

## Italian Energy Strategy 2017: outlook for power and gas

### The Italian government published its new energy strategy on 11 May.

This white paper analyses what the strategy means and how the Italian power and gas markets may evolve over the next few years. All articles are taken from the Argus European Electricity report or Argus European Natural Gas report.

#### Highlights

- Italy to hasten the end of power sector coal use
- Italy may install new FSRU: Calenda
- Italy to go ahead with liquidity corridor: Calenda
- Italy to focus on reducing PSV gas premium: Calenda
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### Italy to hasten the end of power sector coal use

Italy's new national energy strategy could lead to a faster phase-out of coal from the power generation mix, economic development minister Carlo Calenda said.

It is possible that all coal-fired plants will close by 2025-30 at an estimated cost of around €3bn compared with the base scenario, Calenda said in parliament on 11 May. Italy had around 8.7GW coal-fired capacity at the end of 2015 — the last year for which full data are available — grid operator Terna said. Coal-fired output accounts for around 13pc of Italy's generation mix, coal industry association Assocarboni said.

But coal-fired power remains an important source of supply because plants are producing near capacity, Calenda said. Measures such as the EU emissions trading scheme are also not enough to encourage fuel-switching from coal to gas, he said.

But the phase-out of coal and increase in renewable energy, which is part of the strategy, cannot be supported without more investment in the grid. The implementation of a national capacity market scheme should be ready in 2018. The mechanism is still waiting for approval from the European Commission, but it remains a fundamental requirement for Italy to be able to give price signals in the medium to long term, he said.

The government strategy also focuses on electric mobility and energy efficiency. Italy should push the electrification of transport and support investment in building renovation, Calenda said. A fund for energy efficiency will be introduced on the basis of the German model, he said.

The government will consult on the strategy for a month.

### Italy may install new FSRU: Calenda

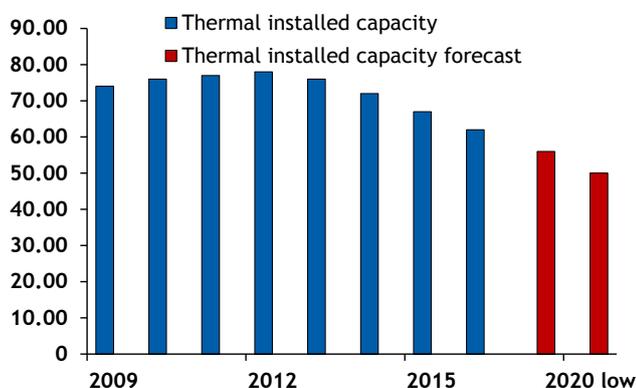
Italy should increase the share of LNG in the supply mix and could develop a new floating storage and regasification unit (FSRU), economic development minister Carlo Calenda has said.

An FSRU could have less impact from an environmental point of view to cope with security of supply issues in the near term, Calenda said presenting a draft new national energy strategy.

The global LNG market is expected to experience "temporary oversupply" that could be reabsorbed by the mid-2020s, Calenda said. An FSRU could offer an opportu-

Italian thermal capacity

GW



nity to benefit from lower LNG prices during that period, as the facility may be resold at a later date, he said.

But Italy's existing LNG terminals — particularly the 3mn t/yr Offshore LNG Toscana (OLT) and the 2.5mn t/yr Panigaglia facilities — have operated below capacity in recent years as cargoes have gone to more profitable global destinations. The 5.7mn t/yr Adriatic LNG terminal receives regular Qatari supplies under a term contract between Edison and Rasgas, although it also regularly has available slots.

But the low utilisation of these terminals is because of the capacity allocation mechanism, which will be changed this year, the ministry said.

Energy regulator AEEGSI has held a consultation process about the possibility of shifting to an auction-based system for regasification capacity from regulated tariffs, and is expected to issue fresh regulations in the coming weeks.

AEEGSI aims to achieve equivalence in terms of tariffs between all entry points to the domestic grid for pipeline, LNG and storage.

But firms holding long-term capacity could oppose the plan. Long-term regasification capacity holders have recently criticised Italy's LNG storage and regasification service as the service established a new benchmark for regasification capacity in Italy and reduced the value of their capacity, they said.

More LNG may be needed alongside Azeri gas that is expected to reach Italy through the proposed 10bn-20bn m<sup>3</sup>/yr Tap pipeline to guarantee Italy's security of supply given that several long-term contracts will expire in the coming years, Calenda said in recent months.

He declined to comment on negotiations for the renewal of these contracts because these are the companies' responsibility, but there must be sufficient diversification of supply in the event that they are not renewed, he said.

Italian firms Eni and Enel have several contracts with Algeria's Sonatrach that expire in 2019-22. Both firms have mentioned a move to hub-indexation as one of the key points in the negotiations.

Renewing existing contracts combined with new supply from Algeria or more LNG imports could leave Italy with excess gas.

Italian importers already have contractual obligations exceeding domestic consumption. Firms have agreed temporary reductions in their imports, mostly with Sonatrach but also with Russia's Gazprom, to bring supply into line with consumption in recent years.

### Italy to go ahead with liquidity corridor: Calenda

Italy's new national energy strategy (SEN) will include a liquidity corridor aimed at reducing the PSV's premium to the TTF and fostering competition, economic development minister Carlo Calenda said.

The measure should give system operator Snam a mandate to purchase long-term capacity on the PSV-TTF route, which should facilitate the release of unused capacity and reduce import costs.

But market participants have expressed doubts about the plan. While any increase in liquidity is good for the market, the potential benefits may be much lower than the costs, they said.

