kozarac - Slobodnica	Yes	The project has been postponed by the promoter. National development plan 2014-2023 with the updated status of the project is currently under approval.	X	
TRA-N-083	International Pipeline Omišalj - Casal Borsetti	Yes	The project has been postponed by the promoter. National development plan 2014-2023 with the updated status of the project is currently under approval.	X	
TRA-N-086	Interconnection Croatia/Slovenia (Bosiljevo - Karlovac - Lučko - Zabok - Rogatec)	Yes	The project has been postponed by the promoter. National development plan 2014-2023 with the updated status of the project is currently under approval.	X	
TRA-N-090	LNG evacuation pipeline Omišalj - Zlobin (Croatia) - Rupa (Slovenia)	Yes	The project has been postponed by the promoter. National development plan 2014-2023 with the updated status of the project is currently under approval.	X	
TRA-N-167	Loop Arrigorriaga-Lemona	No	Different start up dates in the TYNDP and the National Plan. GRIP 2013: non specified		
TRA-N-168	Interconnection ES-PT (3rd IP)	Not applicable		X	X
TRA-N-172	Loop Vergara-Lemona	Not applicable			

Project Code	Project Name	Aligned in the NDP	Reasons for “non-alignment”	To align the TYNDP	To align the NDP
TRA-N-176	Iberian-French corridor: Eastern Axis-Midcat Project (CS Martorell)	No	Different start up dates	X	X
TRA-N-208	Reverse Flow TENP Germany	No	BNetzA: in the German Gas NDP 2013, the project contains (besides of Stolberg) extensions of the CS Hugelheim and Mittelbrunn. On top, some further work at Stolberg and Mittelbrunn is planned (see German Gas NDP 2013 IDs 042-01 and 043-01).	X	
TRA-N-228	Nordschwarzwaldleitung	Yes	BNetzA: no major inconsistencies except diameter	X	
TRA-N-252	Iberian-French corridor: Eastern Axis-Midcat Project	Yes	The foreseen commissioning date has been postponed in the latest National Plan and the latest GRIP. There is today no market signals for the launch of this project aiming at reinforcing capacity from Spain to France.	X	
TRA-N-278	Castropodame-Zamora	No	Different start up dates in the TYNDP and the National Plan, GRIP 2013: not specified		
TRA-N-279	CS La Barbolla	No	Different start up dates	X	X
TRA-N-280	Lugo-Villafranca del Bierzo	No	Different commissioning dates in the TYNDP and the National Plan; GRIP 2013: not specified		
TRA-N-281	Villafranca del Bierzo-Castropodame	No	Different start up dates in the TYNDP and the National Plan; GRIP 2013: not specified		
TRA-N-282	Zamora-Barbolla-Adradas	Not applicable			
TRA-N-302	Interconnection Croatia - Bosnia and Herzegovina (South)	Yes	The project has been postponed by the promoter. National development plan 2014-2023 with the updated status of the project is currently under approval.	X	
TRA-N-303	Interconnection Croatia - Bosnia and Herzegovina (Lička Jesenica - Rakovica - Trzac - Bosanska Krupa with branches to Bihać and Velika Kladuša)	Yes	The project has been postponed by the promoter. National development plan 2014-2023 with the updated status of the project is currently under approval.	X	
7.1.5	Gas pipeline from Bulgaria to Austria via Romania and Hungary	No			
HU	South Stream Hungary	No	Change of route direction	X	X
HU	Varosfold-Ercsi-Gyor	Yes	Changes in demand, lack of capacity booking	X	
HU	Csepel connecting pipeline	Yes	The owner postponed the start of the construction of the new power plant.	X	
HU	Ercsi-Szazhalombatta	Yes	New power plants' demands delay. Lack of capacity booking.	X	
HU	Hajduszoboszlo CS	Yes	Due to decreasing transmission volume the project was rescheduled.	X	
HU	Varosfold CS	Yes	Changing demand and re-scheduling of plans.	X	
HU	Local Odourisation - FGSZ	Yes	Re-scheduling of project due to the lack of capacity booking and changes in demand.	X	

