



E3G

G7 Coal Scorecard: 2016 update

Pre-G7 International Symposium:

Climate Change and Energy: Coal-fired power generation

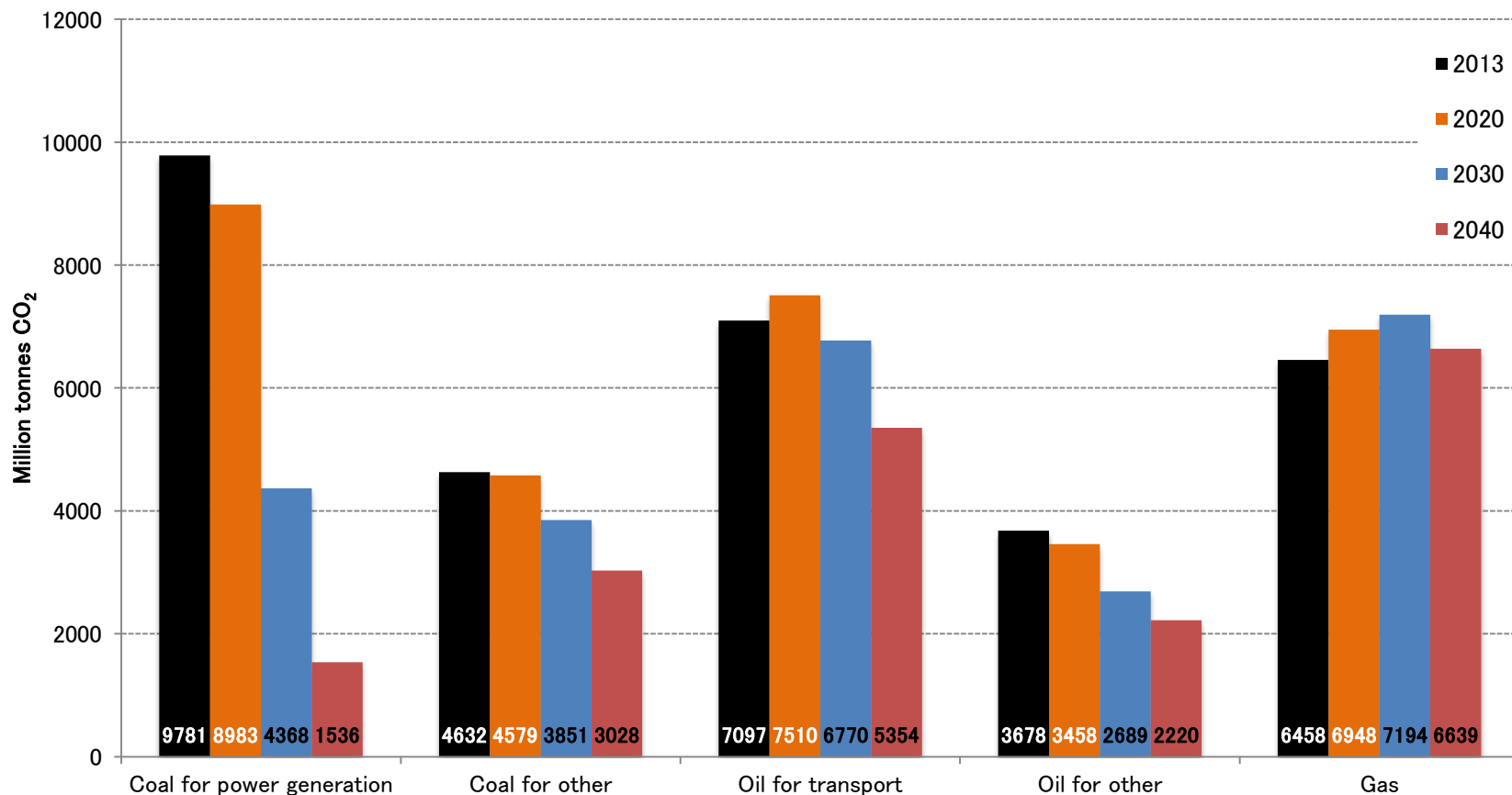
20 May 2016, Tokyo

Why Coal?



- Coal-fired power generation is single largest source of CO₂ emissions globally.
- Pollution from coal production and power generation is a major cause of poor health and environmental damage: coal cannot be ‘clean’.
- Reducing coal use in power generation is quickest and cheapest way to reduce CO₂ emissions.
- Clean technology alternatives are available.