While the SEN is only a framework document, there is a possibility that the minister might issue a decree on the liquidity corridor shortly after the document is approved, market participants said. Should that happen, there may be a sudden shift in PSV prices that could have a detrimental effect on existing deals, unless the revision of existing contracts is somehow included in the regulations.

And the number of agreements to be reviewed may be higher than usual, as lower prices in 2016 had created an incentive for a longer-term hedging strategy, with many firms already hedged for a 24-month period, market participants said.

### Italian capacity market would cut imports: Calenda

Italy's power system reserve margin is too tight and dependent on imports, which necessitates the introduction of a capacity market, economic development minister Carlo Calenda said.

The minister held a hearing in parliament to review the national energy strategy (SEN), pointing out risks of inadequacy in the Italian power market.

Italy has 114GW of installed capacity, but grid operator Terna only considers 47-53GW of this as available to supply the market in times of peak demand. Peak demand occurs in the evening when renewable generation traditionally falls, while Terna also accounts for outages and maintenance at thermal plants. This leads to a tight supply-demand balance during times of peak demand, which reached 51GW last year. Italy is pushed to be dependent on imports when peak demand surpasses the reserve margin

Share of demand met by net imports %



— imports reached 4GW in 2016. But this could be a problem if imports are curtailed as happened last year when nuclear availability in France was constrained. The introduction of a capacity mechanism would avoid depending on imports for system security, and would guarantee flexibility, Calenda said.

Italy aims to introduce the mechanism this year, although the European Commission has yet to give an official response to the Italian scheme.

### Italy to focus on reducing PSV gas premium: Calenda

Bringing the PSV in line with the TTF will be one of the pillars of Italy's new energy strategy (SEN), economic development minister Carlo Calenda said.

The new framework document being prepared by the ministry will include a so-called liquidity corridor — a measure aimed at increasing liquidity on the pipeline connection between Italy and northwest Europe.

PSV prompt prices at a premium to the TTF stems from a bottleneck between the two markets, which is partly the result of Switzerland not adhering to European regulations on releasing unused capacity, Calenda said.

Pipeline operator Fluxswiss said last year that the capacity booked on a long-term basis on Transitgas had been wrongly depicted as the reason for the PSV's premium.

Residential and industrial consumers would benefit from the proposed regulation, which has the potential to halve the PSV's premium to the TTF, Calenda said.

The liquidity corridor may consist of Italian gas grid operator Snam acting as a shipper along the TTF-NCG-PSV route, and potentially also on the Peg Nord-PSV route, market participants said. Snam would have to purchase long-term capacity on those routes, which would facilitate the release of unused capacity and could reduce the differential to variable costs.

But market participants have questioned the desirability of such a measure, which may simply have the effect of tightening margins, some said.

It would also open the possibility to import to firms that have never operated outside of Italy, others said. But companies that have already spent money expanding their portfolio outside of Italy could oppose the plan, some said.

The measure may also struggle to obtain regulatory approval, some said.

And Snam purchasing long-term capacity may result in additional costs for the system, which may then be socialised in the event of capacity being unused, market participants said.

Bringing PSV prices closer to northwest European hubs through intervention in a liquidity corridor would allow firms holding long-term capacity on the TTF-PSV route to recover their sunk costs, one market participant said.

### Reconsidering the supply mix

The remaining factor in PSV-TTF differentials may be eliminated by reconsidering Italy's sources of supply when existing long-term contracts expire, Calenda said.

There could be a gradual reduction of imports from the Netherlands and Norway as existing fields achieve maturity,

he said.

Italy has long-term contracts with the Netherlands expiring by 2020 and long-term contracts with Norway expiring in 2026, Calenda said.

And Algeria may also have an incentive to reduce exports to Italy in the future as domestic demand is rising and production is stagnating because of a lack of investment, Calenda said. Algerian state-controlled producer Sonatrach may also have more incentive to sell its production as LNG to premium market, namely Spain, which has invested significantly in LNG facilities, the minister said.

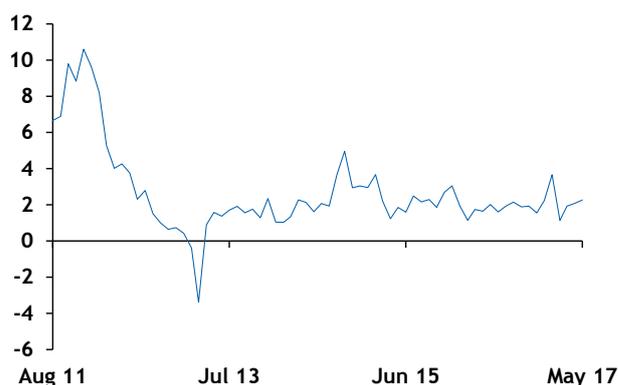
But Algeria has significantly increased its exports to Italy in recent months following the renegotiation of Sonatrach's long-term contract with Italy's Eni. The firm has also said the increase in exports was a sign of its repositioning on the European market, and is aiming to ramp up production more than domestic consumption to help it boost exports.

Italian energy firm Enel said last year that it was planning to renew its long-term agreements with Sonatrach, although it was pushing for more hub-indexation, and is planning to reduce the share of long-term contracts in its portfolio.

### PSV bubble

PSV-TTF day ahead basis

€/MWh



Eradicating the PSV's premium may create the conditions for exporting gas through Transitgas with plans to expand capacity towards northwest Europe on the pipeline.