Project Code	Project Name	Aligned in the NDP	Reasons for “non-alignment”	To align the TYNDP	To align the NDP
DE NDP	Measuring Station Landshut	Yes	Not named in the TYNDP	X	
DE NDP	Loop from Schwandorf to Arresting	Yes	Not named in the TYNDP	X	
DE NDP	New CS Amerdingen	Yes	Not named in the TYNDP	X	
DE NDP	New pipeline from Epe to Werne (resp. Ledgen, draft 2014)	Yes	Not named in the TYNDP	X	
DE NDP	Extension of CS Stolberg	Yes	Not named in the TYNDP	X	
DE NDP	Extension of CS Mittelbrunn	Yes	Not named in the TYNDP	X	
DE NDP	New CS Rothenstadt	Yes	Not named in the TYNDP	X	
DE NDP	New CS Lauterbach	Yes	Not named in the TYNDP	X	
DE NDP	Connection of Verlautenheide and Weisweiler	Yes	Not named in the TYNDP	X	
DE NDP	New CS Ochtrup	Yes	Not named in the TYNDP	X	
DE NDP	New Pipeline Connection at Ahlten	Yes	Not named in the TYNDP	X	
DE NDP	Extension of CS Stolberg	Yes	Not named in the TYNDP	X	
DE NDP	Gas Conversion at Rehden	Yes	Not named in the TYNDP	X	
Total				45	8

Comments:

1. In September 2014, after the completion of the survey for the purposes of this Opinion on 25 June 2014, the reported reasons for the “non-alignment” of the following projects were somewhat modified: TRA-N-066, TRA-N-068, TRA-N-070, TRA-N-075, TRA-N-083, TRA-N-086, TRA-N-090, TRA-N-302, TRA-N-303.
2. This table and the analysis below do not include the project TRA-N-206 (Reinforcement of the interconnection between Belgium & Luxembourg), for which the inconsistency is a different commissioning date.

Table 14 Cancelled pipeline projects

Project Code	Project Name
TRA-N-035	Tauerngasleitung Gas Pipeline Project
TRA-N-077	Nabucco Gas Pipeline Project ("Nabucco Classic")
TRA-N-078	Nabucco Gas Pipeline Project ("Nabucco West")
TRA-N-218	Tie-in of Norwegian off-shore natural gas transmission system to Danish off-shore natural gas infrastructure

Table 15 contains a list of UGS investment items identified as “non-aligned” in the TYNDP 2013-2022 and the Agency’s proposals for alignment of the TYNDP.

Table 15 Non-aligned UGS investment items in the TYNDP

Project code	Project name	Aligned in the NDP	Reasons for “non-alignment”	To align the TYNDP
UGS-F-004	Hauterives Storage Project - Stage 1	Yes		X
UGS-N-003	Etrez	Yes	The development schedule has been postponed. Information in the ENTSOG TYNDP need to be updated.	X
UGS-N-264	Manosque	Yes	The development schedule has been postponed. Information need to be updated in the ENTSOG TYNDP.	X
UGS-N-288	Grottole-Ferrandina Gas Storage	Yes		
Total				3

Table 16 contains a list of LNG investment items identified as “non-aligned” in the TYNDP 2013-2022 and in some cases also in the NDPs, and the Agency’s proposals for alignment of the TYNDP and the NDPs.

Table 16 Non-aligned LNG investment items in the TYNDP

Project Code	Project Name	Aligned in NDP	Reasons for “Non-alignment”	To align TYNDP	To align NDP
LNG-F-163	Gran Canaria LNG Terminal	No	Different dates for entering into operation	X	X
LNG-F-178	Musel LNG terminal	No	Different dates for entering into operation	X	X
LNG-F-183	Tenerife LNG Terminal	No	Different dates for entering into operation	X	X
LNG-N-082	LNG terminal in Croatia	No	The project is inconsistent due to project changes (Project solution, Project Promoter, etc.)	X	
LNG-N-162	Gran Canaria 2° LNG Tank	No	Different dates for entering into operation	X	X
LNG-N-165	Gran Canaria send out increase	No	Different dates for entering into operation	X	X
LNG-N-174	Musel's 3th LNG Storage Tank	No	Different dates for entering into operation	X	X
LNG-N-177	Musel's 4th LNG Storage Tank	No	Different dates for entering into operation	X	X
LNG-N-179	Musel Send-Out increase	No	Different dates for entering into operation	X	X
LNG-N-184	Tenerife 2° LNG Storage Tank	No	Different dates for entering into operation	X	X

