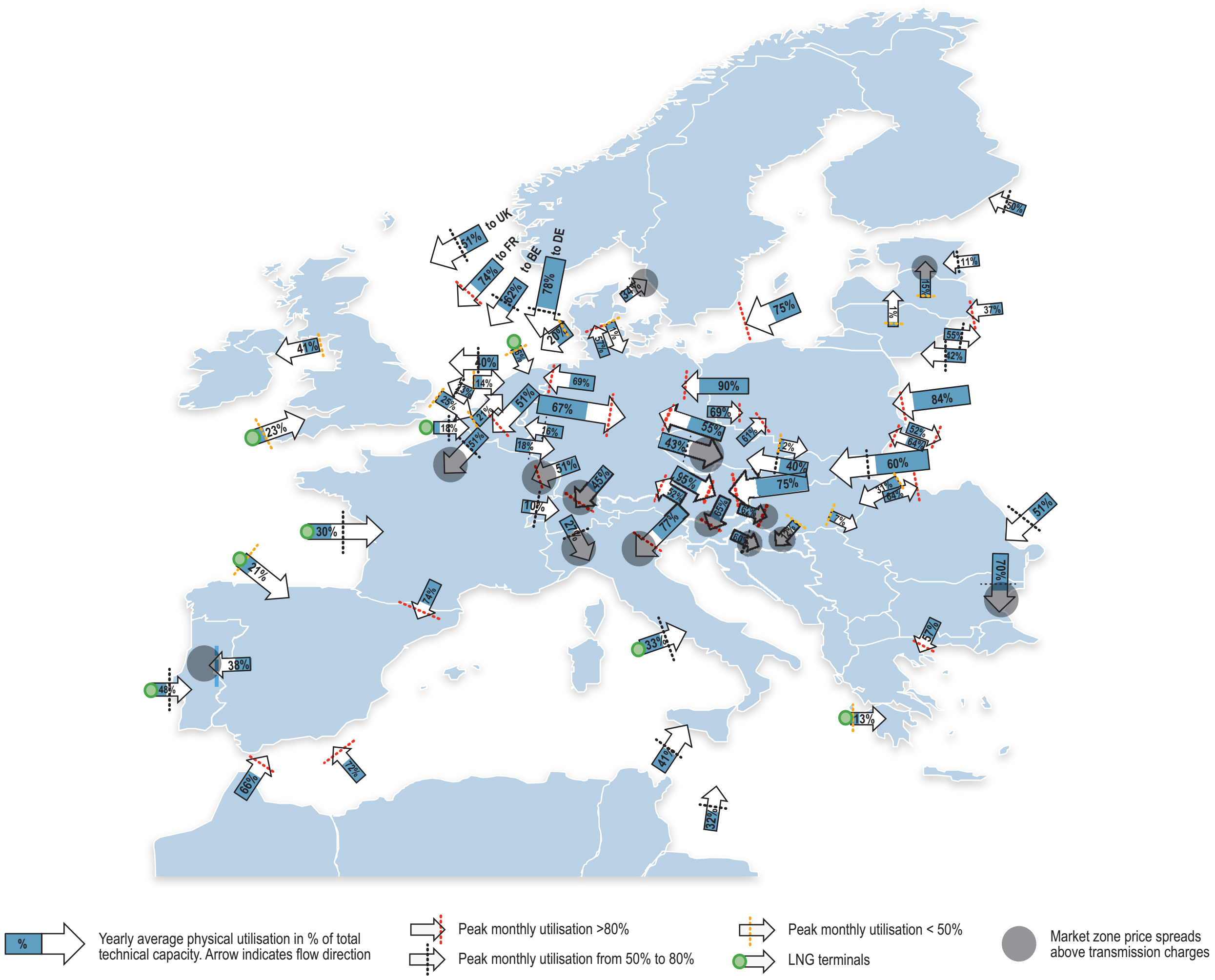
Figure 76: EU gas cross-border IPs physical capacity utilisation – 2013 (%)



Source: IEA, NRA data (2014) and ACER calculations

Note: Utilisation data refer to annual physical flows registered as a percentage of total technical capacity. Arrows (and circles) are depicted only if physical flows were registered in the indicated direction in 2013. Values represent the weighted average of all the IPs at each border. If they had occurred, swapping trades on certain bidirectional IPs could have signified higher contractual utilisation rates (i.e. the interconnector between Belgium and the UK, and between the Netherlands and the UK).

426 Building on the data presented in Figure 75 and Figure 76, Figure 77 present the potential net welfare gains that could be achieved by optimising the unused interconnection capacities between adjacent pairs of market zones maintaining price spreads above transmission tariffs in 2013. Calculations are presented on an aggregated yearly basis, but they were made by using monthly data on prices, capacity availability and gas demand per MS.

427 The prices that could be offered by a hypothetical new competitor entering the high priced market from the lower priced one are assessed by applying varying gross profit margins on the initial adjacent zones' price spread, including transmission charges. Two different percentages were considered: the new entrant selling gas with a profit equal to 25% and 75% of the existing price spread[291].

428 Unused capacities are also segregated in the assessment at two levels: total yearly aggregated unused physical capacity and technical minus peak-month idle capacity. Due to the fact that unused capacities are not uniformly distributed during the year, peak utilisation constitutes a relevant factor for inclusion in the analysis[292].

429 The pairs of MSs appraised on the x-axis of Figure 77 were selected on the basis of the co-existence of theoretically profitable price spreads between adjacent zones and coincident unused physical capacity. Some of the specified borders and flow directions over which the net welfare assessments were performed do not coincide with the predominant physical flow directions registered in 2013. In those cases, the capacity availability analysis was assessed on the basis of reverse flow capacity availability.

430 At some IPs, various factors may determine flow directions in the opposite direction to the one that the zonal price spreads would theoretically indicate as profitable. These include lack of liquid organised markets, lack of trading counterparts, contractual obligations on exact delivery points for supplies, gas resale restrictions, the extent of volumes or shippers' specific contract prices and individual market decisions.

431 For example, from the Czech Republic to Germany, or from Slovakia to Austria, real flows are driven by German and Austrian shippers importing high amounts of contracted Russian gas, side-stepping the adjacent zones' markets, which merely constitute a transit path. As an arbitraging trade would[293] in principle result in beneficial gas transactions in the opposite directions, these reverse directions are appraised for welfare calculations in Figure 77. In the case of the French-Spanish border, the overall wholesale prices assessed[294] signal that the profitable utilisation direction would be to France from Spain. However, factors such as the redirection of certain Spanish imported LNG volumes to more profitable Asian and Latin American markets, the lack of a liquid organised market in Spain, and/or the reliance on long-term contracts, may, in reality, determine the physically predominant direction as France to Spain. In these three cases, the available cross-borders capacities were appraised on the basis of reverse flow capacity availability values (see Figure 77 Notes).

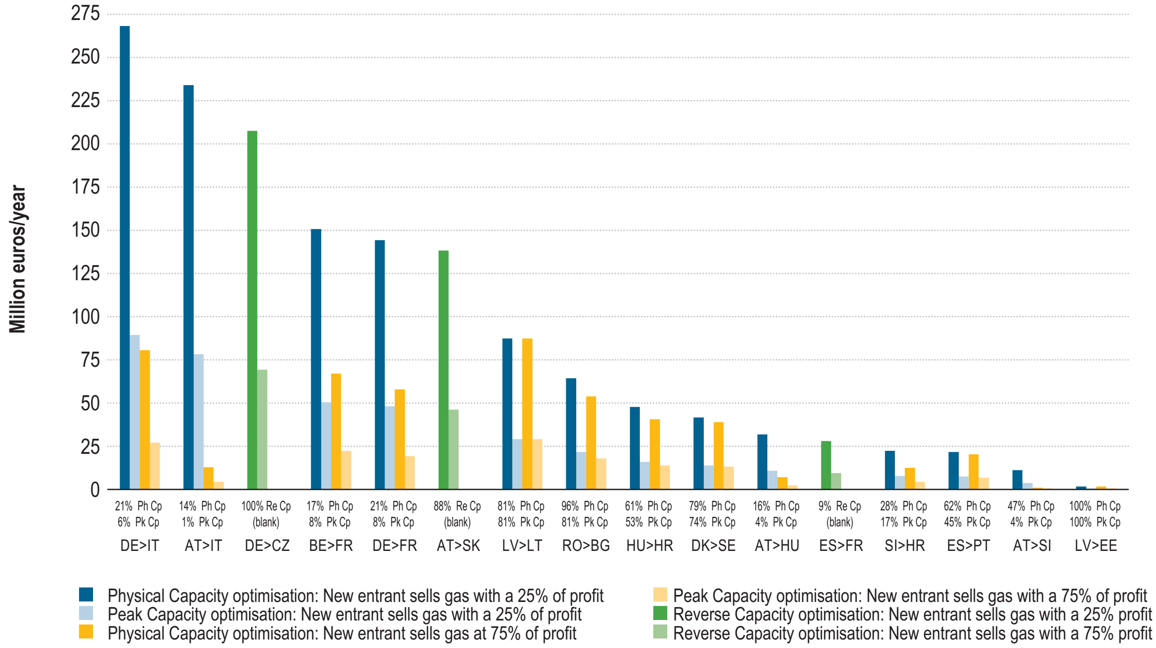
291 Example: MS A (the low exit price one) features a price of 27 euros/MWh and MS B (the high entry price one) a price of 30 euros/MWh. Transmission tariffs are set at 1 euro/MWh. Initial market zones price spread, including transmission tariffs is 2 euros/MWh. In the established scenario, the new entrant would buy gas in MS A, and pay transmission charges and sell the gas in MS B, applying the profit percentage on the initial price spread. This means that it would sell the gas either at a) 28.5 euros/MWh (25% profit: 27 + 1 + 2*25% = 28.5) or b) 29.5 euros/MWh (75% profit: 27 + 1 + 2*75% = 29.5).

292 IPs contractual values are in part determined by the peak utilisation levels during the year anticipated by shippers. The scenario assumes that the difference between the IPs total technical capacities and peak-month registered flows constitute a valid proxy of the physical available capacities that the new entrants could realistically use when entering a new market. Even if according to CMP provisions all contracted but unused capacities should be released in the secondary market on a daily basis (ST UIOLI for certain IPS), it is arguably true that longer-term certainty on capacity acquisition may be necessary for new entrants' when entering a new market. See: Annex I to Regulation (EC) No 715/2009, point 2.2 Congestion management procedures in the event of contractual congestion: http://www.entsog.eu/public/uploads/files/publications/CMP/2012/CMP%20annex%20final.pdf.

293 For example, the flow from Germany to the Czech Republic is mostly a transit from Nord Stream via OPAL to Gazelle, back into Germany via Waidhaus; nevertheless, there is also a growing tendency to commercially flow/swap gas into the Czech Republic.

294 In Spain, the reference price considered is based solely on the Eurostat Comext average declared import prices data (according to CNMC data, spot OTC trading is done in Spain at a higher price than the declared gas import prices). In France, it is mainly based on this very same source, complemented with short-term hub products' average prices. See Figure 73 notes. Individual shippers' specific prices and commercial decisions may affect the final IPs utilisation. The Agency and CEER do not have access to shippers' individual prices.