Snam has invested in expanding its export capacity by 2018, despite the existing capacity has been rarely used, ahead of the start of the Trans-Adriatic Pipeline (Tap). Eni's chief executive Claudio Descalzi said last year that without sufficient export capacity the PSV could become a bubble.

But the ministry's analysis is based on the assumption that Italy will have to identify new sources of supply, as Azeri gas imported through Tap from 2020 will only partly offset the loss of imports from Algeria, Norway and the Netherlands in the long term.

As a result, Italy will have to decide whether to import more from Russia or to design a new energy strategy aimed at attracting more LNG, Calenda said.

### Hub-indexation key to renew Algerian contract: Descalzi

A permanent move to hub-indexation will be the key condition for the renewal of the long-term gas contract between

Italy's Eni and Algeria's state-owned Sonatrach, Eni's chief executive Claudio Descalzi said.

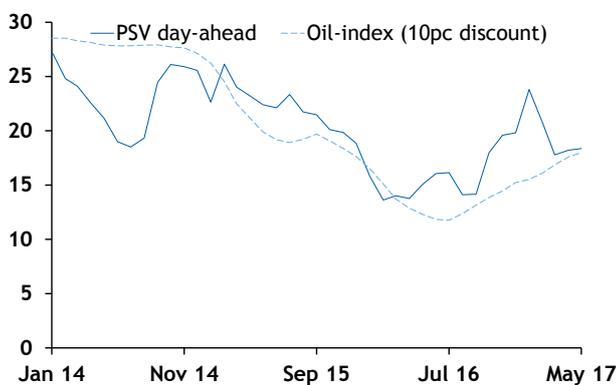
"We are going to renew the Algerian contract only if we do not lose money," Descalzi said. The firm has secured a PSV-related formula for the 2016-17 gas year and negotiations are in progress for 2018 and 2019, Descalzi said.

The Algerian contract still contains a crude-linked component in addition to the "PSV-related" formula.

"I think Algerian gas is important, negotiations are progressing in a good spirit," Descalzi said.

"But if we do not renew the contract someone else will, and we have alternative sources that we may develop," he said.

PSV day-ahead and oil indexed prices €/MWh



Azeri gas from the Trans-Adriatic Pipeline, the possibility to double Libyan gas production, and the potential of Egyptian LNG exports resuming could be alternative sources of supply, Descalzi said.

Eni has been pushing to move its long-term contracts to hub-indexation, and 90pc of its contracts have become hub-related. But most of its contracts still include an oil-linked component. The firm has some solely hub-indexed contracts in northern Europe, but not in Italy.

But the firm is still striving to realign its long-term contracts to the real price in the related market, midstream gas and power chief executive Massimo Mantovani said, with 2017 being "a crucial year" in that sense.

The firm has also been restructuring the logistics of its long-term contracts in recent years, Mantovani said. The firm's long-term contracts were previously related to parallel ship-or-pay contracts for transportation capacity, of the same volumes and duration of the gas supply contracts, he added.

The firm has already reduced its logistics costs by €200mn/yr (\$214mn/yr), half the target it has set for 2020, Mantovani said. Transportation costs for Russian gas from Baumgarten to the Italian border are worth €400mn/yr, he said.

### Russian make-up gas

The firm had accumulated €2.2bn-2.3bn of Russian make-up gas in 2010-11, which was originally expected to be completely reabsorbed by 2024-25, Descalzi said. But the firm has managed to recover more quickly than expected in recent years

and has only €300mn of outstanding Russian gas to take.

The quicker recovery was the result of a renegotiation of the contract with Gazprom in May 2014, which included "a higher buffer of recovery for make-up gas", Descalzi said.

Eni had about 3bn m<sup>3</sup> of make-up gas to take at the start of 2017, which it planned to clear in 2-3 years.

### Italian power demand to post consistent growth

Italian power demand should post consistent growth over the next decade and surpass a peak reached in 2007.

Demand is expected to rise to 325-341TWh in 2026, national transmission system operator (TSO) Terna said — 14-30TWh higher than estimated demand last year of 311TWh.

If 2026 demand reaches the high end of Terna's forecast range, it will be 1TWh higher than a 340TWh peak recorded in 2007.

Terna expects the 2007 record to be broken in the next decade.

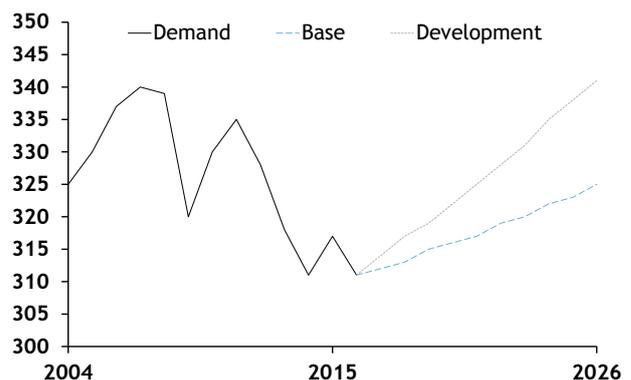
Power demand growth will be driven by the services sector, which in 2026 is expected to surpass industry in terms of power consumption. Service sector demand is forecast at 118-124TWh in 2026, compared with 110-115TWh for the industrial sector.

Demand could be supported by increasing electric mobility. Electric vehicles (EVs) in Italy are negligible in terms of power consumption, but growth is expected in the medium term, Terna said. This could make demand more volatile and increase Italy's back-up needs, it said.