LNG-N-185	Tenerife Send-Out increase	No	Different dates for entering into operation	X	X
LNG-N-225	Montoir LNG Terminal Expansion	No	The most up to date document is the GRIP 2013/2014. Consequently, both ENTSG TYNDP and National Development Plan need to be updated.	X	X
LNG-N-226	Fos Tonkin LNG Terminal Expansion	Yes	Information in ENTSG TYNDP needs to be updated in order to take into account the extension of the market test phase.	X	
LNG-N-227	Fos Cavaou LNG Terminal Expansion	Yes	The national development is more up to date: the foreseen commissioning year is now 2021	X	
Total				14	11

Table 17 Cancelled LNG project

Project Code	Project Name
LNG-N-011	Brindisi LNG



ANNEX III: MONITORING SURVEY RESULTS REVIEW

1. Pipeline

Pipeline investments include pipelines and compressor stations. The TYNDP 2013-2022 contains 255 pipeline investment items, of which 249 investments are characterised as ‘pipeline including compressor stations’, 5 are characterised as ‘interconnection with a gas fired power station’ and 1 as a ‘storage facility’. Investment items listed in the TYNDP 2013-2022 and the PCI list of 2013 largely overlap, but there are 66 items on the PCI list of 2013 which are not part of the TYNDP 2013-2022. Out of the total of 368 investment items, 226 are listed on the PCI list of 2013. 27 items have been described as “not defined yet”, which could mean that they are expected to be listed in the future.

2. UGS

The data on investment items were updated, assessed and confirmed by nine NRAs (EL, ES, FR, IE, IT, NL, DE, CZ, LV), each of them assessing at least one investment item. Data on investments in UGS include 46 investment items. All of them are included in the TYNDP 2013-2022. Out of the 46 investment items, 9 are also on the PCI list of 2013.

3. LNG

The data on investment items were updated, assessed and confirmed by 10 NRAs (EL, ES, FI, FR, HR, IE, IT, MT, NL, SE). Data on investments in LNG facilities include 66 investment items, of which 62 are included in the TYNDP. There are additionally 3 items on the PCI list of 2013 which are not listed in the TYNDP. Out of total of 66 investment items, 22 are listed on the PCI list.

Table 18 illustrates the distribution of monitored investment items by type and listing in the TYNDP and PCI list.

Table 18 Monitored investment items

Description	Pipelines	UGS	LNG
Total number of items monitored	368	46	66
Items included in TYNDP	255	46	62
Items included on the PCI list but not in TYNDP	66	0	3
Items included on PCI list (total)	226 ³⁰	9	22

³⁰ Several investment items can be part of the same project.

Timeline of stages and current status of investments

The timeline of investment items provided in Table 19 was derived from the TYNDP 2013-2022 and additional information known to the NRAs. The schedule and the status were characterised vs. typical project phases, such as final investment decision (FID), start of permitting, start of construction, and construction, with the caveat that FID and the start of permitting may not necessarily be in this order.

