E3G

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THE COAL PHASE OUT TRANSITION: ITALY'S LEADERSHIP OPPORTUNITY

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Governments are increasingly recognizing that phasing out the use of coal for electricity generation delivers large, rapid, and cost-effective reductions in CO_2 emissions while creating space for investment in clean energy. But Italy is falling behind its peers who are taking action.

Italy has a positive energy market context that would enable it to more rapidly end the use of coal in electricity generation. To date, however, the Italian government has failed to make this commitment. The new National Energy Strategy should include the aim of phasing out coal before 2030 and identify policies to deliver this.

In the light of the Trump Administration pulling back from action on climate change, increased leadership from other countries is essential. During 2017 Italy holds the Presidency of the G7. Italy must show that it is acting on coal to deliver on its international climate leadership responsibilities.

Summary

> Italy needs to provide a clear pathway to phase out coal use in electricity generation before 2030. It must do this to drive domestic investment in clean energy and deliver on its international leadership responsibilities. If Italy fails to develop a coal phase out strategy it will become increasingly under pressure.

> Currently, Italy is being left behind by its G7 peers. **France,** the **UK** and **Canada** are its closest comparators: all three countries have announced national commitments to end the use of coal in power generation (by 2023, 2025, and 2030 respectively).

> In Europe, **Finland** has made a policy commitment to phasing out coal use before 2030. **Portugal, Ireland, Austria, Sweden** and **Denmark** are all approaching the end of coal use by around 2025. **Belgium** ceased coal power generation in 2016.

> The rapid retirement of coal power plants will continue in the **USA** due to market fundamentals. **Germany** has begun to retire old coal plants and has proposed a national commission to consider policy options. **Japan** had been supporting the construction of new coal power plants, but even there projects are now being cancelled.

- The majority of coal power plants in Europe and Italy are old. Many should close by the early 2020s. The politics of coal will become increasingly visible, with both positive and negative impacts. Political parties are starting to anticipate this with proactive policy solutions that can provide a positive pathway for workers and communities. In **The Netherlands**, the negotiation of the new government coalition will include consideration of a coal phase out timetable.
- Italy is in the curious position of having helpful energy market dynamics and a headline commitment to action from its major utility Enel, but an almost complete absence of policy action by government.
- Enel successfully repositioned itself as a clean energy champion ahead of its competitors, thereby escaping the worst economic impacts experienced by other utilities. But Enel is still a significant user of coal and has failed to set out an explicit plan for ending coal use. It needs to accelerate the shift away from coal and into clean energy and smart systems.
- The Italian government must provide a fair policy framework that incorporates all remaining coal power plants. The new National Energy Strategy and EU National Energy & Climate Plan processes provide the perfect opportunity for Italy to set out a coal phase out plan for the next decade.