Peak demand will also increase, Terna said, forecasting peak load of 62-64GW in 2021 and 63-66GW in 2026. Italy's record peak-load high was 60.5GW in 2015. This could mean that meeting peak demand will be challenging as growing wind and solar capacity is expected to further reduce thermal capacity in the coming years. Italy's reserve margin — available capacity minus peak demand — has been narrowing and was just 9GW last year and 6GW in 2015, compared with around 25GW in 2013-14.

Italy is working to reshape demand to coincide with higher feed-in from renewables, which would help smooth peaks and cut dispatching costs, while it aims to introduce a capacity market mechanism this year. But its implementation could be postponed to 2018 as the government is still awaiting official approval from the European Commission.

Italian forecast power demand TWh



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### Sardinia to receive LNG by 2021

Italy will supply Sardinia with gas through small-scale LNG, economic development minister Carlo Calenda said.

The necessary facilities could be ready by 2021, industry councillor of Sardinia's regional government Maria Grazia Piras said at an LNG conference in Naples. The region's demand may be 530mn-960mn m<sup>3</sup>/yr by 2030, she said.

Sardinia has no access to natural gas with heating demand mainly covered by LPG and power generation mostly coal-fired. That lack of gas is estimated to cost €430mn/yr, Piras said.

Supplying Sardinia through small-scale LNG is the preferred option compared with a pipeline from mainland Italy and a small LNG terminal of 1bn-1.5bn m<sup>3</sup>/yr of gas equivalent, she said.

Italy has already authorised the construction of an LNG complex in Oristano to local firm Higas. Three more projects have started the authorisation process, including one by Edison, also in Oristano. And another three projects have been mooted, but have not yet started the authorisation process, including one by Eni in Porto Torres.

Sardinia will require the construction of a 600km "backbone pipeline" linking the island to mainland Italy, Calenda said.

Italy had previously planned to supply Sardinia through the 8bn-10bn m<sup>3</sup>/yr Galsi pipeline, which was meant to connect Algeria to northern Italy through Sardinia. Algeria's Sonatrach, one of the partners in the project, said earlier this year that the project "was alive and progressing very well".

Galsi was originally scheduled to be commissioned in 2008, but has not progressed.

### Italy to open dispatch market to new technologies

Italy will trial opening its dispatch services to demand-side technologies and renewables generation, as it continues to modernise the power market.

Energy regulator AEEGSI has authorised the launch of pilot projects to evaluate the participation of new operators in the ancillary services market (MSD).

Domestic grid operator Terna will be able to test the effects of demand-side technologies, intermittent renewables and storage systems that are excluded from the MSD at present.



Higher renewables output has reduced the amount of conventional generation capacity available, forcing Terna to use the MSD to balance the market and prompting it to accept higher prices from the country's remaining thermal plants.

Terna has launched a public consultation over a demand-oriented project, which should start up next month. The firm was already working to allow the participation of demand-side technologies in the MSD to help cut costs, former chief executive Matteo Del Fante said in February.

Terna has to submit at least one storage project by 31 July and update the grid code by the end of October, AEEGSI said.

### M5S party calls for the end of coal

Italian political party Five Star Movement (M5S) would introduce a carbon tax to force coal out of the generation mix, M5S senator Gianni Giorotto said.

The end of coal is one of the first priorities of a potential M5S government, Giorotto said at a conference on Italy's national energy strategy (SEN) in Milan.

Coal currently provides 15pc of Italy's power generation but it still represents around 50pc of CO<sub>2</sub> emissions, Giorotto said. For this reason it is necessary to introduce a mechanism such as a carbon tax to replace it with lower-carbon technology.

M5S presented its energy policy programme for the first time last year, focusing on renewables and energy efficiency as well as a ban on coal in 2020 and the full displacement of fossil fuel sources with renewables by 2050. It also wants to see a reduction of 35pc in energy consumption by 2050 and growth in pumping systems for the storage of renewable generation to allow for continuous deployment.

But deadlines will also depend on the rate of technological improvement over the coming decades, Giorotto said.

M5S has held consultations among voters on reducing power imports and fossil fuel subsidies, developing more renewable power and nationalizing grid operator Terna.

The movement was the largest party in the last general election in 2013 with 25.5pc of the vote. According to the most recent polls it could increase its share to 27.9pc in the next election, although it would need to enter a coalition to form a government.

### Italy's Aiget calls for market-based energy strategy

regulations, Italian traders association Aiget said during its hearing in the Italian parliament.

The association asked for the introduction of more flexibility measures in the new document, calling for a redesign of the structure of wholesale power and gas markets.

Energy markets should exclude any cap on prices and guarantee maximum transparency, as caps could warp the market role to determine the correct formation of price signals, Aiget said.

### Power markets

Power markets should be redesigned allowing the participation of all sources included demand and non-predictable renewables. But the SEN must also guarantee technological neutrality, and avoid preserving some market distortions, Aiget said.

Aiget also warned that transmission and distribution costs are expected to increase in the following years, with costs passed on to final customers. Infrastructure would attract investment as it is remunerated according to the weighted average cost of capital (wacc) which in Italy is at minimum of 6pc. And in a scenario of low interest rates, this creates a risk of overinvestment in non-essential infrastructure, such as the interconnector between Italy and Montenegro which will cost more than €1bn (\$1.1bn), Aiget said. This also discourages investment in other market activities such as distributed generation or demand side management, Aiget said. For this reason, investment should be remunerated more in line with the actual risk of a project, with evaluations and controls entrusted by independent authorities, it said.

The association also said SEN should give greater attention to decarbonisation, including the electrification of more end users such as transport and industry, and a greater use of gas in public transport, as well as the use of LNG in both road and maritime freight transport. Energy associations Assoelettrica and Assorinnovabili offered similar views during their hearings.