Figure 77: Potential annual net welfare gains in different EU MSs if cross-border physical unused capacities were fully utilised – 2013 basis, monthly aggregated (millions euro per year)



Source: IEA, Eurostat, Platts, ENTSOG (2014) and ACER calculations

Notes: Physical Capacities (Ph Cp) refer to the technical capacities minus the physical registered flows in 2013. Peak Capacities (Pk Cp) refer to the technical capacities minus the peak month flows. The percentage numbers at left indicate the share of total yearly MSs demand that could be supplied with the refered unused capacities. DE>IT (1) refer to capacities and agreggated transmission tariffs through Switzerland. Reverse flow capacities previously identified for the exercise are denoted as Reverse Capacities (Re Cp).

432 On the basis of these assumptions, EU welfare gains could be obtained of up to a maximum of 1.5 billion euros on an aggregated basis if all physical unused capacities were optimised and the pricing strategy adopted by the new market entrants resulted in a 25% profit (i.e. undercut the prevailing price spread plus transmission charges by 75%). This would be reduced to 0.5 billion euros if the pricing strategy resulted in a 75% profit (i.e. undercut the prevailing price spread plus transmission charges by 25%)[295]. Under the arguably more realistic hypothesis of technical minus peak-month unused capacities optimisation, and 25% profit percentage, the welfare gains upper limit would amount to some 0.9 billion euros (0.3 billion if the comprised profit were 75%). The differences in the results in the two scenarios put the significance of peak utilisation values into context.

433 Subject to the limitations of the modelling assumptions, this assessment shows that if the underutilised physical (direct or reverse) capacity were optimised, it could nearly supply as much as the total demand of Bulgaria[296], the Czech Republic, Estonia and Slovakia together, resulting in greater price convergence. To some extent, reverse flows have already been implemented between some of these markets, as pointed out in the next section.

295 In the implausible event that the new entrants obtained a 0% profit over the existing price spreads, the total EU welfare gains would be 2 billion euros, considering the optimisation of all physical unused capacities, and 1.2 billion euros considering the technical minus peak capacities case. The pricing strategies of the new entrants' effect on the total level of assessed EU welfare gains: new entrants' profits constitute in this sense a transfer to suppliers from the theoretical EU maximum gains.

296 Another caveat to be entered regarding the theoretical exercise is that in some zones, the current features of the network may not allow entry to the domestic supply market of an adjacent MS even if available cross-border transmission capacities were identified (e.g. entering Bulgaria from Romania would be affected by the fact that transmission and domestic networks are independently managed in Bulgaria, and flows mainly serve destinations beyond the country, such as Turkey and Greece).

434 On the basis of absolute values, the results indicate that again Italy and France[297] would stand to gain the most if their price convergence with adjacent zones increased. Again, this effect is accentuated by the large demand in both these MSs. In recent years Italy has achieved increased price convergence with other NWE hubs, and the implementation of auctions for cross-border capacity with Austria can be expected to increase price convergence further in the coming years, thereby realising some of the potential welfare gains.

Investment in new capacities

435 Creating new cross-border interconnection capacity usually entails significant capital investments. Nonetheless, if additional interconnection capacity can be shown to reduce supply constraints and facilitate competition, the benefits could exceed the costs, thus producing welfare gains. The identification and endorsement across the EU of potential projects that could have an impact on higher market integration and lower price formation driven by enhanced competition is being currently executed under the EU regulatory framework[298] governing the identification and development of priority corridors and projects of common interest (PCIs). This procedure involves all gas sector stakeholders. It entails the establishment of a methodology to assess projects benefits – cost-benefit analysis (CBA)[299] – and the institution of mechanisms for dividing costs among those MSs benefitting from the projects: cross-border cost allocation (CBCA)[300]. Figure 78 illustrates the locations of the proposed locations.

297 See Figure 73 notes.

298 Regulation (EU) No 347/2013 on guidelines for trans-European energy infrastructure. See: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:115:0039:0075:EN:PDF and PCI projects list: http://ec.europa.eu/energy/infrastructure/pci/pci_en.htm.

299 See: http://www.entsog.eu/publications/cba-methodology#CBA-METHODOLOGIES.

300 See: http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Recommendations/ACER%20Recommendation%2007-2013.pdf.

Figure 78: List of PCI gas projects

Source: European Commision (2014)

436 Some of the proposed projects connect market zones, which, on the basis of the 2013 static data analysis, have significant price differences. It would be misleading to suggest current price differentials are wholly driven by capacity constraints, but this suggests that several of the proposed PCIs have the potential to deliver significant welfare gains[301] if the projected savings from reduced prices exceed the net present value of investment costs.

437 Improved interconnections with adjacent, more liquid and lower-priced zones could achieve welfare gains in several EU MSs by introducing more price competition and a wider range of supply sources, but in order for these gains to be maximised, the development of efficient and functioning markets in all regions is essential. Efficient and stable hub price formation and market-oriented allocation and utilisation of capacities is crucial to allow gas to flow from lower-priced areas to higher-priced areas and thus to serve EU demand at least cost.

301 All other projects are intended to improve overall EU interconnection levels and may impact future price formation.

4.4 Improving the functioning of the internal market: removing barriers

4.4.1 Utilisation analysis of cross-border capacity

438 At a significant number of European cross-border points in 2013, a high percentage of IP capacity continued to be subject to long-term capacity contracts. Long-term capacity bookings play an important role in underwriting network investment decisions. However, when capacity is booked and not utilised, it can prevent shippers who want to flow gas, but who do not have long-term capacity rights, from accessing the system. Optimising the efficiency of capacity utilisation, and mitigating this contractual capacity congestion, is one of the main objectives of the Guidelines on Congestion Management Principles (CMP).

439 The *ACER 2013 annual report on contractual congestion at interconnection points*[302] concluded that contractual congestion is still a potential problem at a significant number of IPs, as at least one third of European IPs were found to be contractually congested[303] in at least one side in the last quarter of 2013. This was particularly the case in North-West Europe[304], but was also observed in Central Eastern and Southern Europe.

440 Utilisation levels of contracted capacity diverge significantly across Europe. At some IPs, contracted and utilised values are reasonably aligned. For different reasons, at other IPs, substantial differences exist between contractual values and actual utilisation[305]. The challenge is to ensure that unused capacity, whether or not strategically acquired, can and has to be easily returned to the market so that other shippers can use it.

441 This year, the Agency and CEER again analysed the issue of contractual congestion and physical capacity utilisation in a sample of the most relevant IPs in the EU[306]. Representative IPs were selected, providing a collection of the main gas flows throughout Europe. In some cases, appreciable differences between average contractual values and average physical utilisation rates were found, although contracted values are significantly determined by the annual peak utilisation levels anticipated by shippers.

302 See: http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/ACER%20Gas%20Contractual%20Congestion%20Report%202014.pdf. Also, the CMP Comitology report raised this issue prior to the ACER report. See: http://ec.europa.eu/transparency/regcomitology/index.cfm?do=search.documentdetail&aa8fTM56J8G1M3cAHteGgPYmCCSQ8RgFDLtuYd6SIvcxdbQ+AI/X9VTTMRqv00VG.

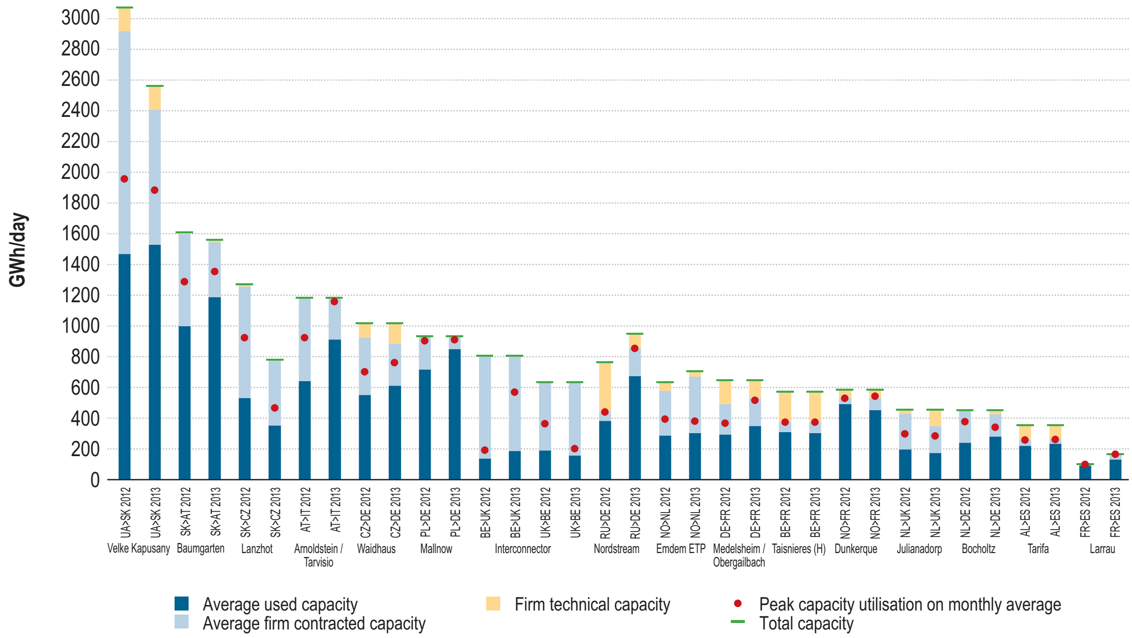
303 The report reviews the occurrence of contractual congestion in the light of the definition laid down in Regulation (EC) No 715/2009 and the CMP Guidelines. The purpose was to identify those IPs which would potentially be subject to the provisions contained in the CMP Guidelines (i.e. Firm Day Ahead Use it or Lose it). Some of the IPs identified as contractually congested could also be physically congested. At some IPs, congestion could not be identified, because the data was not available to do so. The report's conclusions should be treated with care, due to the short period and analysed and data quality issues.

304 Detection of contractual congestion in NWE was more significant than in other regions, arguably due to the better availability of data.

305 The reasons for existing differences between contractual and utilisation values are hard to substantiate in the absence of individual shippers' capacity contract data. Differences might give rise to a presumption of capacity hoarding in certain IPs in the absence of fully implemented congestion management procedures, but they may also be caused by the willingness of shippers to contract sufficient capacity to adjust their demand portfolios in the light of the renomination of flows. Other reasons may be that profiled bookings are not always as accessible or as cheap as yearly flat capacity. Finally, the difference may be also the result of the inconvenience of surrendering existing long-term capacity, particularly in the absence of other shippers willing to contract the surrendered capacities.

306 Only firm capacity is considered. Overall utilisation values are calculated on the basis of this (firm) capacity. Interruptible capacity is not considered.

Figure 79: Average used versus booked capacity at natural gas IPs in the EU – 2012–2013 (GWh/day)



Source: ENTSOG transparency platform and individual TSO data (2014) and ACER calculations

442 Based on the IPs considered, the average contracted firm technical capacity is 91% of total technical capacity, while the average utilisation rate is 60%, and the peak monthly utilisation value is 77%. The figures on capacity utilisation generally indicate that there is still some excess contracted capacity, but that, at times of seasonal peak demand, flows match technical capacity more closely.

443 As Figure 79 shows, the greatest divergences between contracted and utilised capacity were found at Slovakian IPs flowing gas from Russia (i.e. Velke Kapusany and Lanzhot). This was a result of reduced flows[307] through this route in combination with high levels of booked capacity. Other significant divergences are found at IUK (Belgium/UK) and Julianadorp (the Netherlands/UK), where both had highly contracted capacity levels, but much lower physical utilisation rates. These differences may be explained by shippers enacting balancing trades in both directions in order to take advantage of reverse flow possibilities. Noticeable capacity utilisation increases in 2013 compared to 2012 were detected at Baumgarten and Tarvisio, where more Russian flows are entering Austria and being redirected to Italy, and at Nordstream, as higher utilisation levels (see Figure 80), supported by developments in OPAL/NEL German pipeline capacity were registered in 2013.