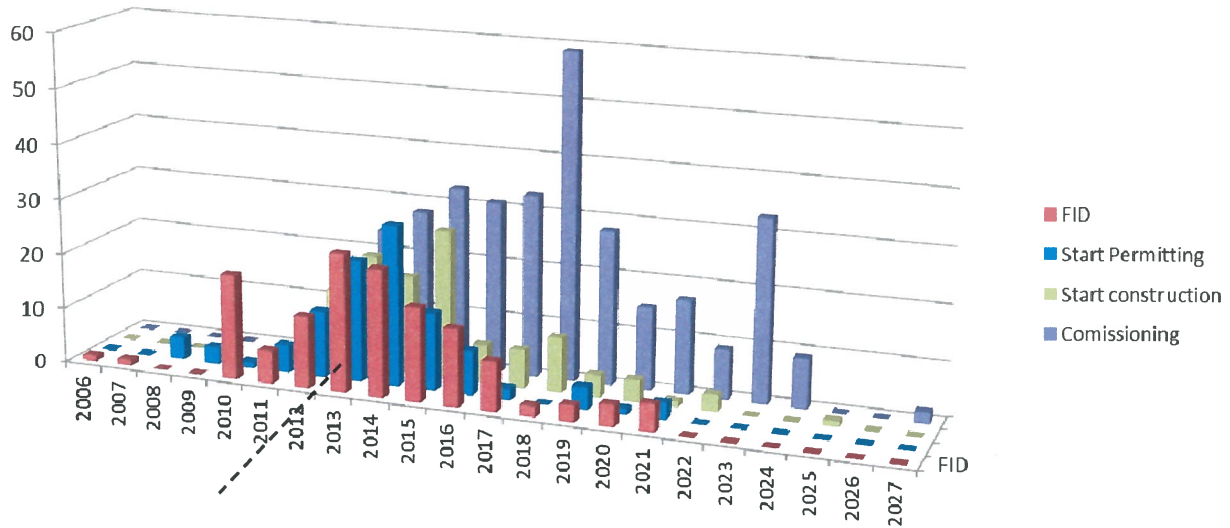
The projects' status until 2014 (including 2014) is provided in the following tables and charts as "historic", and for the 2015 and thereafter as "planned" or "forecast". For all investment items for which status was reported over two or more years, the assessment date shown is the last year of that period.

Timeline of pipeline investments

Table 19 Timeline of pipeline investment items

Year	FID	Start of permitting	Start of construction	Commissioning
2006	1			
2007	1			
2008		4		
2009		3		
2010	19	1	1	
2011	6	5		
2012	13	12	14	
2013	25	22	21	24
2014	23	29	18	28
2015	17	14	27	33
2016	14	8	7	31
2017	9	2	7	33
2018	2		10	59
2019	3	4	4	28
2020	4	1	4	15
2021	5	3	1	17
2022			3	9
2023				33
2024				9
2025			1	
2026				
2027				2

Peak periods for FID were 2013 and 2014. The greatest number of investment items (59 items) scheduled for commissioning appear in 2018, and more than 30 projects are scheduled for commissioning each year from 2015 to 2017 and in 2023 again.