### Gas markets

SEN should include a revision of the gas emergency plan, less stringent regulations on gas storage utilisation and the introduction of a voluntary market maker in gas exchanges, Aiget said.

Italy's gas emergency plan dates back to 2013 and prescribes non-market measures — such as the maximization of imports, use of peak-shaving and strategic inventories, and switching off gas-fired plants — in the event of withdrawals exceeding total commercial capacity on three consecutive days.

But the ministry's request to maximise imports creates a distortion in the market and is not consistent with the principles of the European single market, Aiget said. The revision of [European emergency plans] Link on a regional basis, despite being a lengthy process, goes in the right direction, the association added.

The association also called on greater flexibility in storage rules, which currently include a regulated cap on withdrawals fixed by the ministry before the start of the season. This creates market distortions in the event of an early cold spell and reduces opportunities for profiting from spreads, Aiget said.

The new energy strategy should also provide an incentive for the introduction of a voluntary market-maker on balancing platforms, which could give a significant contribution to foster liquidity at the PSV hub, the association said.

Market-based mechanisms should also be introduced for LNG capacity allocation, Aiget said.

The new energy strategy should also include measures and infrastructures aimed at increasing Italy's interconnections with foreign markets, such as the Transitgas reverse flow.

And additional efforts should be made to extend European rules to Switzerland in order to achieve greater transparency in the gas market, the association added.

### Italy needs electrification to meet climate goals

The government's review of Italy's national energy strategy (SEN) should focus on electrification of transport and industry in order to meet climate goals, Italian energy associations Assoelettrica and Assorinnovabili said.

The use of electricity needs to rise if Italy is to meet its goals under the Paris agreement for 2030, the associations said in a hearing at the economic development ministry.

Italy should introduce medium- and long-term tenders for renewables and define an annual growth target for capacity set in terms of base-load generation, they said. The Italian government should also set targets for the increase of power usage in district heating or air-conditioning as well as support e-mobility in cities, the associations said.

The hydropower sector requires new investment and the government needs to set a strategy to attract it, they said.

Both associations are backing the introduction of a capacity market mechanism by the first half of 2017, although the European Commission is yet to give an official response to the Italian scheme.

Wholesale and ancillary markets will also need development to allow for efficient dispatching of power plants, renewable and conventional, they said.

The associations also said the SEN should support reforms to the carbon pricing system. The reform of EU ETS allowances should be strengthened and carbon targets should be settled for non-ETS sectors through the burden sharing, the associations said.

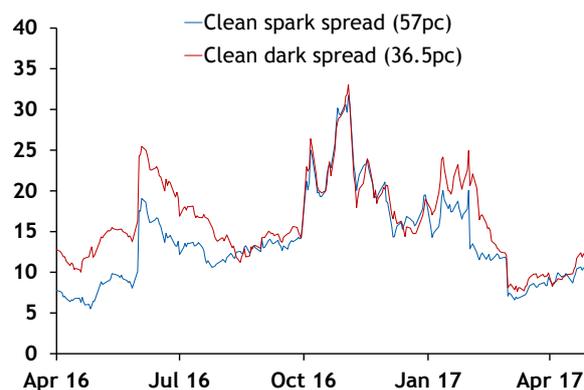
### Italy needs carbon tax to oust coal-fired power: Eni

The lack of a carbon tax in Italy is to blame for coal and fuel oil-fired power plants remaining part of the country's generation mix, Italian energy firm Eni's chief executive, Claudio Descalzi, said.

Talking about climate will be useless "if we continue to tolerate coal plants" because their cost is lower than gas-fired plants, Descalzi said at a hearing in the Italian parliament. The introduction of a carbon tax or a measure similar to the UK's emissions performance standard (EPS) would encourage power generators to switch to gas and renewables, which the EU emissions trading scheme (ETS) has failed to do, he said.

The front-month clean spark spread for a gas-fired plant

Italian front month spark vs dark spreads €/MWh



with an efficiency of 55pc averaged €12.88/MWh in 2016 compared with a corresponding clean dark spread for a coal-fired plant with an efficiency of 36.5pc of €17.23/MWh. And coal has remained more competitive than gas so far this year, with the clean dark spread for the front month averaging €16.93/MWh, at a €4.68/MWh premium to the corresponding clean spark spread.

Political party Five Star Movement (M5S) senator Gianni Giorotto said earlier this month that the introduction of a carbon tax would be one of the first priorities of a potential M5S government. And Italian utility Enel's chief executive, Francesco Starace, said that investing in coal-fired power no longer makes sense.

Gas should also be developed in the mobility sector, Descalzi said. Electric mobility makes sense only if the power does not come from coal, in order to reduce CO2 emissions, he said.

Italy has closed around 7GW of thermal capacity over the past two years much of it related to gas-fired plants. And around 2GW of new gas-fired projects have been put on hold or scrapped as a result of declining wholesale power prices and overcapacity.

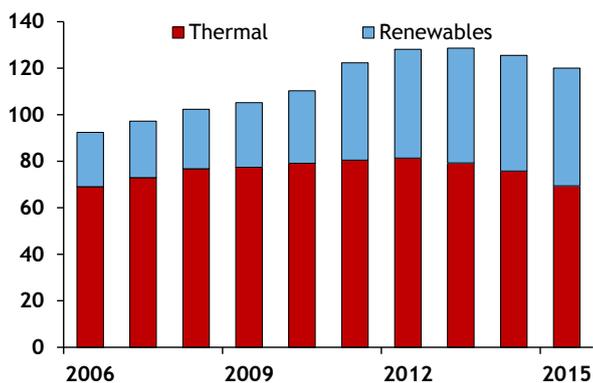
Eni operates six combined-cycle gas turbine power plants in Italy with a total capacity of around 4GW. The company's power production in Italy was 25.2TWh in 2016, up by 0.4TWh from a year earlier.