307 Alternative supplies from Nord Stream have also affected technical capacity availability from Ukraine into Slovakia. In particular, Velke Kapusany has faced significant technical capacity reductions – almost a third – since 2011.

444 As noted above, a high percentage of IP capacity continues to be subject to long-term capacity contracts. Nevertheless, a new trend in capacity contracting has emerged in recent years (confirmed in 2013), which has seen a shift away from new long-term contracts in favour of more short-term capacity bookings. Data that confirm this trend can be seen in both the limited demand for long-term capacity revealed in the last PRISMA capacity platform yearly auctions, and the proportionally higher demand for short-term capacity products[308]. The move from long-term to short-term contracting could also be said to be reflected in the number of capacity contract terminations registered in medium- and long-term bookings in German bookable points[309].

445 The emergence of a trend towards shorter term-capacity contracting is likely to be driven by a number of factors, including, but not limited to: uncertainty over the medium- and long-term demand for gas, also in the light of environmental objectives; the relative price of long- and short-term capacity products; the functionality of secondary capacity trading; and the relative flexibility of being able to match short-term capacity bookings with gas flows. However, the existence of surplus capacity at a significant number of IPs could also be a factor: in the face of reduced gas demand and relatively low gas demand growth forecasts, market participants in many locations are aware that the risk of not obtaining capacity in the short term is relatively low.

446 As noted above, long-term capacity bookings are important for underwriting new network investment decisions. The framework for validating and securing new investments has been analysed in the Blueprint on Incremental Capacity and the proposed amendment to NC CAM[310]. The proposed model is intended to provide more transparency to market participants concerning the ways in which new and incremental capacity can be obtained, and gives priority to market-driven investments, meaning that investments will go ahead only if the value of financially binding future capacity bookings satisfies a proportion of the investment costs approved by the NRA. Since demand for incremental and new capacity will materialise only in locations where there is a perceived or real scarcity of existing capacity, the willingness of market participants to make longer-term capacity commitments in these locations would be expected to be materially different compared to locations with a demonstrable surplus capacity. In this sense, market fundamentals should determine stakeholders' interest in new projects.

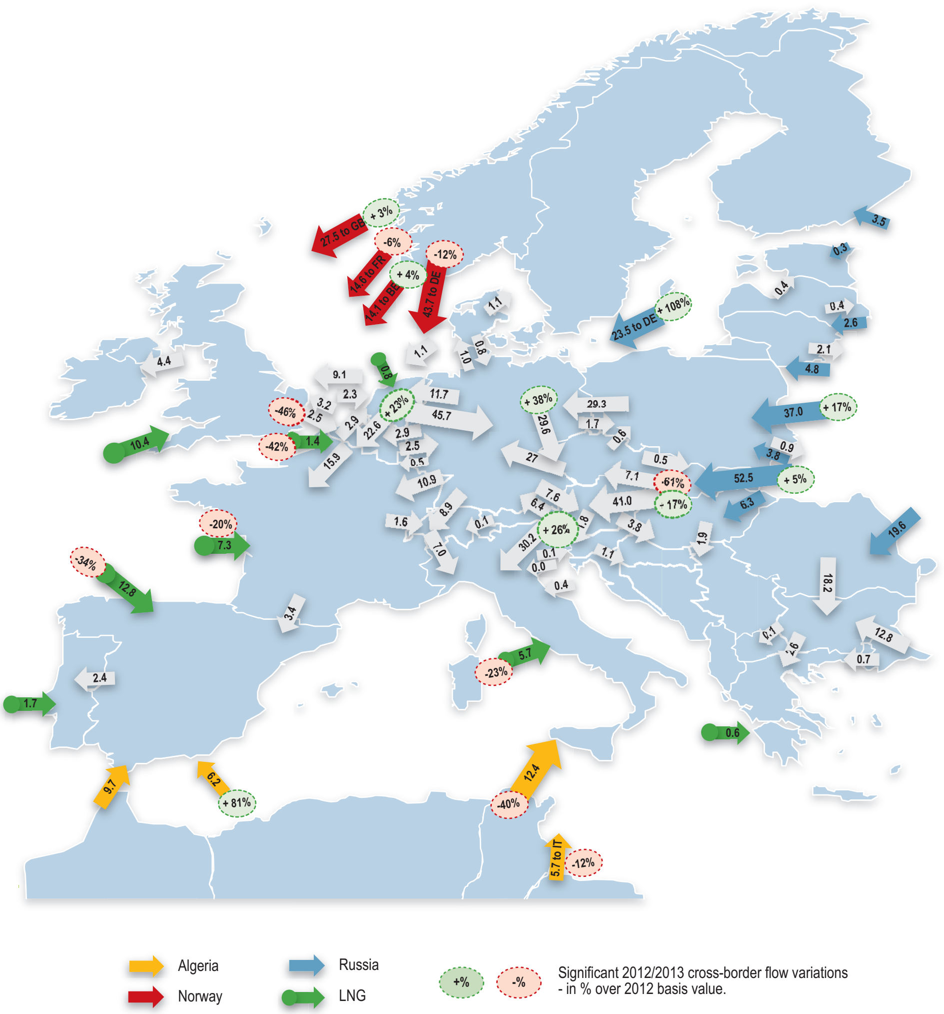
447 In relation to actual IPs capacity utilisation at the regional level, Figure 80 depicts flow variations across EU cross-border IPs between 2012 and 2013.

308 PRISMA-offered annual capacity contracted rates are quite low, even in the first years ahead. It is noticeable that the PRISMA platform auctions only the capacities of those IPs where capacity is available to contract. The number of IPs allocating capacity through PRISMA and the total volumes of aggregated capacity allocated via PRISMA are increasing. On the other hand, the PRISMA auction results indicate a higher capacity appetite for short-term profile products. The overall contracting trend profiles may be affectd by the possibility of surrendering existing flat-capacity contracts. See: https://platform.prisma-capacity.eu/trading/reports.xhtml?conversationContext=1.

309 Contract terminations in German IPs are possible only on the basis of the occurrence of tariff increases over a certain threshold or due to variations in the fundamental aspects of the contracts. See BKA 2013 Monitoring Report page 195: http://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Energie-Monitoring-2013.pdf?__blob=publicationFile.

310 See: http://www.acer.europa.eu/Gas/Framework%20guidelines_and_network%20codes/Pages/Incremental-Capacity.aspx.

Figure 80: EU cross-border gas flows in 2013 and main variations from 2012 (bcm/year)



Source: IEA (2014) and ACER calculations

448 Among the most significant year-on-year differences were: the increase in flows from Russia to the EU, both through Nord Stream and Eastern IPs; the reduction in LNG imports to the EU; the divergent trend in North African gas flows – flows from Magreb to Italy sharply declined, while flows from Algeria to Spain significantly increased; the increase in flows through Baumgarten into Italy; and the reduction of flows from GB to the Continent. The section below explains some of these developments.

i. Increase of Russian Nord Stream and Eastern flows

449 The Nord Stream pipeline is significantly affecting the traditional flow route of Russian gas into Europe. Nord Stream grants Russian gas direct access into NWE markets, enabling shippers who have contracted Russian[311] gas to better compete in EU gas trading hubs. The increase in supplies through this recent interconnector continued in 2013.

311 Nord Stream flow increases in 2013 may have been supported by developments in OPAL/NEL pipelines capacities.

450 In previous years, higher Nord Stream gas flows years reduced Russian flows through the Ukraine and Belarus into Central Europe. However, the increased willingness of Gazprom to renegotiate the pricing of its supplies, the need to replenish EU gas storage stocks after the low stock levels reached at the end of March 2013, and the significant rise in German gas demand in 2013 resulted in an overall increase in Russian westward supply levels. Growth has also been registered, for example, in Polish entry border flows, among other places. Overall Russian exports were also supported[312] by the disruption of Norwegian flows during the summer, and the drop of LNG imports.

451 Figure 80 also illustrates the increase in Russian flows through Austria and redirected flows from Austria to Italy. These flows were strengthened by the improvement in cross-border pipeline access conditions on the Austrian-Italian border, the Austrian CEGH transition to a VTP, and also due to the renegotiation of LT contract conditions in both MSs. These flows counter-balanced the decline in imports to Italy from Magreb as a consequence of political events in Libya.

452 Several Central-East European countries are striving to diversify their gas sources, in order to lower their dependency on Russian gas, and have been looking to Western Europe's spot markets as alternative sources. Larger counter-flows from Germany and Austria to the Czech Republic[313], Poland and Slovakia were observed, as shippers rely increasingly on German hubs to supply those markets. These commercial counter-flows are expected to increase in the future, given the profitable price spreads and the on-going procedures on security of supply obligations[314] to enable, or enlarge, bi-directional capacities. Flows from Poland and Hungary to Ukraine were also registered, as Ukraine faces significant price pressure for Russian gas and seeking alternatives supplies from Central European hubs[315].

ii. The effects of NBP and Continental hubs price convergence on gas flows

453 As liquidity and better price formation continue to develop at Continental hubs, the traditional lower price attractiveness – at least seasonally – of NBP declines. NBP versus Continental price differentials swing under particular seasonal conditions and supply-demand fundamentals. TTF is becoming an equally influential gas hub to NBP as an overall European reference, and this fact leads to an increase in physical flows into and from the Netherlands.

454 As Figure 80 illustrates, in 2013, flows from the UK to Continental Europe were further reduced and UK imports increased, counterbalancing the reduction of indigenous UK production and LNG diversion. This was in part due to the demand for gas to refill storage stocks following greater than expected depletion of stocks in the winter period at the start of the year. In addition, IUK maintenance works during June served to put downward pressure on NBP prices and to reduce exports during that month: as IUK exports normally account for a significant proportion of UK gas flows during the summer months, the outage meant this gas was confined to the UK market. On the BBL pipeline between the UK and the Netherlands, flows remained similar to 2012.

312 Aggregated Russian exports to Europe increased by 15% in 2013 to approx. 155 bcm. Source: IEA.

313 Most of the flow from Germany to the Czech Republic is a transit from Nord Stream via OPAL to Gazelle, back into Germany via Waidhaus. However, there is also a growing tendency to commercially flow gas into the Czech Republic.

314 Regulation (EU) No 994/2010 concerning measures to safeguard the security of gas supply. See: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:295:0001:0022:EN:PDF.

315 The Ukraine aims to attract flows by offering attractive storage prices in comparison to those in adjacent EU MSs.

455 Greater reliance on TTF's liquidity – and its advantageous price spreads – from neighbouring markets led to an increase of exports from the Netherlands, which was sustained by an increase in the country's indigenous production[316].

iii. A significant reduction in LNG deliveries to Europe

456 In 2013, there was a notable reduction (30%) again in European LNG imports. The very attractive market prices in the Far East and Latin America kept LNG away from European shores. The more competitive prices of pipeline deliveries and the diminishing demand in the Iberian and Italian peninsulas also contributed to this outcome. Another significant trend observed during the year in this regard was the diversion of European destined deliveries: GLE reports that 12% of overall EU LNG imports were diverted as reloaded shifts. In Spain, this resulted in much higher Algerian imports, and some increases in French pipeline imports.