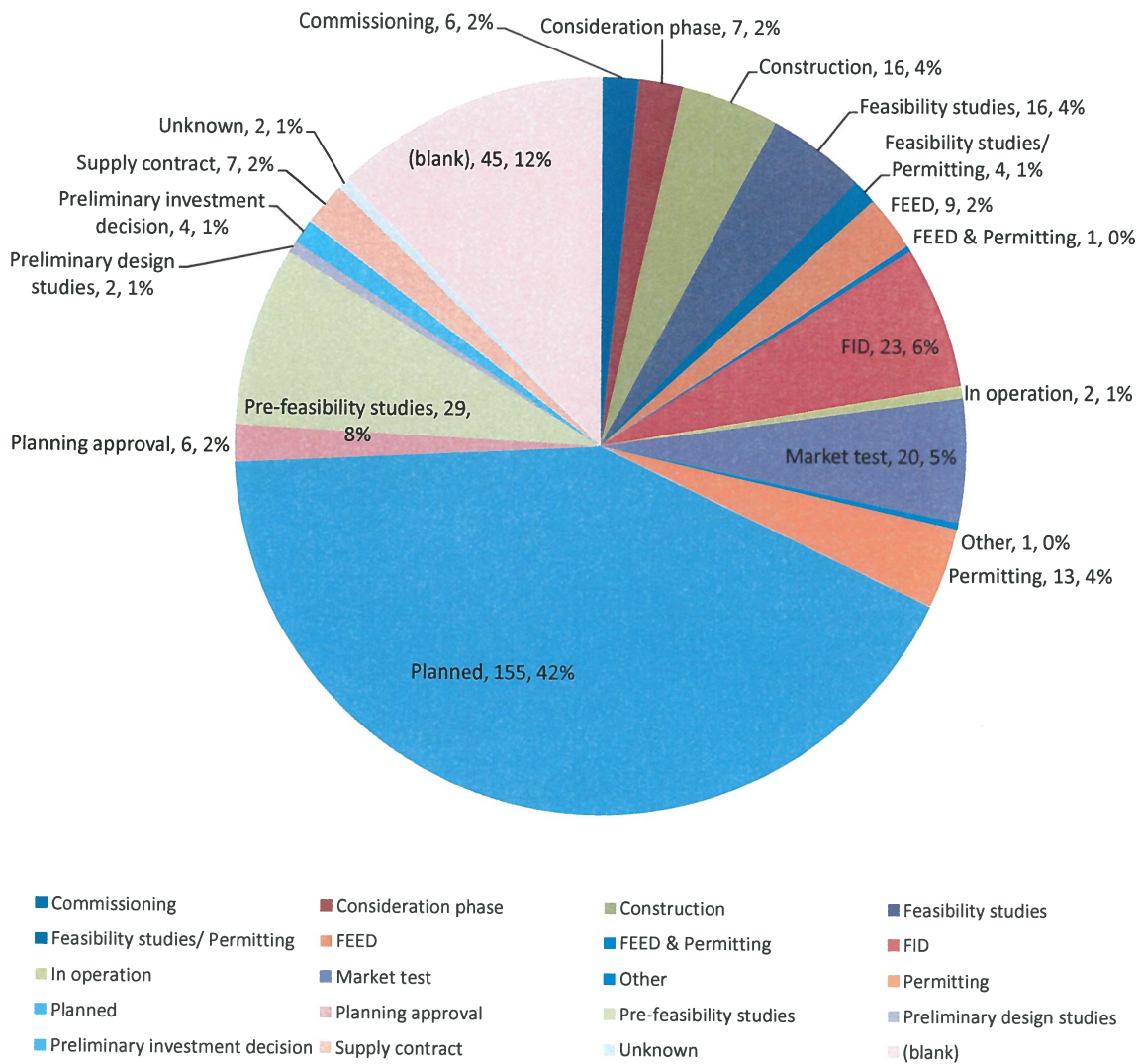


Last completed phase of pipeline investments

In Table 20 the last completed phase for pipeline investment items is illustrated by using investment items data from the TYNDP 2013-2022 and NRAs input, and additionally also the information assessed only by the NRAs. More than half of the projects are in the initial stages of the investment cycle.

Table 20 Last completed phase of pipeline investment items

Last completed phase	Number of all items	Number of assessed items by NRAs
Consideration phase	7	6
Planned	155	98
Pre-feasibility studies	29	2
Feasibility studies	16	8
Feasibility studies / Permitting	4	1
Planning approval	6	6
Preliminary design studies	2	2
Market test	20	8
Preliminary investment decision	4	4
FID	23	13
Permitting	13	6
FEED	9	9
FEED & Permitting	1	1
Supply contract	7	3
Construction	16	8
Commissioning	6	6
In operation	2	2
Other	1	1
Unknown	2	2
No data provided	45	31
Total	368	217



Timeline for investments in underground storage facilities

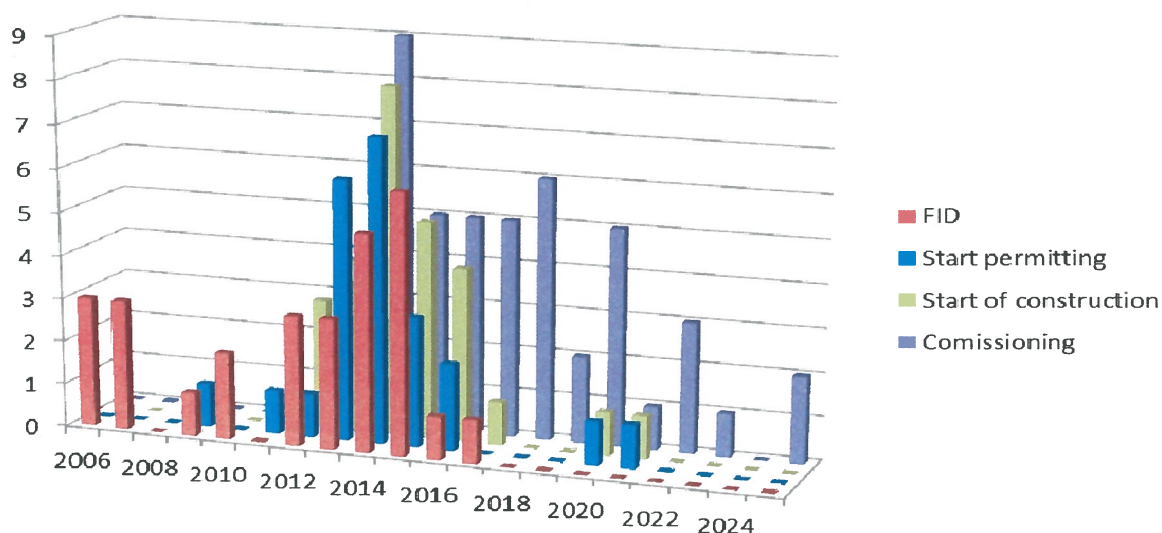
In Table 21 the scheduling information is mainly based on TYNDP data.