### Enel seeks support for gas-fired generation

Italy's government should set a long-term strategy to increase fuel switching to gas from coal in power generation, Italian utility Enel's chief executive, Francesco Starace, said.

Italy had around 8.7GW of coal-fired capacity and 47.6GW of gas-fired capacity at the end of 2015, according to grid operator Terna. Coal-fired generation accounts for around 13pc of Italy's generation mix, coal industry association As-socarboni said.

Italian installed capacity GW



The front-month clean spark spread for a power plant with an efficiency of 55pc averaged €12.88/MWh in 2016 compared with a corresponding clean dark spread for a power plant with an efficiency of 36.5pc of €17.23/MWh. And coal has remained more competitive than gas so far this year, with the clean dark spread for the front month averaging €17.11/MWh, €4.71/MWh more than corresponding clean

spark spread.

But "if the gas industry uses gas in a more competitive rather than speculative way, the fuel switching will be automatic", Starace said. The government should implement a plan to make gas more competitive in the medium-to-long term, he said.

Gas prices at Italy's PSV hub are normally higher than corresponding contracts at the Dutch TTF hub. But economic development minister Carlo Calenda has already announced that the ministry is working on a plan to align PSV and TTF prices as part of new national energy strategy.

Further investment in coal-fired power plants does not make sense, Starace said. Enel will permanently shut down the 144MW Genoa 3 and 130MW Bastardo coal-fired plants as part of its Futur-E plan, which aims to decommission 12.9GW of installed thermal capacity over the next 3-4 years.

And Starace confirmed the closure of the 520MW LaSpezia coal-fired plant, which will be completed by 2021. Genoa and Bastardo had been halted last year, but the government put them on standby in January together with Italian utility A2A's gas-fired 373MW Chivasso 2 unit to offset lower imports from France. Restricted availability of nuclear generation and higher demand as a result of low temperatures this winter weighed on French power exports earlier this year.

### Italian gas demand broadly unchanged in 2017: Snam

Italian system operator Snam expects weather-adjusted gas consumption to remain broadly unchanged in 2017 as higher efficiency offsets strong industrial and power sector gas demand.

Weather-adjusted aggregate consumption is expected to be broadly in line with the 71.9bn m<sup>3</sup> in 2016, Snam said.

This may require weather-adjusted local distribution demand to ease later in the year to offset the increase in industrial and power generation demand in the first quarter of the year. Actual residential gas consumption rose in the first quarter compared with a year earlier, but once adjusted for the weather it was unchanged at around 14.4bn m<sup>3</sup>.

Aggregate gas consumption climbed in the first quarter of the year, mainly as a result of stronger power sector gas demand amid lower electricity imports from France in January-February and lower hydroelectric output.

Industrial demand also rose to 4.8bn m<sup>3</sup> from 4.4bn m<sup>3</sup>, which reflected an increase in Italy's economic activity, Snam's chief financial officer Alessandra Pasini said. Italy's industrial gas consumption mainly stems from the steel, mechanical, chemical and paper industries, she said.

Storage use dropped despite the increase in aggregate capacity because of climate factors, Snam said.

Italian withdrawals dropped significantly in March as milder weather curbed consumption and imports from Algeria remained strong. Italy even switched to injections during weekends in the second half of the month.

And no LNG was regasified at the Snam-operated 2.5mn t/yr Panigaglia terminal in the first quarter of 2017. The terminal decided not to participate in the peak-shaving for this gas year as it said it had already capacity allocated and firms had shown interest in spot deliveries, which would have allowed it to manage potential peaks in demand. But no cargoes were

delivered in the first quarter.

The terminal received an Algerian cargo aboard the 75,500m<sup>3</sup> Cheikh Bouamama on 4 May, which was supplied under the LNG storage and regasification service. This was the first delivery since a previous visit of the same tanker on 21 November.

**Departure from oil-indexation ‘irreversible’: Edison**

The transition away from oil-indexed take-or-pay contracts is “irreversible”, Italian utility Edison said.

Around 70pc of contracts for supply to continental Europe are already hub-indexed, the firm’s senior lawyer for oil and gas and international arbitration Marco Lorefice told the Flame conference in Amsterdam.

“There are countries who believe oil-indexation is still most appropriate,” he said.

But oil-indexed take-or-pay contracts will become something “pertaining to the past” in the next few years, he said.

European prompt and forward markets have become less correlated with oil prices in recent years with the spread of hub-indexation. NBP and TTF prices have moved increasingly with coal markets over the past two years.

Some European companies are still pushing for more hub-indexation in their long-term supply contracts.

Contracts will retain their long-term nature in the future and contract lengths of 20 years will remain common, Lorefice said.

Buyers still have to guarantee security of supply, while sellers would want to ensure long-term revenues, he said.

The move away from oil-indexed contracts started in 2008, from when a large number of contracts were renegotiated, after oil prices climbed while gas hub prices came under pressure, Lorefice said.

With the “collapse” of the oil price from mid-2014, sellers found that it was “not so inconvenient” to change contracts to increased hub-indexation, providing further momentum for renegotiations, he said.

But most of Edison’s long-term contracts are with suppliers that have largely maintained oil-indexation rather than linking prices to gas hubs.