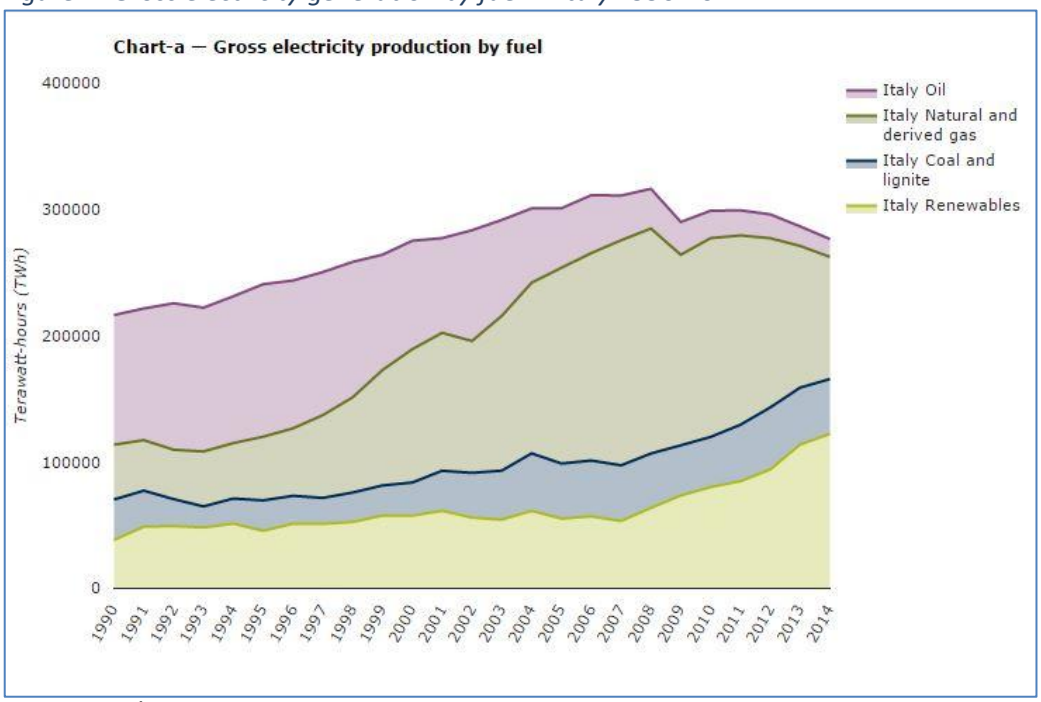
Context: coal power generation in Italy

Italy has a gas-heavy electricity sector that has experienced significant growth in renewables over recent years. Electricity generation from coal has remained relatively stable over the past decade, providing 15% of total generation in 2015, as shown in Figure 1 below. In the face of reductions in electricity demand and overcapacity on the supply side, the stage is set for a positive effort to phase out coal.

Italy has close to 9GW of coal power plant capacity, giving it the fifth largest coal fleet in Europe. The majority of Italy's coal power plants are over 20 years old, as shown in Figure 2 below. Collectively they are the source of close to 10% of Italy's total national CO_2 emissions. Italy is the 3rd largest importer of coal in Europe, as historically it has had only a tiny amount of domestic coal production.[1] As a consequence, coal has a disproportionately large impact on Italy's CO_2 emissions and Europe's coal use despite its relatively small contribution to electricity generation. Phasing out coal-fired electricity generation would help deliver Italy's commitment to the Paris Agreement and stimulate investment in clean energy.[2]

Over recent years the Italian policy framework has been inconsistent, with approval given to new coal power plants during the 2000s as part of a move away from oil-fired generation. There is currently no clear timetable for reduced emissions from the electricity sector beyond 2020. The Italian government has also proposed a new capacity mechanism which risks becoming a subsidy for coal plant operation. Following the G7 commitments on climate change and energy sector transformation in June 2015, former Prime Minister Matteo Renzi recognised that policy changes were required, and admitted that "*Some choices made in the past have led paradoxically to an increased use of coal that today is our enemy.*" [3]

Figure 1: Gross electricity generation by fuel in Italy 1990-2014



Source: *EEA* [4]

Figure 2: Age profile of coal power plants in Europe

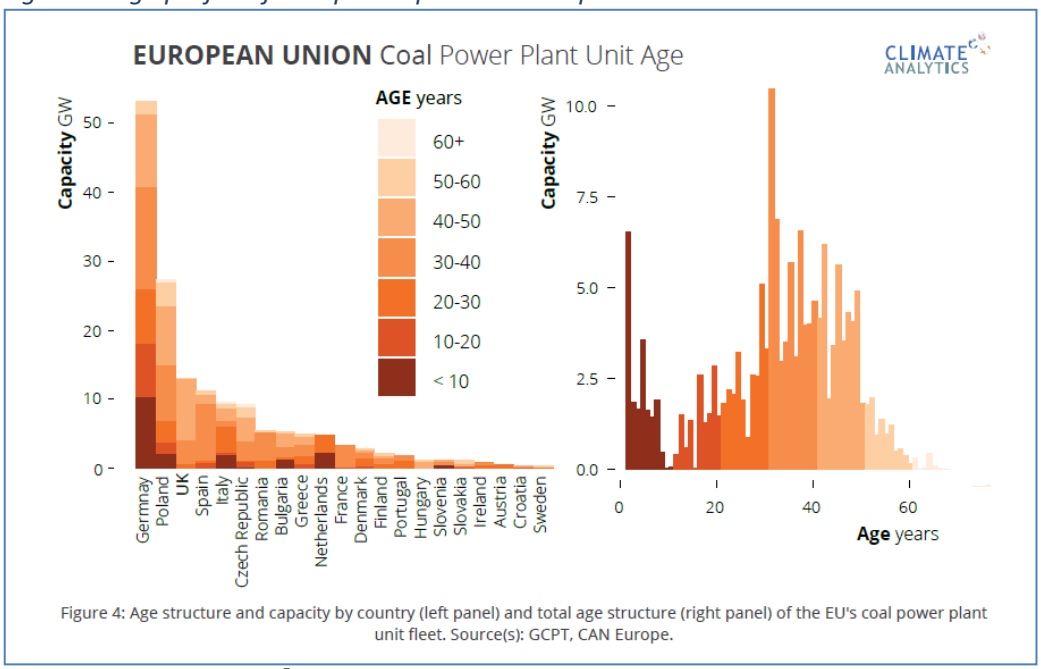


Figure 4: Age structure and capacity by country (left panel) and total age structure (right panel) of the EU's coal power plant unit fleet. Source(s): GCPT, CAN Europe.