Reducing coal use is key to meeting climate change objectives



Source: IEA 450 scenario from World Energy Outlook 2015

NOTE: IEA450 Scenario is not in line with Paris Agreement commitment to “holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C”. So the CO₂ reductions shown above will need to be exceeded.

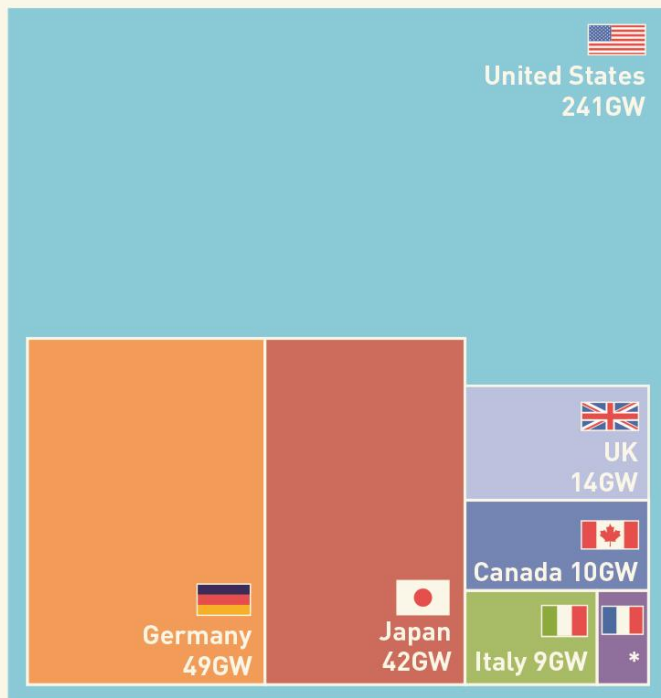
Why G7?



- G7 members have benefited from using coal.
- As international leaders they have a responsibility to accelerate action on climate change: both through their domestic efforts and international influence.
- G7 members have different levels of coal use in power generation. By reducing coal use they can provide different models for other countries.
- E3G published scorecard report in October 2015 to provide a benchmark of G7 performance on coal.
- Today: What has happened in past six months?

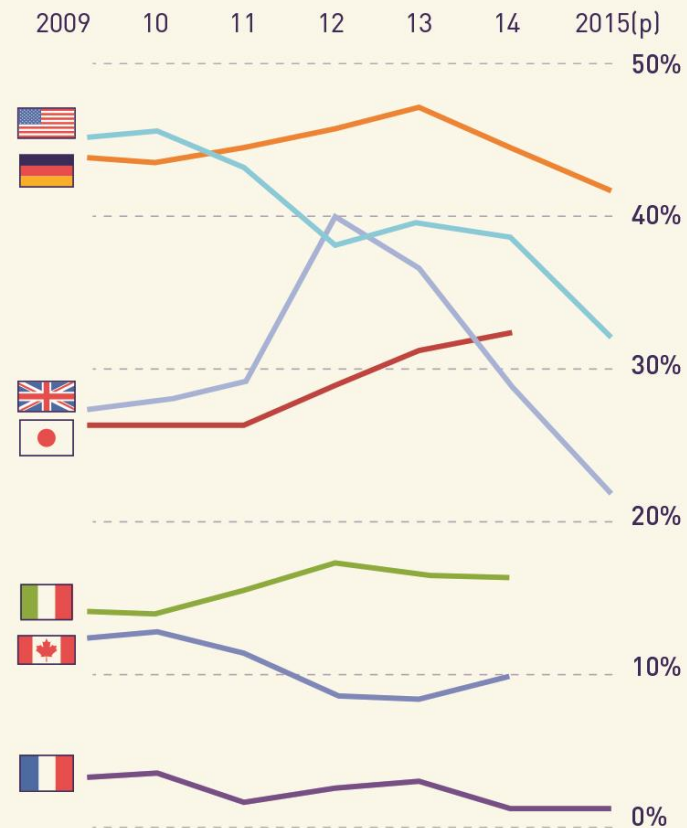
G7 Coal: capacity and generation

Coal-fired electricity generation capacity 2016



Source: World Bank, IEA, E3G calculations. (p) provisional results. *France 3GW

Share of electricity generation from coal-fired power plants



2015 data for Japan, Italy & Canada not yet available

Scorecard Components: market dynamics and government policies



1. Is there a risk of new coal power plants being constructed?
2. Are existing coal power plants being retired?
3. Do country actions have a positive international impact?