Table 21 Timeline of UGS investment items

Year	FID	Start of permitting	Start of construction	Commissioning
2006	3			
2007	3			
2008				
2009	1	1		
2010	2			
2011		1		
2012	3	1	3	
2013	3	6	4	2
2014	5	7	8	9

2015	6	3	5	5
2016	1	2	4	5
2017	1		1	5
2018				6
2019				2
2020		1	1	5
2021		1	1	1
2022				3
2023				1
2024				
2025				2

Peak periods for FID are 2014 and 2015. Nine projects are to be constructed and commissioned in 2014, and thereafter about five per year over the next six years.



Last completed phase of UGS

Table 22 illustrates the last completed phase of UGS investment items in 2014, based on TYNDP data. The NRAs checked or provided data for the current implementation status for only 4 out of 46 items. Of these 4, 1 project is in the consideration phase, 1 “implementation” ahead of operation, 1 “in progress” to the permitting phase, and 1 is awaiting a decision on a CEF grant.

Table 22 Last completed phase of UGS investment items

Last completed phase	Number of investment items
Planning process	19
Market test	1
Basic Engineering and Commercial /Financial studies	1
Permitting initiated	1
Permitting phase completed	3
FID	8
FEED	3

Construction	5
No data provided	5
Total	46

Timeline for investments in LNG facilities

Implementation schedule information for the most important implementation phases of LNG facilities is mainly based on TYNDP data.

Table 23 Timeline of LNG investment items

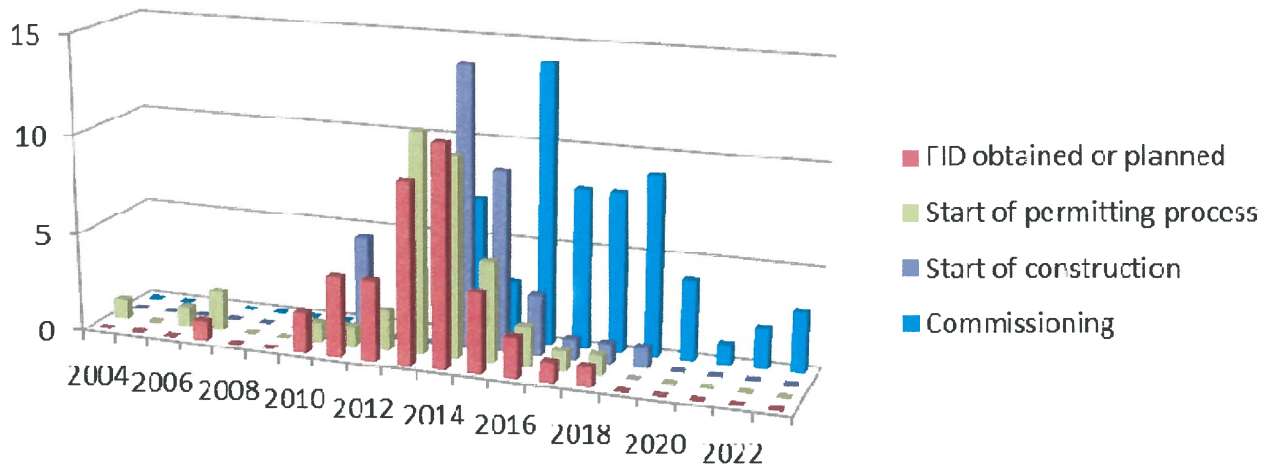
Year	FID obtained or planned	Start of permitting	Start of construction	Commissioning
2004		1		
2005				
2006		1		
2007	1	2		
2008				
2009				
2010	2	1		
2011	4	1	5	
2012	4	2		1
2013	9	11		
2014	11	10	14	7
2015	4	5	9	3
2016	2	2	3	14
2017	1	1	1	8
2018	1	1	1	8
2019			1	9
2020				4
2021				1
2022				2
2023				3
Unknown	3	1	2	3
No data provided	24	27	30	3
Total	66	66	66	66