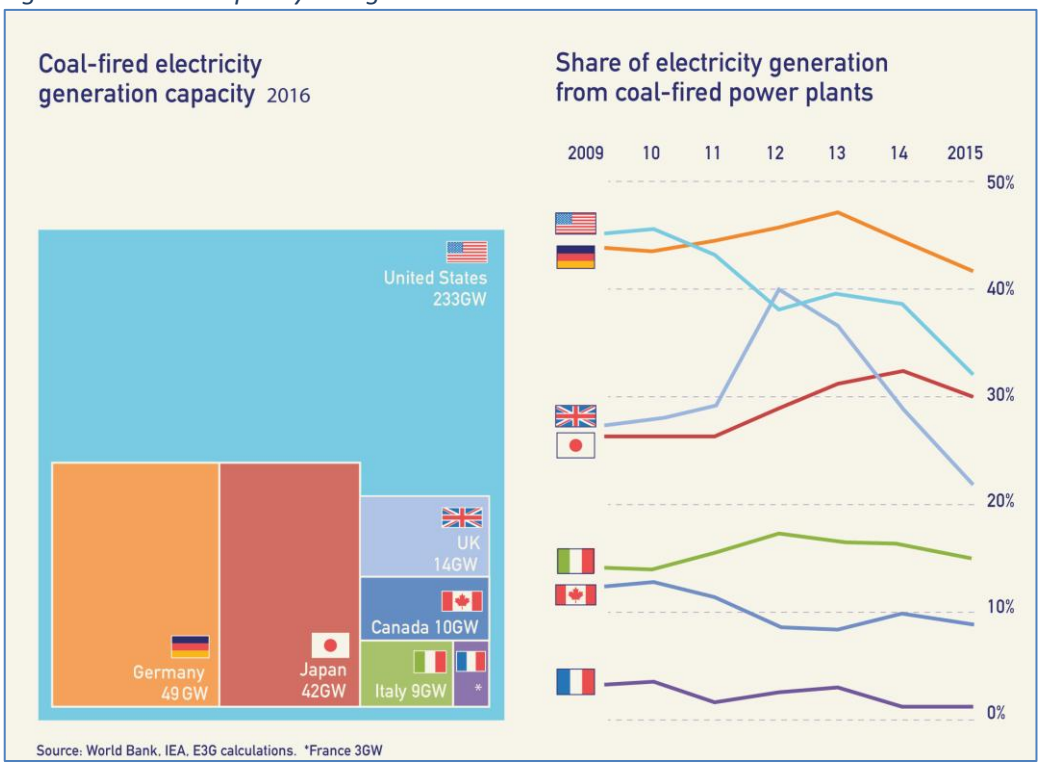
Source: *Climate Analytics* [5]

Italy is falling behind its peers in the G7 and Europe

When compared to its G7 peers, Italy has the second smallest amount of coal power plant capacity, as shown in Figure 3 below. Italy's closest comparator countries among the G7 are the UK and Canada, who have similarly-sized coal fleets and levels of

generation. France has a much smaller amount of coal. Since 2015, E3G has tracked the progress of G7 countries through an annual coal scorecard report. [6] Our analysis looks at developments in market dynamics and government policy across the categories of new coal plant risk, existing coal plant retirement, and international impact, as shown in Figure 4. Across the G7 there is a structural shift away from coal. As of May 2016, 67GW of proposed new coal power plants had been cancelled while over 115GW of existing coal plants had been retired since 2010.[7]

Figure 3: G7 coal capacity and generation



Source: *E3G analysis updated from 2016 G7 Coal Scorecard*

In the 2016 edition of our G7 coal scorecard, E3G's analysis ranked Italy in 5th position out of the G7, ahead of only Germany and Japan. Compared to 2015 it had fallen behind its peers in Canada, France and the UK who had all begun to take action on coal. Over the past year this gap has grown as further policy commitments have been made by these governments:

> The **UK** has committed to a coal phase out by 2025. The policy framework is now under development. 4.5GW of coal capacity closed in 2016, while electricity from coal fell by 52% to just 9% of total, less than the 11% from wind. The UK had 'zero coal' periods in summer thanks to the growth in solar power. Coal generation has fallen by 74% since 2006.