It agreed on price revisions for supply from Libya and Qatar last year.

And Edison secured a discount for its long-term contract with state-controlled Gazprom in 2014, although the Russian

firm said at the time that it had offered a larger price reduction.

Edison also has a 2bn m<sup>3</sup>/yr long-term agreement expiring in 2019 with Algeria’s Sonatrach, which has largely maintained oil-indexation in its exports deals.

**Enea warns on Italian energy transition focus**

Italy needs to tackle the lack of flexibility, high industrial power costs and the slowdown in decarbonisation to successfully develop its energy system, according to Italian research and development agency Enea.

Italy’s energy transition focuses too much on trade-offs between decarbonisation, system security and energy costs rather than their simultaneous development, Enea said.

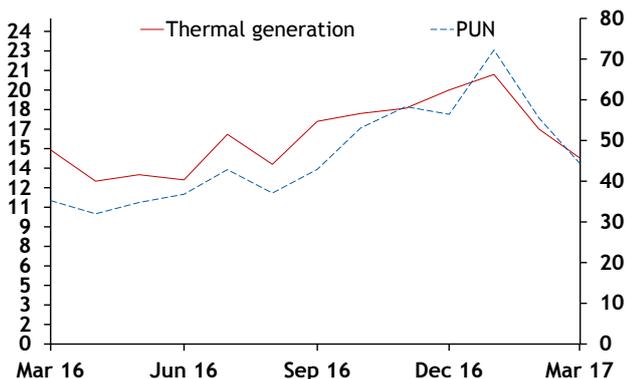
Low French nuclear availability in late 2016 increased Italian thermal production by 2.5pc compared with 2015, supporting in particular gas generation, Enea said. This increased the profitability of combined-cycle gas turbines, partially displacing coal-fired generation, which fell by 21pc year on year. But the increased profitability has been insufficient to encourage investment in flexible generation that would be able to balance intermittent feed-in from renewable plants, which reached a record high last year at 40TWh, Enea said.

Argus assessed the average front-month clean spark spread for October-December 2016 for a power plant with an efficiency of 55pc at €19.75/MWh compared with €12.42/MWh in the same period of 2015 while the corresponding clean dark spread for a power plant with an efficiency of 36.5pc was €20.80/MWh, down by €2.84/MWh year on year.

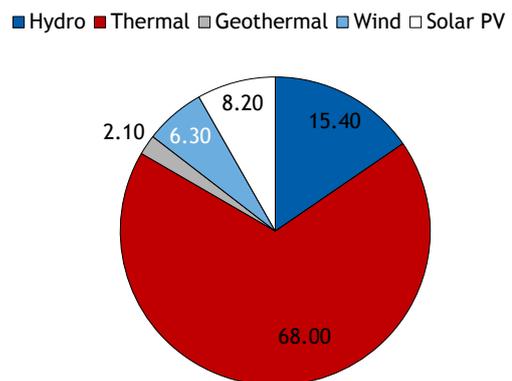
Industrial power cost remain higher than the European average, although the gap has narrowed since 2013. Italy recorded an average of €0.375/kWh in 2016 compared with a peak of €0.57/kWh in 2012, Enea said. The high cost of power for industry is likely to be one of the issues that the new national energy strategy (SEN) is tasked with solving. Economic development minister Carlo Calenda said in parliament in March that companies that consume 70-150 GWh/yr paid around €85-90/MWh for electricity in 2015 compared with €40-45/MWh in Germany. The new strategy was due to be presented on 27 April but was postponed probably until 10 May.

Carbon emissions fell by 0.8pc year on year in 2016 and were 18pc lower than in 2010, meaning Italy is meeting its target of a 15pc reduction in emissions by 2020 compared

Thermal generation (LH) vs Pun (RH) TWh, €/MWh



Italian power generation mix %



with 2010 levels, Enea said. But the fall in emissions has been driven more by economic slowdown rather than structural reforms, and an expected economic recovery in the coming years adds an element of risk to meeting future emissions targets, Enea said.

**SEN to support investments in energy markets: ABI-Lab**

The Italian national energy strategy's review (SEN) could increase investment security and help bank funding in the energy sector, Romano Stasi, the general secretary of the Italian banks association's research centre ABI-Lab, has said.

The SEN could be a useful instrument to increase the banking sector's activities in funding energy sector projects, Stasi told Argus. But the Italian government should aim to go further to smooth out the credit supply process easing, for example, the recourse to guarantee funds or credit assignment, Stasi said.

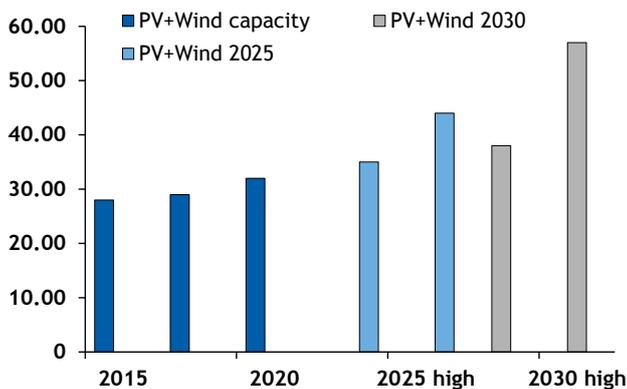
Stasi believes that the new SEN could revive support for actions that have been put on hold.

A guarantee fund to incentivise energy efficiency measures has been debated for years but it has not started yet, Stasi said. And other solutions such as the introduction of energy performance contracts or measures to change the power generation mix should be very useful, he said.