4.4.2 Utilisation analysis of underground storage facilities

457 Gas storage plays an important role in meeting EU gas demand. Over the four winter periods December–February 2010/11 to 2013/14, gas storage withdrawals averaged approximately 19% of EU gas demand. In those MSs with the highest gas storage volumes[317], monthly gas storage withdrawals peaked at over 50% of gas demand.

458 Gas storage can be used in a number of ways: to meet base load demand and foreseeable seasonal swing requirements; to meet short-run peak requirements, including unforeseen supply disruptions (depending on technical characteristics); and, in countries with regulated storage, it can be used explicitly for security of supply reasons. Underground storage is mainly operated on a cyclical basis as base load to adapt to foreseen yearly seasonal demand, but all storage installations can react to price changes, depending on their technical characteristics and on the availability of a transparent wholesale price reference in the market concerned.

459 The annual gas storage cycle generally involves larger injection values and increasing storage levels during the spring and summer months in order to cover higher autumn-winter demand when gas is withdrawn. Storage gas is therefore not a primary source of gas supply, but because it allows the consumption of gas supplied in the summer months to be deferred, in effect it increases available gas supply over peak demand periods. Therefore, the availability of gas storage improves the liquidity of the gas market, potentially putting downward pressure on gas prices during these months.

316 However, Dutch production will be reduced in the coming years following the government decision to cut production by about a quarter, given the link between gas drilling and the increase in earthquakes in the region.

317 A map showing the location, technical characteristics and type of gas storage across the EU is available on Gas Infrastructure Europe's website. See: http://www.gie.eu/index.php/maps-data/gse-storage-map.

460 The correlation between demand and gas storage withdrawals is confirmed in Figure 81 which compares monthly gas demand with monthly gas storage withdrawals over the period October 2010 to March 2014. The data shows that storage withdrawals are highest during the winter peak demand months, i.e. December, January, February, and in the case of winter 2012/13, March, and lowest during the summer months. However, in recent years, storage stock levels and utilisation rates have shown significant variation: the stock level at the end of winter 2012/13 was significantly lower than in the preceding two years[318], while in winter 2013/14, gas storage withdrawal volume was much lower than in the preceding three years.

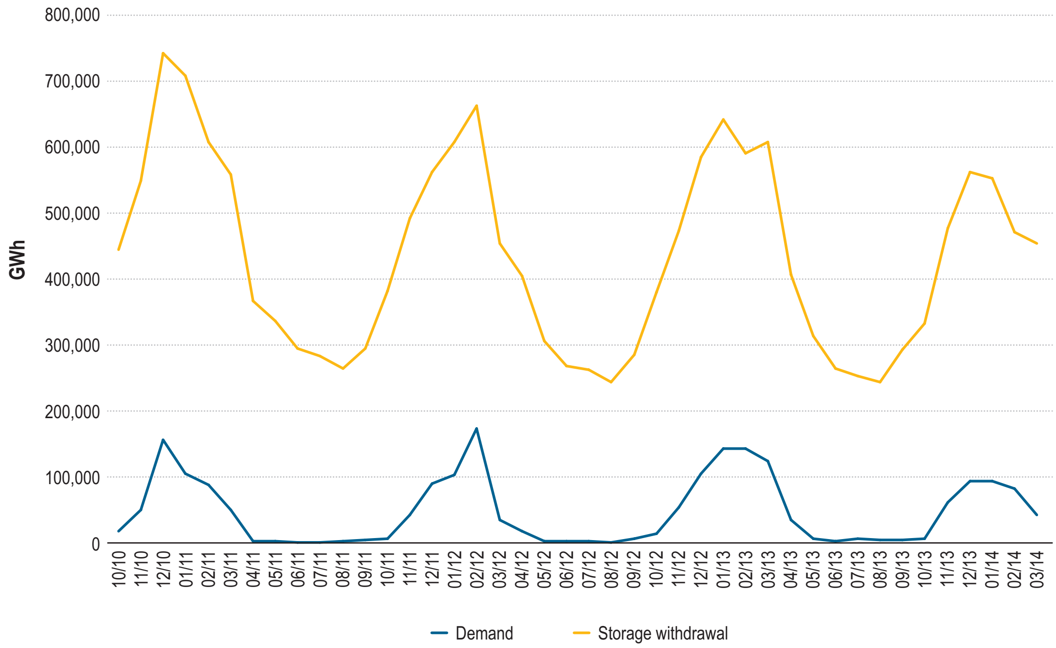
461 Decision making about the extent to which storage is used is based on a mix of economic, commercial and regulatory considerations. On the supply side, factors which can affect gas storage injection include: mandatory storage obligations at MS level, forward gas supply contracts held by gas storage users, storage capacity charges, transmission network tariffs[319] for putting gas into storage, as well as forecast winter-summer[320] gas price spreads. On the demand side, factors which can affect gas storage withdrawal include: regulation of gas storage prices at MS level, long-term gas storage contracts and the terms and conditions for the use of those contracts, transmission network tariffs for withdrawing gas from storage, the level of gas demand generally and the price of storage gas relative to spot prices and prompt prices. The balance between the factors affecting gas storage utilisation varies between MSs; therefore, specific gas storage utilisation rates at a MS level can be fully understood only within this context.

318 Concern about the low end-of-season stock level for winter 2012/13 was identified by CEER in its November 2013 interim report on ‘Changing storage usage and effects on security of supply’.

319 A transmission network tariff is usually paid to put gas into storage (exit capacity charge) and to take it out again (entry capacity charge). Different methodologies for calculating transmission tariffs for gas storage are currently used among MSs. In some MSs, tariffs for accessing gas in storage are discounted, while in others they are not. To harmonise the principles applying to the setting of storage tariffs, the Agency made specific provision for storage in its Framework Guidelines on harmonised transmission tariff structures. The FG specifies that in setting or approving gas storage tariffs, NRAs should consider, among other things, the economic benefits that storage may provide to the transmission system. The Network Code on transmission tariffs is under development by ENTSOG.

320 The winter-summer gas price spread at a given hub can be calculated as the difference between the average price for a given gas supply contract at that hub over the months October to March and the average price of the same contract over the months April to September. Where the price spread is expected to be low, the attractiveness of holding gas in storage is reduced because, all other things being equal, the margin between the price at which the gas can be sold at market (in winter) and the price paid for it (in summer) is reduced. Similarly, where an anticipated winter-summer spread does not materialise, demand for gas in storage is also reduced because the price saving in buying storage gas instead of at the hub is reduced.

Figure 81: EU-26 Gas demand versus gas storage withdrawal – 2010–2014 (GWh)



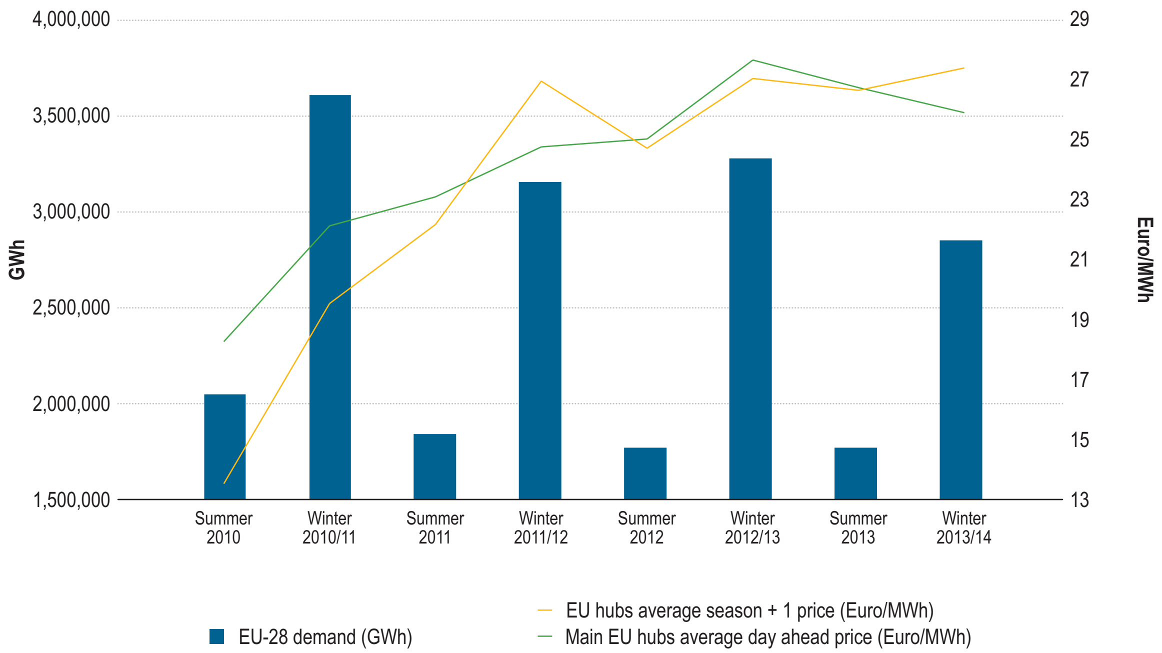
Source: Eurostat, Gas Infrastructure Europe (2014)

462 In theory, factors such as regulated storage obligations and the level of transmission network tariffs vary the least from year to year; therefore they would not be expected to explain EU-26 aggregate year-on-year gas storage changes. The materiality of commodity prices relative to other factors in the gas storage value chain suggests that the winter-summer gas price spread has a strong influence on aggregate gas storage utilisation. The section below investigates the relationship between recent trends in gas storage utilisation, gas demand, and a sample of aggregate winter-summer price spreads at the main EU hubs.

Understanding recent trends in gas storage utilisation

463 Gas injected into storage is likely to be supplied on a variety of short- and medium-term contracts. In turn, gas withdrawn from storage competes against a variety of short- and medium-term gas price contracts. Figure 82 compares seasonal average day-ahead gas prices for the main EU hubs[321], seasonal average 'season plus one'[322] gas prices for a selection[323] of the main EU hubs and EU seasonal demand over the period October 2010 to March 2014. A 'season plus one' contract and other medium-term gas price contracts allow gas users to hedge the risk of day-ahead gas price volatility. Comparing 'season plus one' prices alongside day-ahead prices allows some of the hedging effect to be factored into the analysis.

Figure 82: EU-26 seasonal demand and average seasonal day-ahead prices for the main hubs in Europe – 2010–2014 (GWh and euros/MWh)



Source: Eurostat, Platts (2014) and ACER calculations

464 The comparison shows significant variation both across winter seasonal demand and between prices. However, although average seasonal prices increased over the period, the winter-summer spread (calculated as the difference between the average winter price and the preceding summer price) of both day-ahead and season plus one prices shows a downward trend. The same is true for winter demand. For winter 2013/14, the winter-summer average seasonal day-ahead price spread was -0.85 euros/MWh (25.93–26.78 in Figure 82) meaning that gas was actually more expensive in the summer. Clearly lower winter demand, as a consequence of warmer temperatures in winter 2013/14 compared to winter 2012/13 contributed to this negative spread, but given that summer 2013 demand was still lower than winter 2013/14 demand, more benign supply conditions must have

321 Austria (CEGH VTP), the Netherlands (TTF), Italy (PSV), France (PEG), Germany (Gaspool and Net Connect Germany); UK (NBP); and Belgium (Zeebrugge).

322 A 'season plus one' contract is a contract to take gas at a given price for each day of the season ahead. The average 'season plus one' price for winter 2012/13 is the average of the prices paid for that contract on each day of the period 1 April to 30 September 2012.