> **Canada** has committed to a coal phase out by 2030, as has the Province of Alberta – which is home to half of the remaining coal in Canada. Policy frameworks are now under development in both jurisdictions. Ontario has already completed its phase out.

> **France** has passed a law to end coal use by 2023. However initial proposals for policy measures were not introduced in the budget in late 2016. Presidential candidate Macron has committed to end coal use within the next 5 years.

In each of the categories of action analysed, we found that the situation in Italy was more advanced in respect to market developments than government policy, as shown in Figure 4. This presents a positive opportunity for the Italian government to take action that aligns with the structural shift away from coal that is set to occur over the coming years.

Figure 4: G7 Coal Scorecard comparison (May 2016 edition)

Source: *E3G analysis (next edition to be published in June 2017)*[8]

In our May 2016 assessment, Italy's performance was better only than that of Germany and Japan. However both of these countries have taken positive steps over recent months that sees them starting to move in the right direction:

> In **Germany** two coal power plants totalling 2.2GW closed on 31st March 2017, while the lignite reserve programme will shortly initiate a phase out pathway for the oldest power plants. The political debate on coal is continuing ahead of Federal elections, and a national commission on growth and structural change has been proposed to help address transition challenges.

> In **Japan,** the government is still promoting the construction of new coal plants at home and abroad but momentum is now visibly slowing. Two proposed new coal power plants have recently been cancelled.

The biggest political change in the past year has been the election of President Trump in the **USA** and his rhetorical support for coal. In late March 2017 he signed executive orders intended to undo the Clean Power Plan and further facilitate coal mining. However market analysts and even coal company executives[9] do not expect to see a growth in coal mining employment or the construction of new coal power plants as a result. Instead, structural trends will continue to close coal power plants over the coming years. As of late March 2017 115GW (251 power plants) have already

announced retirement.[10] The age profile of the US coal fleet and the better economic performance of electricity generation from gas and renewables means that any eventual policy shifts (after lengthy legal fights) will have limited impact.

Closer to home, other Western European countries are also moving to phase out coal. **Belgium** became coal free in early 2016. **Finland** has committed to phasing out coal by 2030. In **Austria** the last 2 coal power plants have already announced closure dates of 2020 & 2025. **Portugal** has confirmed that its remaining coal plants will have closed by 2030, potentially significantly earlier. **Sweden** has committed to become carbon neutral. **Denmark** had previously announced an aspiration of being coal free by 2030, while its leading utility DONG has now announced it will end coal generation by 2023. And **Ireland** is consulting on a national climate policy that recognises that its last remaining coal plant (and largest source of emissions) is set to close by 2025.

The politics of coal is visible and growing

The recent US Presidential election saw a visible political divide between the headline rhetoric of 'Trump digs coal' versus the Clinton campaign's proposed investment plan for US coal communities. Ironically, the current 'pro-coal' approach being taken by the Trump Administration risks making the subsequent transition harder for workers and more expensive for taxpayers.

In Europe, however, there has generally been greater acceptance of the need to identify transition pathways away from coal use. In the UK, political party leaders agreed a common statement on climate change before the 2015 general election, which included a commitment to act to restrict coal use for electricity generation.

2017 has already seen two significant interventions from mainstream political parties and politicians. In recent general election campaign in **The Netherlands** both the social-liberal D66 and the Green party made manifesto commitments in favour of coal phase out and its replacement with offshore wind. This will now form a topic for consideration during coalition negotiations, and will draw on a previous vote in Parliament in favour of phasing out coal. The three most recent coal plants in The Netherlands were commissioned in 2015 and 2016, making their potential closure within a decade a significant move with international influence. Meanwhile in France, the centrist candidate Macron has publically reaffirmed France's commitment to coal phase out in France, stating this should be done within the next five years.

Across Europe, coal power plants are ageing. More than half of them can be expected to close before 2030 due to age and / or poor environmental performance in any case. They will no longer be replaced with new coal plants, making the need for a transition plan a growing necessity for all countries and utility companies.

Enel needs a plan to phase out coal

At present, neither the Italian government nor the largest utility company Enel have a plan to phase out the use of coal. The Italian government holds a 25% stake in Enel, so there is a particular responsibility on Enel to take a lead. Indeed, over recent years

Enel has successfully repositioned itself as a leader in renewables and smart electricity systems, and has performed much better than other European utilities that failed to anticipate this transition. Continued substantial use of coal is a risk factor for Enel.