For 20 investment items, FID has already been taken or the deadline for the taking of the FID expired by the end of 2013. No delay is reported for the projects where FID was/is planned to occur in 2013 and 2014. For 8 investments, the FID is foreseen in the period between 2015 and 2018. For three LNG investments, the FID status is unknown and for 24 items no data regarding FID is available.

The start of the permitting procedure was reported in 38 cases, in 1 case the status is unknown and in 27 cases there is no data on the permitting status. For 19 investment items, the permitting procedure started within the 2004-2013 period. For further 10 items, the procedure is planned to



start during 2014. For investment items for which permitting procedure started or is planned to start by the end of 2014, no delays were reported. For 9 items, the permitting procedure is foreseen to start between 2015 and 2018.



Peak periods for FID were 2013 and 2014. Many projects (14) are scheduled for commissioning in 2016, and about 8 projects are expected to be put in operation annually from 2017 to 2019. One LNG project was reported by NRA as cancelled (LNG Terminal in Brindisi).

Last completed phase of LNG projects

Mainly based on TYNDP data 15 LNG projects have accomplished the planning phase, and 9 have completed permitting. 5 LNG projects have completed FEED and 2 should have already finalised construction. The NRAs reported delays for 15 of the 38 assessed projects.

Table 24 Last completed phase of LNG investment items

Last completed phase	Number of investment items
Procurement for construction, permitting	1
Construction	2
Feasibility studies	2
FEED	5
FID	5
Market test	7
Other/Specify	1
Permitting	9
Planned	15
Pre-feasibility studies	1
Preliminary design studies	3
Supply contract	4
Tendering	1
Unknown	7
No information provided	3
Total	66

ANNEX IV: MONITORING METHOD

The monitoring approach taken by the Agency contained the following main elements:

- a) The set-up of a database consisting of available data on all gas infrastructure projects as listed in the TYNDP 2013-2022, the PCI list of 2013, the GRIPs available in June 2014, and the NDPs submitted to the Agency;
- b) The development and the deployment of an online tool which provided NRAs access to the database and allowed NRAs to correct and complement the existing information, and to evaluate the projects for consistency and other parameters against a pre-defined set of indicators;
- c) The development, review, and publishing of the required monitoring output including this Opinion.

The TYNDP 2013-2022 implementation and consistency monitoring was applied in a “pilot” mode during the year 2014. Investment items in transmission pipelines, UGS and LNG facilities were covered by the survey. The Agency created and pre-filled the investment items database, designed and provided the on-line monitoring tool, and undertook the survey within which it collected data on gas infrastructure investment items as contained in the TYNDP, the GRIPs and the list of PCIs. Data were also collected from NDPs as provided by NRAs to the Agency by using the on-line tool. The database was posted online in a secure area and made available to the NRAs for the purposes of the survey. The NRAs were asked to check data for these investment items and provide the necessary updates and corrections, and to add any missing investment items and data. The monitoring activity was performed at a disaggregated level, looking at each investment item. Data were collected and checked by 19 NRAs until 25 June 2014. The NRAs provided essential input for the survey by assessing, updating and confirming pre-filled data or by submitting additional information on investment items.

A pre-defined set of indicators was provided in the on-line form for the survey. For example, the survey encompassed the status and the timing/progress of each investment item in line with the content of the monitoring of the implementation of gas network investments. The timing and progress were monitored *vis-à-vis* the passing of investment milestones, such as consideration phase, planning approval, preliminary design studies, market test, preliminary investment decision, permitting, financing and cross-border cost allocation (“CBCA”), final investment decision (“FID”), detailed design, tendering, construction and commissioning. Information on the last completed phase enables the identification of projects which remain in the same status *vs.* the last completed phase for a longer period of time.



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