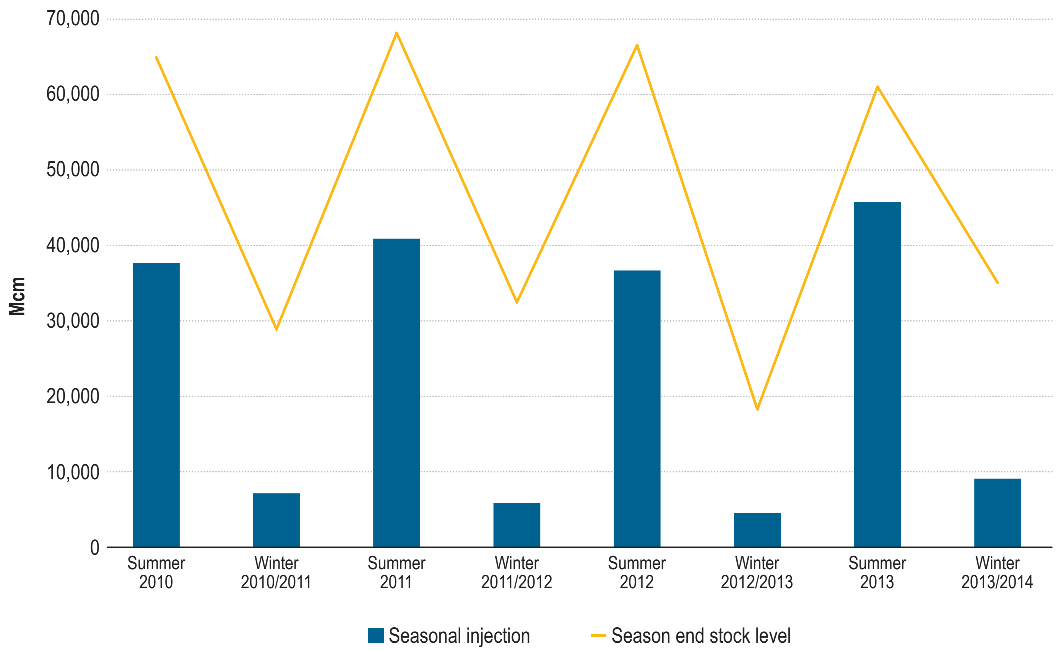
323 France PEG, Germany Gaspool, and Net Connect Germany, UK NBP; and Belgium Zeebrugge. Data for France PEG and German Gaspool was available from September 2011 only. Season plus one data was not available for Austria CEGH VTP, the Netherlands TTF or Italy PSV.

been the key driver. For seasonal average 'season plus one' prices, the effective winter-summer spread fell from 5.94 euros/MWh in winter 2010/11 down to 0.72 euros/MWh in winter 2013/14.

465 The data in Figure 81, considered together with the data in Figure 82, suggest a strong relationship between demand and the winter-summer price spread, and between the winter-summer spread and gas storage withdrawal volumes. The lowest and the highest demand seasons and winter-summer spreads are coincident (winter 2013/14 and winter 2010/11 respectively). Furthermore, when demand increased in winter 2012/13, so too did the average seasonal day-ahead gas price spread. Given that price spreads are a function of average gas prices, and that gas prices are determined when supply meets demand, this relationship is not surprising. If we assume that supply conditions are stable, reduced winter demand is likely to put downward pressure on winter gas prices, thus lowering the winter-summer price spread. Nevertheless, the data provide an important indication that if winter demand increases, the winter-summer spread is also likely to increase.

466 A strong relationship between winter-summer gas price spreads and gas storage withdrawals is also suggested by the fact that the year (2013/14) when the winter-summer gas price spread was the lowest coincided with the year when gas storage withdrawal volumes were the lowest, and by the fact that in 2012/13, when the day-ahead gas price spreads increased, so too did the total volume of gas storage withdrawals. However, it is important to note that gas storage withdrawal volumes are also likely to be a function of gas storage stock levels and gas storage injection volumes in the preceding season. Figure 83 compares end-of-season EU gas storage stock levels against aggregate EU gas storage seasonal injection volumes. The data shows a much lower end-of-season stock level for winter 2012/13 than for the other years in the series.

Figure 83: Gas storage seasonal injection versus end-of-season aggregate stock level – summer 2010 to winter 2013/14 (mcm)



Source: Gas Infrastructure Europe (2014) and ACER calculations

467 The figure shows a difference in end-of-season stock levels between winters 2012/13 and 2013/14 and a difference between the preceding summer seasonal injection volumes for both years. The seasonal injection volume for summer 2013 was much higher (24%) than for summer 2012, while gas storage withdrawals during winter 2013/14 were much lower (35%) than winter 2012/13.

468 Developments in winter-summer gas price spreads could also help explain trends in gas storage injection volumes and, therefore, in conjunction with withdrawal volumes, end-of-season stock levels. Average seasonal day-ahead hub prices in summer 2012 were slightly higher than in winter 2011/12. This relative flat-lining of day-ahead hub prices during 2012 may have lowered expectations of a significant winter-summer spread for winter 2012/13, which may have discouraged high gas storage injection volumes. In fact, the winter-summer day-ahead gas price spread for winter 2012/13 turned out to be higher than the preceding year. This, in combination with higher than expected demand in March 2013, is likely to have led to the withdrawal of the observed volumes and the consequential lower than average end-of-season stock level.

469 At the end of winter 2012/13, low end-of-season stock levels raised concern in some quarters regarding the adequacy of EU gas storage stocks. The end-of-season stock level for winter 2013/14 returned to the levels seen in winters 2010/11 and 2011/12, allaying these concerns, at least in the short term. This year, the most obvious question in respect of gas storage is whether the much lower withdrawal volumes in winter 2013/14 are likely to lead to a trend in favour of lower storage utilisation.

470 The data presented in this chapter would suggest that the answer to this will largely be a function of future trends in winter-summer hub price spreads. If winter demand returns to higher levels, or if EU gas winter supply conditions are tighter than in 2013/14, it is possible that aggregate EU winter hub prices will rise to the extent that storage gas becomes competitive, and gas storage injection and withdrawal volumes increase.

471 If the low winter-summer hub price spread trends endure, it is likely that gas storage utilisation rates will remain relatively low. If a higher winter-summer spread develops, as in 2012/13, it is likely that storage utilisation will respond. If lower spreads are a consequence of relatively benign supply conditions, then it is unlikely to present a short-term security of supply risk. If it is more as a consequence of subdued aggregate winter demand, security of supply concerns could arise as a result of demand-side shocks. Demand data for winter 2014/15 will provide more evidence to test this hypothesis, but it is important to note that although storage injection volumes in summer 2012 were low, and in March 2013 demand was higher than expected, at an aggregate level there was sufficient gas in storage to serve demand with a margin to spare.

472 As indicated above, a number of factors affect specific gas storage utilisation rates. However, given the importance of the winter-summer spread to the economics of gas storage, if winter-summer hub price spread reductions endure, the incentive to invest in new or existing gas storage facilities could be reduced. In its interim report on Changing Storage usage and effects on security of supply, CEER indicated that there is currently sufficient gas storage capacity to meet demand. However, investment lead times for delivering new gas storage capacity may not be able to anticipate an unexpected increase in gas storage demand; therefore, the monitoring of aggregate EU gas storage capacity trends would seem appropriate for security of supply reasons.

4.4.3 Cross-border transportation tariffs

473 Cross-border IPs transmission tariffs vary across the EU. The tariff level at a given IP is a function of the regulated revenues the TSO is allowed to collect (as determined by the NRA), technical factors[324], and the cost allocation methodology used to determine the proportion of the regulated revenue payable at each point on the network. Differences of approach are not necessarily problematic where tariffs derive from an objective and transparent methodology, although inconsistent tariff structures across Member States result in more complexity for cross-border transmission network users.

474 From a user's perspective, tariffs should reflect the cost incurred in providing the specific transmission service in such a way that cross-subsidies between users are minimised. From a regulatory perspective, tariffs are set[325] so that an efficient TSO will recover its costs. However, where tariff structures lack objectivity or do not reflect system costs, this can lead to discrimination, inefficient use of the transmission network, and potentially inefficient gas flows to the detriment of the internal market.

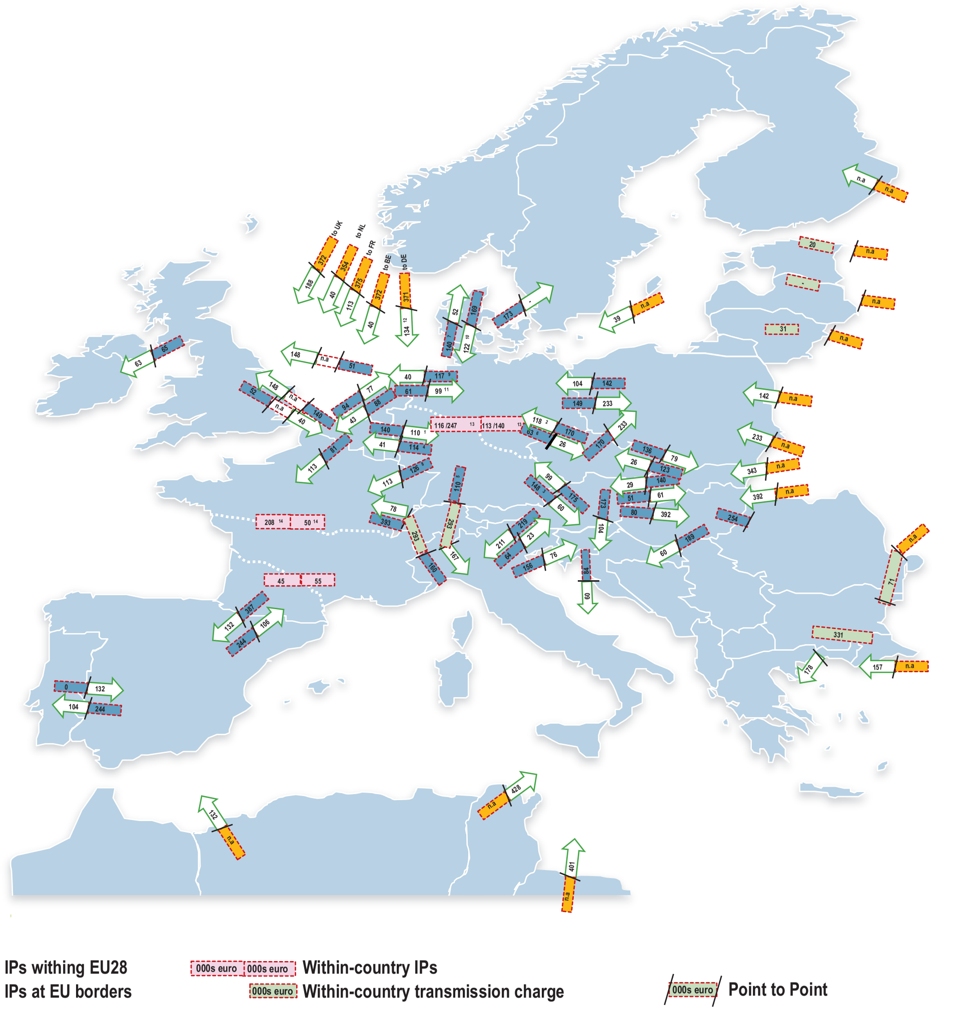
475 This year, the Agency and CEER again collected the EU-26 cross-border tariff information published by TSOs in order to identify variations in entry and exit transmission tariffs. While it is not within the scope of this report to make judgements about the structure of tariffs, it is apparent that pronounced differences[326] exist in terms of tariff magnitudes at EU borders, and sometimes within countries when multiple domestic zones are present.