In March 2015 Enel made a commitment to gradually phase out its use of coal to support its pathway to becoming a carbon neutral power company by 2050. As the owner of seven of the last 11 coal plants in Italy, Enel has a particular responsibility to accelerate this action. Enel subsequently announced a plan to close 23 power plants in Italy over the coming years as a means of reducing overcapacity, however this was a missed opportunity for action on coal as the plan includes just three of the smallest and oldest coal plants. More positively, Enel CEO Francesco Starace has recognized that Enel's most modern coal plant will likely have shut by 2030.[11]

More recently, other companies are now shifting strategy: the Danish utility DONG will now be coal-free by 2023, while both EDF and Engie are starting to divest from coal in the footsteps of Vattenfall. Enel therefore needs to accelerate its shift from coal to clean energy if it is to stay a leader. Back in March 2015, Enel pledged to phase out new investments in coal. Now, Enel needs to act to phase out existing coal power plants – not only in Italy but also Spain, Portugal, Chile, Slovakia and Russia.

Notwithstanding Enel's international leadership position, within Italy they will need to be assisted by broader market regulations and government policy measures that provide a fair framework for action by all coal power plant operators in Italy.

Government policy is required

The scale of remaining coal generation in Italy requires a policy framework to facilitate closure decisions by utility companies and support investment in clean energy and smart grids.

The past decade of experience of the EU Emissions Trading System shows that it will not be sufficient for policy makers to rely on carbon trading as a means of phasing out coal. Additional policies are required, as recommended by WWF Italy in their recent study of coal phase out options.[12] Higher carbon prices through a dedicated mechanism can help to reduce generation from existing coal power plants (as has occurred recently in the UK). However the provision of a clear timetable for phase out can assist by giving greater investor certainty and a transition period for workers.

The new Italian National Energy Strategy must show how coal will be phased out before 2030. This is the challenge set by Italy's Paris Agreement commitments. This coal policy must then form part of Italy's first National Energy & Climate Plan under the EU 2030 framework.

Within the G7, Italy will face similar transition challenges to Canada and the UK over similar timescales. Using its 2017 Presidency as a starting point, Italy should work with its peers to share best practice and catalyse a broader coal phase out coalition with a growing set of countries, provinces and utilities.

About E3G

E3G are the independent experts on climate diplomacy and energy policy.

E3G works to accelerate the transition to a low carbon economy. We build the broad based coalitions necessary to deliver a safe climate, we bring independence to an extremely polarised discussion, and we hold policy makers to account on their promises.

E3G works closely with like-minded partners in government, politics, civil society, science, the media, public interest foundations and elsewhere.

E3G is a European organisation with a global outlook and reach. We currently have offices in London, Brussels, Berlin and Washington DC, together with a regular presence in China.

[1] In 2015 E3G undertook a detailed review of the coal situation in Italy on behalf of Oxfam, available at **http://www.e3g.org/docs/Italy_G7_analysis_September_2015.pdf**

[2] Analysis by Climate Analytics finds that EU and OECD countries should phase out coal by 2030 in order to deliver emissions reductions compatible with the commitments made in the Paris Agreement. See **http://climateanalytics.org/publications/2016/implications-of-the-paris-agreement-for-coal-use-in-the-power-sector.html**

[3] See **http://www.youdem.tv/doc/277907/renzi-discussione-cambiamenti-climatici-diventi-priorit-politica-non-sprechiamo-tempo.htm**

[4] European Environment Agency **http://www.eea.europa.eu/data-and-maps/indicators/overview-of-the-electricity-production-2/assessment**

[5] See **http://climateanalytics.org/publications/2017/stress-test-for-coal-in-the-eu.html**

[6] E3G's analyses of coal phase out developments can be found at **http://www.e3g.org/showcase/coal-phase-out**

[7] These numbers will have grown further by the time of the next edition in June 2017.

[8] See **https://www.e3g.org/library/japanese-coal-report**

[9] See **https://www.theguardian.com/environment/2017/mar/27/us-coal-industry-clean-power-plan-donald-trump**

[10] See **http://content.sierraclub.org/coal/victories**

[11] See **https://www.bloomberg.com/news/articles/2015-10-11/the-ceo-and-the-activist-meet-the-renewable-energy-odd-couple**

[12] See **http://awsassets.wwfit.panda.org/downloads/rapporto_carbone_wwf_16_02_17_def.pdf**