And while the new SEN is likely to increase investment security compared with Italy's previous energy strategy, the government should improve certain incentive schemes, making them more straightforward, Stasi said. It would also be helpful to introduce more flexibility in terms of tax allowances to promote energy efficiency for people with lower incomes, he said.

Italian solar and wind capacity

GW



While banks do not have preferences for a particular technology, the sector has backed Italy's focus on renewable energy, having financed investments for around €27.5bn (\$29.95bn) between 2007 and 2014. Investments with a low environmental impact allow banks to enhance their role in the sector and some have already geared organisation towards supporting a "green economy" in a proper way, Stasi said. There is growing attention on social accountability and non-financial aspects which means that the banking system is increasingly bound to explain its actions to civil society, he said.

Italy's 2013 energy strategy has failed to meet some key

objectives, above all reducing electricity costs for larger consumers which remain at a wide premium to those in Germany and the rest of Europe.

Companies which consumed 70-150 GWh/yr had to shoulder electricity costs of around €85-90/MWh in 2015 compared with €40-45/MWh in Germany, the development economic minister Carlo Calenda said in parliament earlier in March.

**New rules to foster LNG terminal use: OLT**

A move to an auction-based capacity allocation mechanism may increase use of the 3.5mn t/yr Offshore LNG Toscana (OLT) terminal, the operator's chief executive Alessandro Fino said.

The new capacity allocation rules, which are expected to be approved by the end of this year, could raise the terminal's utilisation rate to about 40-50pc, broadly in line with other European terminals, from 25pc, Fino said.

The terminal was commissioned in 2013, but has only received deliveries under regulated peak-shaving and LNG storage and regasification. Greater availability of LNG in the coming years coupled with an auction-based capacity allocation mechanism may instead spur spot deliveries to the terminal, Fino said.

The increase in global liquefaction capacity could boost deliveries to Europe, barring a substantial rise in demand from premium markets.

And there may be an opportunity to expand the share of LNG in Italy's supply mix when long-term contracts with take-or-pay clauses expire. While Italy still has significant obligations, there is a general trend to reduce this kind of contract, Fino said.

But pipeline imports have typically been cheaper than competing with premium buyers for spot LNG deliveries. This could offer an incentive to renew existing long-term contracts, especially if the prospect of an increase in LNG deliveries to Europe puts pressure on suppliers such as Russia's Gazprom and Algeria's Sonatrach to offer lower prices.

Europe's LNG imports are typically driven by firms offloading supply at European hubs once demand in premium markets has been met.

But OLT receiving more LNG may not be enough to guarantee Italy's security of supply in the event of a substantial proportion of Italy's long-term contracts not being renewed. Italy, which is reviewing its national energy strategy, is considering installing a new 4bn m<sup>3</sup>/yr floating storage and regasification unit (FSRU), economic development minister Carlo Calenda said.

**More opportunities in small-scale sector**

Deliveries to OLT could increase in the longer term as the terminal is planning to expand into the small-scale business, which would primarily target the Sardinian market once the island starts to receive LNG, Fino said.

The terminal has contacts with steelmaker Aferpi in Tuscany, as well as other local firms that could provide a market for small-scale services, he said.

The terminal has conducted a preliminary study about

offering small-scale LNG services and has concluded that this would be feasible, Fino said. OLT is eyeing investments of about €3mn-5mn (\$3.3mn-5.4mn) to make the terminal able to receive small-scale tankers with capacities of 1,000-7,500m<sup>3</sup>, he said.

But a more accurate study about the logistical and environmental aspects involved would probably take until the end of 2018, Fino said. Engineering works may then take two more years, but this could be accelerated, provided that the regulation framework is clear, he said.

### Italian Enel backs the new SEN

Italy's new energy strategy (SEN) is largely in line with Italian utility Enel's strategic vision for the future, Enel chief financial officer Alberto De Paoli said.

The government presented its strategy earlier this week and there are many areas that need clarification during the public consultation but the first look is quite positive, De Paoli said.

Economic development minister Carlo Calenda presented the SEN on 10 May and it suggests a possible phase-out of coal by 2030.

Enel has around 6.5GW of installed coal-fired generation capacity in Italy. This would represent around 81pc of the country's coal capacity, ministry data show. And coal-fired generation accounted for around 48pc of Enel's Italian output in the first quarter.

The company has hedged 100pc of its output for 2017 in Italy at an average price of €43/MWh and the 15pc of forward sales for 2018 at an average price of €44/MWh. This was after taking into consideration that the 2.4GW Brindisi coal-fired plant has been included in the list of essential plants for 2017, De Paoli said. Enel expects the essential status to be extended into 2018 and in this case the hedged output would rise to around 35pc, he said.

Brindisi has been considered essential to avoid the repetition of anomalies in the ancillary market service (MSD) that occurred in the first part of last year, national grid operator Terna said. But anti-monopoly authority AGCM ended its investigation earlier this month accepting a revenue cap for the plant for three years.

Enel has hedged 100pc of its 2017 Spanish mainland output at an average price of €55/MWh and 25pc for 2018 at an average price of €54/MWh, De Paoli said.

Enel recorded net profit of €943mn (\$1.03bn) in the first quarter of 2017, up by 18.6pc on the first quarter of last year.

## Argus European Electricity: Data Downloads Available

The Argus European Electricity report features downloadable market data published in spreadsheet format, available only in Argus Direct.

### Data Downloads include:

- › European installed renewable generation capacity
- › EU Emissions Trading System trading volumes
- › UK power capacity market contracted volumes
- › UK cross-border power auction results
- › European electricity interconnector projects

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