324 Factors such as the geographical and topological characteristics of the network, the extension of the system, the terrain, climate, and general macro-economic conditions affecting investment costs; the initial investment cost, the age of the network, and the depreciation regime; NRAs/TSOs tariff-setting methodologies and TSOs cost allocation strategies and rules or demand and supply characteristics.

325 The core features and parameters when setting tariff structures are: the tariff setting period, the capacity/commodity split, the entry/exit split, the cost allocation methodology, the reference price, the revenue reconciliation mechanism, the reserve price, product multipliers, seasonal factors and, finally, the payable prices. See the ACER justification document on the policy options 'Framework Guidelines on rules regarding harmonised transmission tariff structures': http://www.acer.europa.eu/Gas/Framework%20guidelines_and_network%20codes/Documents/Justification%20document%20Policy%20Options%20for%20Harmonised%20Transmission%20Tariff%20Structures.pdf.

326 Again, these differences may be explained by the applied cost allocation methodologies and the technical factors of the network and do not necessarily mean that resulting tariffs are inefficient or do not reflect costs.

Figure 84: Average gas transportation charges through the EU-26 borders – 2013 (thousand euros)



Source: TSO and NRA data (2014) and ACER calculations
Note: Simulation of cross-border charges for flowing 1 GWh/day/year by entry/exit IP, based on published 2014 tariffs in March (in thousand euro). Average weighted charges by border, by TSO, and by IP capacity level.

Notes:

At those cross-border points featuring more than one IP – but with dissimilar tariffs – a single charge per border was estimated as the weighted average of charges according to offered capacity per IP and/or distinct TSO.

For example, cross-border flows in Germany can attract different charges, depending on the IP and/or TSO at the same IP. In Germany, cross-border tariff ranges for the assumed 1GWh/day/year flow may vary as follows (min/max in thousand euro):
1 BE to DE: 73/119
2 CZ to DE: 100/171
3 DE to AT: 95/184
4 DE to BE: 60/145
5 DE to CH: 69/183
6 DE to CZ: 105/145
7 DE to DK: 140/183
8 DE to FR: 124/145
9 DE to NL: 113/140
10 DK to DE: 110/207
11 NL to DE: 43/139
12 NW to DE: 108/159
"DE" above is used to refer to flows to/from Germany, although actual flows go to and from either German domestic zone (NCG or GASPOOL). See details on the German market zone to which each cross-border IP connects here: http://www.entsog.eu/maps/transmission-capacity-map

13 Range of min/max E/E charges to flow gas between TSO zones in Germany.

14 North to South/South to North; single E/E payment.

Between TIGF / GRTgaz Sud zones. Entry and Exit payments.

15 Transit charges, independent of transmission charges.

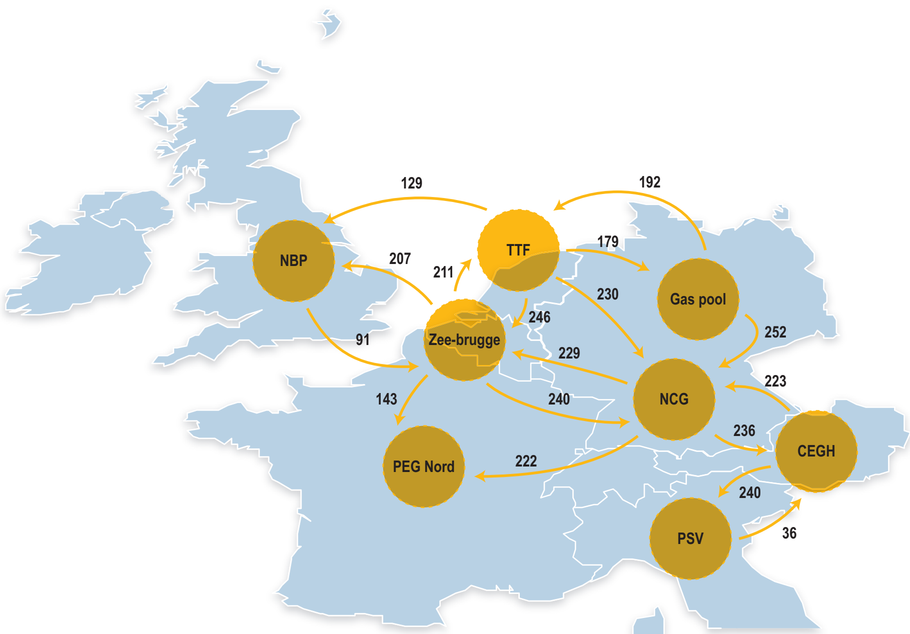
Charges for simulated flows were estimated on the basis of yearly contract duration, using units of measurement published by TSOs. In those cases where tariff units of measurement were not published on a yearly basis, a direct conversion was performed. At some IPs, different tariffs could apply to different capacity contracting periods, but this was not considered in this year's exercise. More details can be found in the Annex on EU27 IP tariffs.

476 When cross-border transmission tariffs are higher than wholesale market price spreads across border zones, there is in principle no economic incentive to trade gas between those zones, since the theoretical profit of the trade would not compensate the capacity payments. Where tariffs derive from an objective and cost-reflective cost allocation methodology, this could be said to apply an efficient constraint, to the extent that tariffs represent the system costs incurred in allowing the gas to flow. Where this is not the case, transmission tariffs can be said to negatively affect wholesale market integration.

477 As transmission capacity between zones has a cost, and must be paid for, arguably[327] the value of transmission tariffs constitute a barrier to full price convergence which should not be eliminated. Moreover, the fact that in a growing number of cases the value of transmission tariffs is higher than wholesale market price spreads may be another indicator that a high degree of price convergence (see Figure 72) has already been achieved.

478 Situations in which transmission charges are above price spreads[328] are increasingly frequent in new, as prices increasingly converge, because they are highly interconnected, feature liquid organised gas markets and generally apply capacity allocation mechanisms in accordance with the CAM NCs provisions[329]. Trade at these IPs may favour higher volumes, as the margins are becoming lower.

Figure 85: Number of days in 2013 during which transmission charges were above NWE hubs day-ahead price spreads



Source: Platts, ENTSOG (2014) and ACER calculations

Note: Calculations do not include VAT. Charges in exempted BBL and Interconnector IPs were not considered.

327 Considering only two zones with two differentiated wholesale prices – resulting on the zones demand/supply fundamentals – and a unique cross-border transmission capacity product with a single, fairly calculated charge.

328 At least among hubs' price references. Perhaps not so applicable to overall MSs wholesale price formation, also influenced by LT contract prices.

329 For example, BNetza 2014 Annual Report (page 143) signalling the higher price convergence over the course of 2013 among German NCG and Gaspool hubs with Dutch TTF, see: http://www.bundesnetzagentur.de/SharedDocs/Downloads/DE/Allgemeines/Bundesnetzagentur/Publikationen/Berichte/2014/140506Jahresbericht2013NichtBarrierefrei.pdf?__blob=publicationFile&v=2.

479 In some cases, cost allocation methodologies may result in transmission charges, which, as a result of the way in which certain categories of users are grouped, appear to favour one category or user or flow direction over another. Where this does not reflect costs, the effect could be the subsidisation of one category of user by another (domestic versus cross-border, or entry versus exit users, for example). Transmission tariff cross subsidies can lead to the inefficient use of transmission networks and, as indicated above, can cause inefficient cross-border gas trades.

480 To harmonise the approach to transmission tariff setting across the EU, the Agency published its framework guidelines on rules regarding harmonised transmission tariff structures[330] in November 2013. The FGs provides a set of harmonised rules which have transparency; non-discrimination, cost reflectivity and tariff stability at their core. The assessment of policy options[331] accompanying the framework guidelines provided some examples of how final tariffs may vary according to the application of one of the four[332] cost allocation methodologies permitted under the FGs, but the full impact on the level of cross-border transmission tariffs will not be known until the full development and implementation of the network code has been achieved.

481 Therefore, the Agency and CEER encourage timely and efficient implementation of the future NC on tariffs[333]. The Agency and CEER would also find it beneficial if the industry developed network access tariff comparisons, especially in Central-East and South-East Europe, where tariff comparisons (or even the availability of data) have been lacking so far. Such comparisons exist in electricity and other network industries. The Agency and CEER encourage ENTSOG to work together with individual TSOs to make price and, possibly, underlying cost benchmarking possible in the near future.

330 See: http://www.acer.europa.eu/Gas/Framework%20guidelines_and_network%20codes/Documents/outcome%20of%20BoR27-5%201_FG-GasTariffs_for_publication_clean.pdf.

331 See: http://www.acer.europa.eu/Media/News/Pages/ACER-assesses-policy-options-for-harmonised-transmission-tariff-structures-in-the-gas-sector.aspx.

332 Postage stamp; Capacity-weighted distance; Distance to the virtual point; Matrix. See footnote above.

333 In November 2013 the Agency submitted framework guidelines on harmonised transmission tariff structures to the Commission. The network code on harmonised transmission tariff is under development by ENTSOG.

4.5 Conclusions and Recommendations

482 This Chapter demonstrates that progress continues to be made towards the integration of the internal gas wholesale market. Price convergence between MSs – an important measure of the extent of market integration – has increased, principally as a result of increased price competition leading to more long-term contract renegotiations.

483 During 2013, the supply of Russian gas to the EU increased significantly. The main drivers of this development were the increased willingness of Gazprom to renegotiate the pricing of its supplies, the need to replenish EU gas storage stocks after the low stock levels reached at the end of the winter, and the significant rise in German gas demand. Russian exports were also supported by a disruption of Norwegian flows during the summer, and by the decline in LNG imports. Several Central-East European countries are striving to diversify their gas sources in order to lower their dependency on Russian gas, and have been looking to Western Europe’s spot markets as alternative sources. Larger counter-flows from Germany and Austria to the Czech Republic, Poland and Slovakia were observed. These commercial counter-flows are expected to increase in the future, given the profitable price spreads and the on-going procedures, driven by security of supply concerns, to enable or enlarge bi-directional capacities. Flows from Poland and Hungary to Ukraine were also registered, as Ukraine faces high prices of Russian gas and is seeking alternative supplies from central European hubs.

484 Despite significant advances, barriers to full market integration remain, including: lack of liquidity in many wholesale markets (ten MSs rely on a single country of origin for more than 75% of their supply); lack of transparency in wholesale price formation; the lack of adequate gas transportation infrastructure and the presence of long-term commitments for gas supply. These barriers and their implications were identified in the 2012 MMR report[334], and their presence continues in 2013, albeit to a varying extent in different regions.

485 The bundled allocation of IPs capacities, the synchronised implementation of CMP mechanisms, the implementation of balancing provisions and the implementation of interoperability arrangements are advancing in the majority of MSs[335]. The timely adoption of these measures, along with the full transposition of the 3rd Package, is expected to advance the integration of the internal gas wholesale market, leading to greater price convergence and, ultimately, lower gas prices for all EU gas consumers.

334 See: MMR 2012, page 229.

335 According to April 2014 estimates, CMP guidelines have been fully or partially implemented by 27 TSOs in 13 MS, regarding CAM, 23 TSOs from 8 MSs are active in PRISMA and 4 other MSs have launched pilot capacity allocation through auction projects. In regard to the Balancing NC, two MSs (Austria and the Netherlands) are fully compliant with the provisions, while four are working to incorporate them in 2015, and five more are expected to do so in 2016, according to the established schedule. Interoperability and Tariffs NCs have not yet reached the comitology stage.

5 Consumer protection and empowerment

5.1 Introduction

486 Electricity and natural gas help to fulfil basic needs, including nutrition, warmth and the ability to participate in economic and social life. For this and a number of other reasons, consumers in general, and household consumers in particular, should be protected in order to ensure continuous access to energy and functioning energy (retail) markets. Otherwise, the danger persists that consumers are unduly denied access to energy and may become economically, socially and culturally isolated as a result.

487 This chapter monitors household (end) consumer protection according to the provisions in the respective articles of the 3rd Package. This European legislation is also aims to provide effective energy laws which guarantee that the 'voice' of consumers is heard and taken seriously by energy companies and other market actors. In particular, Article 3 of the Electricity and Gas Directives[336], in combination with Articles 10, 11 and 12 of the Energy Efficiency Directive[337] outline a set of measures which aim to:

- provide essential and free information to consumers, including information on switching suppliers, metering and billing, their rights, current legislation and means of dispute resolution, to ensure their (full) participation in liberalised energy markets;
- define the concept of vulnerable customers and ensure adequate safeguards with respect to their protection on Europe's energy markets; and
- ensure a continuous supply of energy, especially in cases of vulnerability, including people living in energy poverty and poverty in general.

488 While the 2012 MMR assessed the level of compliance with the provisions for consumer rights in the 3rd Package, the 2013 MMR closely explores the underlying mechanisms of how EU law has been transposed into national legislation and, therefore, how the national legal frameworks protect final household consumers. A series of indicators measures how many consumers currently benefit from protection under the respective provisions from the 3rd Package in each country. The topics covered by this year's Consumers Protection and Empowerment chapter are as follows.

- Universal service in electricity, i.e. the right for consumers to be connected to the electricity grid, as well as the right to be supplied with electricity at reasonable, easily and clearly comparable, transparent and non-discriminatory prices. To ensure the provision of universal service, MSs may appoint an electricity supplier of last resort (SoLR) and restrict disconnections in specific circumstances;
- Likewise, MSs may appoint a gas SoLR for gas consumers who are already connected, despite the lack of a universal gas service obligation in the EU legislation. Again, MSs may define procedures to regulate and restrict the disconnection process for non-paying gas consumers;
- Vulnerable consumers: MSs must define the concept of vulnerable customers, which may refer to energy poverty and be associated, *inter alia*, with the prohibition of disconnection of electricity and gas supplies to such customers at critical times;
- Consumer information: MSs shall ensure high levels of consumer protection, particularly with respect to transparency regarding contractual terms and conditions, general information and dispute settlement mechanisms;

336 Article 3 of Directive 2009/72/EC and Article 3 of Directive 2009/73/EC.

337 Articles 10, 11 and 12 of Directive 2012/27/EC.

- Easy free of charge switching: MSs shall ensure that eligible customers are able, in practice, to switch easily to a new supplier. For household customers, this must include measures such as (pre-) contractual information, and, among other things, up-to-date information about applicable prices, tariffs and charges, and how to complain and/or settle disputes; and
- Complaint handling and dispute settlement: MSs shall ensure that an independent mechanism such as an energy ombudsman or a consumer body is in place in order to ensure efficient treatment of complaints and out-of-court dispute settlements. Single points of contact shall provide consumers with all necessary information concerning their rights, current legislation and the means of dispute settlements.

489 In view of the above this chapter assesses: the elements of consumer protection (Section 5.2); consumer complaints (Section 5.3) and consumer access to information (Section 5.4). This chapter concludes with a recommendations section (Section 5.5).

5.2 The elements of consumer protection

490 The need for stronger consumer rights is mentioned in the Electricity and Gas Directives. Articles 3, 37 (electricity) and 41 (gas) and Annex 1 of these Directives particularly focus on protecting and empowering consumers, while assigning detailed monitoring duties and powers to NRAs. Importantly, "helping to ensure […] that the consumer protection measures […] are effective and enforced"[338] is one of the duties outlined for regulatory authorities.

5.2.1 Supplier of last resort and disconnections

491 According to the Electricity Directive[339], consumers have the right to be supplied with electricity of a certain quality within their territory at reasonable, easily and clearly comparable, transparent and non-discriminatory prices. To ensure that this provision of universal service is met, MSs can appoint a SoLR. Although the Gas Directive[340] states that MSs may appoint a SoLR for customers connected to the gas grid, no universal gas service obligation exists. However, neither the Electricity nor the Gas Directive specifies the functions of a SoLR. For instance, the SoLR could step in to provide energy to those consumers who have not actively chosen a supplier on the liberalised energy market. Alternatively, the SoLR could be called upon to supply those consumers whose current supplier fails to do so, becomes insolvent or in other extenuating circumstances.

492 Table 5 below presents the various functions of national SoLRs as currently implemented in MSs according to national legislation. Generally speaking, the SoLR obligation has been transposed into national legislation in all MSs with the exception of France (electricity) and Bulgaria, France, Greece and Slovenia (gas). The various mechanisms have various functions, which may be roughly classified into three broader types.

- Firstly, the SoLR may support the consumer in the case of payment difficulties (options A and B in Table 5): for instance, in 16 countries, the electricity SoLR supports consumers if they cannot find a supplier in the market (the case in 9 countries in gas). In addition, in eight countries (six for gas), the SoLR takes over supply if a consumer is dropped by their current supplier;

338 Article 37(1)(n) of Directive 2009/72/EC and Article 41 para 1 (o) of Directive 2009/73/EC.

339 Article 3(3) of Directive 2009/72/EC.

340 Article 3(3) of Directive 2009/73/EC.

- Secondly, the SoLR mechanism may cover cases of supplier failure, e.g. bankruptcy or license revocation (options C, D, and E). As can be seen in Table 5, this is the main function of the SoLR for both electricity and gas across most MSs; and

- Thirdly, the SoLR can be seen as supporting inactive consumers (options F, G, and H), i.e. consumers who have not actively chosen a supplier following market opening, when moving house or after any temporary contract expires. While in some countries a so-called default supplier takes over in this case (e.g. Germany, Poland), this nevertheless covers an important consumer protection mechanism, which is covered here under the SoLR terminology as well.

493 It should be noted that customer supports may fall under a MS's broader (than energy) social protection and social security mechanisms rather than specific provisions within the energy market, such as those provided by the Supplier of Last Resort or default supplier. For example, a previous status review published in 2009 by CEER on the definitions of vulnerable customer, default supplier and supplier of last resort (E09-CEM-26-04) found that: "Almost all countries have support systems, not specific to the energy sector, for customers on low income or financially weak customers. The support systems mainly consist of financial support such as social allowances".

Table 5: Functions of the supplier of last resort in MSs – 2013

		# Countries Electricity	# Countries Gas
A.	If a final household customer does not find a supplier on the market (no energy supplier is willing to sign a contract with the customer)	15	8
B.	If a final household customer is dropped by its current supplier because of non-payment	7	5
C.	The current supplier of the final household customer has gone bankrupt and is no longer doing business	26	17
D.	The license of the current supplier has been revoked	20	16
E.	The license of the DSO has been revoked	4	2
F.	If a final household customer does not choose a supplier when moving home	10	6
G.	If a final household customer does not choose a supplier at market opening	12	8
H.	If a fix-term supply contract expires	9	6
I.	There is no supplier of last resort in the country	1	4

Source: CEER Database, National Indicators (2014)

Note: 28 jurisdictions covered. The question that was posed: "In what circumstances may final household customers turn to the "supplier of last resort" to ensure their continuous energy supply? Multiple answers possible."

494 In most MSs, the SoLR mechanism fulfils more than one of the aforementioned functions. Table 6 shows the country-specific functions of the SoLR according to the data available. In some countries (e.g. Cyprus and Romania), data suggests that all consumers were supplied by a SoLR, while in other MSs, no consumer was supplied by the SoLR in 2013, mainly due to the more limited function of the SoLR and/or absence of any events requiring their intervention. Due to this variability in functions, the numbers of consumers supplied by the SoLR remain generally incomparable across MSs, since they cover a range of different situations.

Table 6: Types of supplier of last resort in the EU – 2013

Country	Electricity			Gas		
	Supporting customers with payment difficulties	Replacing failing supplier/DSO	Supplying inactive customers	Supporting customers with payment difficulties	Replacing failing supplier/DSO	Supplying inactive customers
Austria	X	X		X	X	
Belgium	X	X		X	X	
Bulgaria	X	X	X		No supplier of last resort	
Cyprus	X	X	X		Not applicable (no gas)	
Czech Republic		X			X	
Denmark	X	X	X	X	X	X
France			No supplier of last resort			
Germany	X	X	X	X	X	X
Estonia	X	X	X	X	X	X
Finland	X	X			X	
Great Britain		X			X	
Greece		X	X		No supplier of last resort	
Hungary		X			X	
Ireland		X			X	
Italy	X	X	X	X	X	X
Latvia		X			Data not available	
Lithuania	X	X	X		X	
Luxembourg		X	X		X	X
Malta		Only one supplier of electricity			Not applicable (no gas)	
Norway	X	X	X		Not applicable (no gas)	
Poland		X	X			X
Portugal	X	X		X	X	
Romania	X	X	X	X	X	
Slovakia		X			X	
Slovenia		X			No supplier of last resort	
Spain	X	X	X			X
Sweden		X	X	X	X	X
Netherlands		X			X	

Source: CEER Database, National Indicators (2014)

495 The EU Directives[341] also foresee circumstances in which disconnecting consumers in case of non-payment may be restricted. Since disconnections are in strong contrast to the right to be supplied with energy once connected to the grid, consumers may be disconnected only when a) there is a good reason; b) they have been adequately informed about the intended disconnection in advance; and c) they have also been informed about ways to prevent a scheduled disconnection. While the aforementioned Directives specify that a prohibition to disconnect a consumer may be an adequate means to secure the energy supply of vulnerable customers at critical times, there is no further detailed explanation regarding the circumstances in which disconnections may be an appropriate action for energy service providers to take.

341 Directives 2009/72/EC and 2009/73/EC.

496 Here the minimum notice (and procedural) period to disconnect a consumer from both a legal and practical perspective is assessed by exploring the minimum number of days from the non-payment of a bill or monthly instalment on its due date to the date of disconnection (days for delivery of mail or notice were been counted, and any action on behalf of energy companies was assumed to be immediate). It should be noted that many MSs have difficulties determining the precise duration of the disconnection process. Therefore, the data available here should be considered with some caution; most NRAs provided their best estimates of the actual (in practice) duration of the process.

497 Table 7 illustrates the considerable legal differences between countries in terms of disconnection periods; for approximately half of the countries, the same disconnection period applies for electricity and gas within the same MS. For instance, while the disconnection process must take at least 200 days in Flanders (Belgium), consumers may be disconnected in less than a month in several countries, including Austria, Bulgaria, Cyprus, Great Britain, Italy, Lithuania, Portugal, Slovakia and Slovenia. In Estonia, the duration of the disconnection process is considerably extended in cases of vulnerability, e.g. from 15 to 90 days. In Norway and the Netherlands, self-binding agreements establish a certain minimum duration which is not legally enforceable. In some countries, different process durations apply for electricity and gas disconnections, with the most marked example being Greece, with a 70-day notice period for electricity and 15 for gas.

Table 7: Minimum duration (in days) for the disconnection process for non-paying consumers across MSs in both electricity and gas

Duration of disconnection process in case of non-payment (in days)		
Country	**Legal**	**In practice**
Austria	29	more than 29
Belgium	~ 200 (Flanders), 65 (Wallonia), 57 (Brussels)	-
Bulgaria	10[1] / 20[2]	more than 10[1] / 20[2]
Croatia	60[1]	60[1]
Cyprus	23[1]	23[1]
Denmark	Not specified in law[1]	90
Estonia	15 or 901 / 7 or 452	15 or 90[1] / -[2]
Finland	35	35[1] / -[2]
France	35	45
Germany	31	more than 31
Great Britain	28	80
Greece	70[1] / 15[2]	70[1] / 15[2]
Hungary	60	-
Ireland	*	*
Italy	23	more than 23
Latvia	30[1]	more than 30[1]
Lithuania	15	15
Luxembourg	60	-
Netherlands	**	60
Norway	**[1]	63[1]
Poland	44	50
Portugal	20	20
Romania	45	45
Slovakia	10	10
Slovenia	23[1] / 15[2]	-
Spain	104[1] / 60[2]	-
Sweden	35[1] / 40[2]	-

Source: CEER Database, National Indicators (2014)

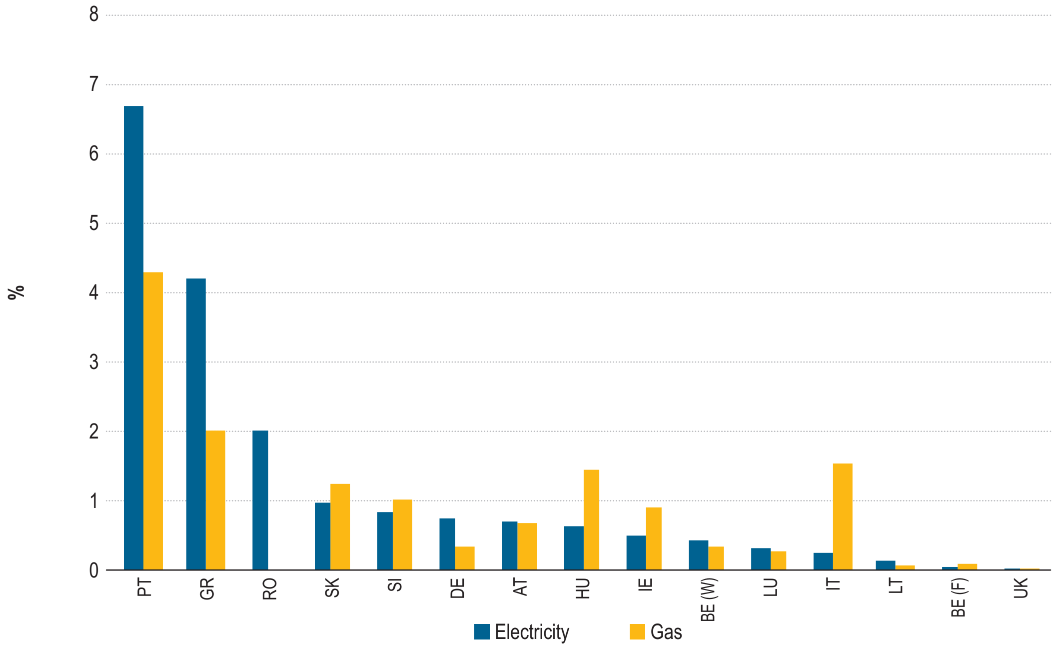
*Notes: [1] electricity; [2] gas; – not available; * although no days are mentioned, there is a complex procedure in place which suggests a duration of 30 days or longer; ** self-binding agreements in industry, not legally enforceable.*

Question: How many days (at least) does it take to disconnect a final household customer from the grid because of non-payment in your country?

498 Since energy service providers also have different policies concerning disconnections, which are not always made transparent, the actual duration of a disconnection may take considerably longer in a number of MSs. For instance, actual disconnection may take (significantly) longer than legally required in Austria, France, Germany and Great Britain. However, some NRAs also point to a lack of data on the exact duration in practice.

499 Finally, Figure 86 illustrates the share of consumers disconnected due to non-payment of bills in countries where data on disconnections are available. As can be observed, only half of the MSs' NRAs are unable to provide information on the number of disconnections in electricity and gas, despite their monitoring duty mentioned in both the Electricity and Gas Directives (Articles 37 para 1 (j) and 41 para 1 (j) respectively). Disconnection rates are lowest in Great Britain (<0.1%) which in part reflects a policy favouring the installation of prepayment meters over disconnections in cases of non-payment, and strong non-disconnection protections for vulnerable consumers. Meanwhile, disconnections reach up to 6.7% of all electricity metering points for Portuguese households in 2013. While disconnection rates are below 1% in Great Britain, Luxembourg, Austria, Ireland and Slovenia, they rise above 4% in Greece (in electricity only) and Portugal.

Figure 86: Share of disconnections due to non-payment in % of household consumer metering points – 2013



Source: CEER Database, National Indicators (2014)

Notes: figures from electricity disconnections in Austria are estimates; the figures for Slovakia include other reasons for disconnection. BE(W)=Wallonia in Belgium; BE(F)=Flanders in Belgium. MSs not shown in the figure were either unable to provide any data or do not (yet) know the number of disconnections in 2013.

500 To conclude, the consumer provisions from the 3rd Package covering SoLR and restrictions on disconnections from the grid have been widely implemented in national legislation. While SoLR mechanisms have been established in almost all countries, there are considerable differences in their functions across MSs. The main function of current SoLR provisions can be seen in the takeover of supply in case of supplier failure. However, numerous MSs also foresee a SoLR to support economically weaker consumers, as well as inactive consumers, although this is labelled default supply in some countries. Having said that, it should be noted that customer supports may fall under a MS's broader (than energy) social protection and social security mechanisms rather than specific provisions within the energy market; such as those provided by the Supplier of Last Resort or default supplier.

501 As for disconnections, up to 6.7% of Portuguese electricity customers were disconnected in 2013. While the disconnection rates are considerably lower in other countries, no systematic differences in the disconnection rates between electricity and gas were detectable in the countries examined. Despite a monitoring duty of disconnection rates in the 3rd Package, only 13 NRAs were able to provide information on disconnection rates.

502 Most MSs have specified a legal minimum duration for the disconnection process for non-paying consumers. This period varies considerably across MSs, ranging from 10 to 200 days based on (estimated) data submitted by NRAs. However, there is considerably less information available on the actual duration of disconnection processes, as energy service providers exercise some liberty in deciding whether or not to disconnect their customers in the first place. Here, NRAs are less informed about the practicalities of disconnections, which may also vary within countries because of different company policies. Nevertheless, available figures indicate that the actual duration of a typical disconnection due to non-payment may be considerably longer than legally required.

5.2.2 Vulnerable consumers

503 According to Article 3 of the Directives[342], MSs must ensure that there are adequate safeguards in place to protect vulnerable customers. In this context, each country must define the concept of a vulnerable customer, which may refer to energy poverty and, *inter alia*, to the prohibition of disconnection of electricity and/or gas supply to such consumers at critical times.

504 The concept of vulnerable customers refers to important information with respect to protected groups of consumers and specific protections. When assessing consumer protection under the lens of vulnerability, a first step is to gauge the various systems of protection of (vulnerable) consumers across MSs. However, given the various approaches to social security and other protection mechanisms across MSs, the interpretation of what it means to “define the concept of vulnerable customers” has taken different forms. On the one hand, MSs may define the concept in explicit terms, that is, the legal and/or regulatory frameworks clearly state the criteria of vulnerability. Existing definitions may rely on personal characteristics to differentiate vulnerable consumers from others, such as age, health, disability status and so on. In other cases, an explicit definition of vulnerable consumers may refer to specific situations, such as unemployment, times of economic crisis and so on.

505 On the other hand, existing legal and/or regulatory frameworks may protect such consumers in different ways, even without specifying vulnerability in more detail. Importantly, MSs may argue that their existing energy-specific, social or other protection mechanisms already protect these groups of consumers as intended in the aforementioned Directives. In such cases, the concept of vulnerable customers may be described as inherent to, or implicit in, existing social protection and social security mechanisms in a given country. For instance, in Austria or Germany a series of more general social security measures protect specific groups of citizens, also covering their energy affairs, even without using the terminology of vulnerability.

506 Results indicate that in 13 out of 26 MSs for which data are available, the concept of vulnerable consumers is explicitly defined; in another 12 countries, vulnerable consumers are defined implicitly. Only two NRAs (Latvia and Norway) state that a definition of vulnerable consumers is not (yet) available in their country.

342 Directives 2009/72/EC and 2009/73/EC.

507 While the vast majority of MSs have defined the concept of vulnerable customers, MSs might take different approaches to protecting these groups of consumers. Therefore, a closer look at specific protection mechanisms is needed to grasp the kind of support available to these consumers. The measures implemented most often to protect vulnerable consumers are restrictions to disconnection due to non-payment. Such a protection mechanism is in place in 16 out of 23 MSs (electricity) and 11 out of 21 MSs (gas). Other popular means to support vulnerable consumers throughout Europe are special energy prices (aka social tariffs) and earmarked social benefits to cover energy costs. Support mechanisms such as a certain amount of free energy or exemptions from specific cost components of energy are rare. While national suppliers may offer some types of repayment plan (i.e. deferred payment), a consumer's right to deferred payment is also not widespread across MSs.

Table 8: Measures to protect vulnerable customers in the EU – 2013

		# Countries Electricity	# Countries Gas
A.	Restrictions on disconnection due to non-payment	16	11
B.	Earmarked social benefits to cover (unpaid) energy expenses	9	7
C.	Special energy prices for vulnerable customers (also known asocial tariffs)	8	5
D.	Additional social benefits to cover (unpaid) energy expenses (non-earmarked financial means)	4	5
E.	Free energy-saving advice to vulnerable customers	3	3
F.	Right to deferred payment	2	3
G.	Exemption from some components of final customer energy costs (e.g. energy price, network tariffs, taxes, levies…)	2	2
H.	Financial grants for the replacement of inefficient appliances	2	2
I.	Free basic supply of energy	1	1
J.	Replacement of inefficient basic appliances at no cost to vulnerable households	1	1
K.	Other	5	9

Source: CEER Database, National Indicators (2014)

Notes: 26 jurisdictions covered. Question: "What are the specific safeguards to protect vulnerable customers to ensure their necessary energy supply in your country?"

508 While Table 8 shows a diversity of approaches to how vulnerable consumers are protected, any comparison between MSs on these protections must also take into account substantial differences in the meaning of vulnerability. Nevertheless, a closer examination of the prevalence of vulnerability, that is, the number of vulnerable consumers in a country, gives a first impression about this kind of protection offered in the energy sector. While MSs with implicit definitions often report being unable to "count" these groups of vulnerable consumers, countries with explicit definitions of vulnerable groups of consumers mention fewer difficulties in reporting. Figure 87 illustrates data for 12 MSs (electricity) and 6 MSs (gas) which were able to report on the number of vulnerable consumers in their country. While shares of vulnerable consumers are close to zero in Slovenia and Lithuania (and Greece for gas only), the percentages of vulnerable electricity consumers in Romania, Greece and Malta are higher than 10%. However, due to the vast differences in the definition of the concept of vulnerable customers, national differences in the social security system, varying benefits in the energy sector and/or economic conditions at the time, the reported numbers of vulnerable consumers are of very limited comparability. For these reasons, therefore, it is not possible to draw any cross-country comparisons from this data.