Coal scorecard comparison

G7 coal phase out progress

May 2016

- Poor performer
- Needs improvement
- Clear progress



Risk of new coal

Market drivers Government policy



Plant retirements

Market drivers Government policy

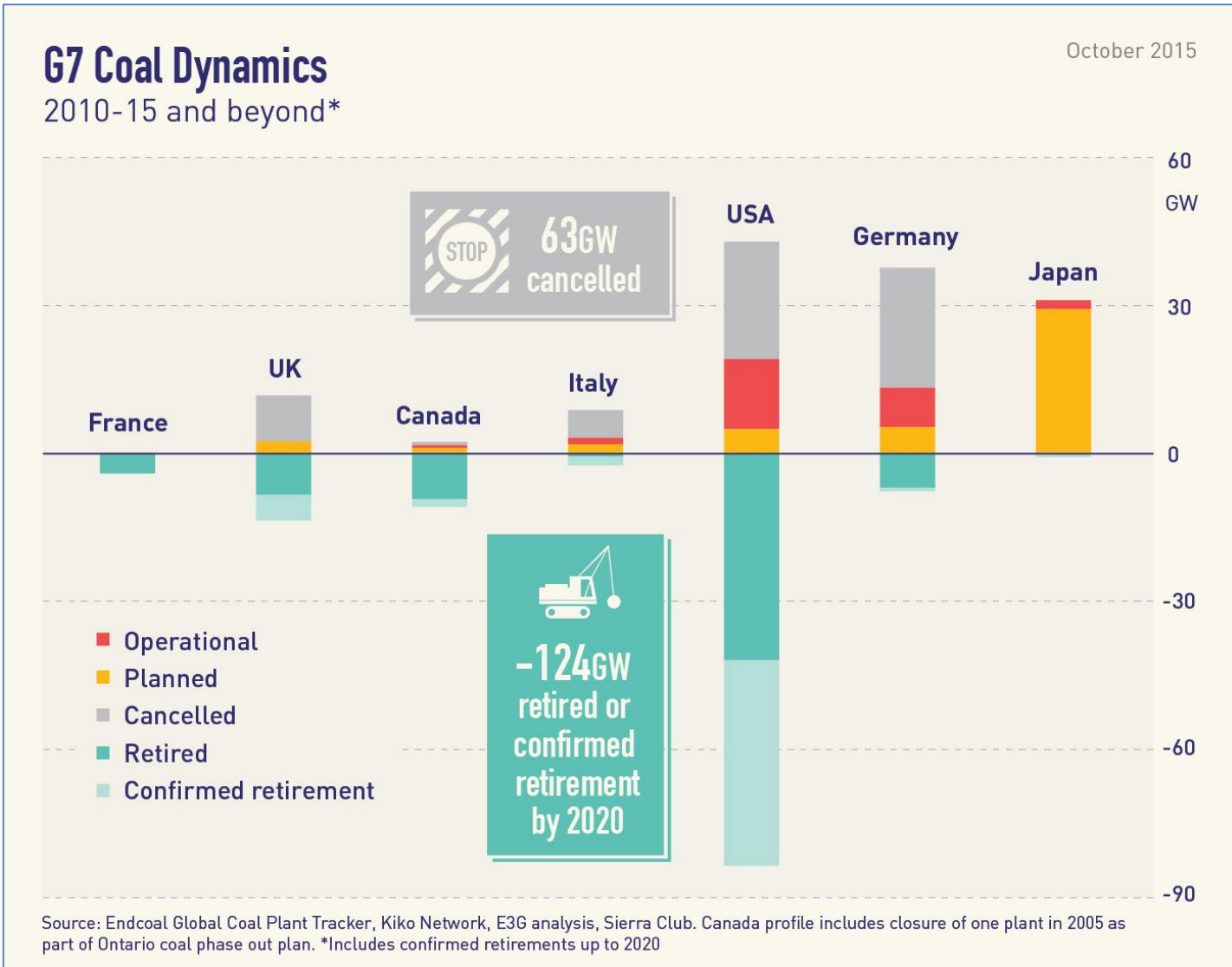


International impact

Private sector actions Government finance

October 2015:

G7 Coal Dynamics: 2010-15 and beyond



Key finding from October 2015: Japan is isolated among G7 peers

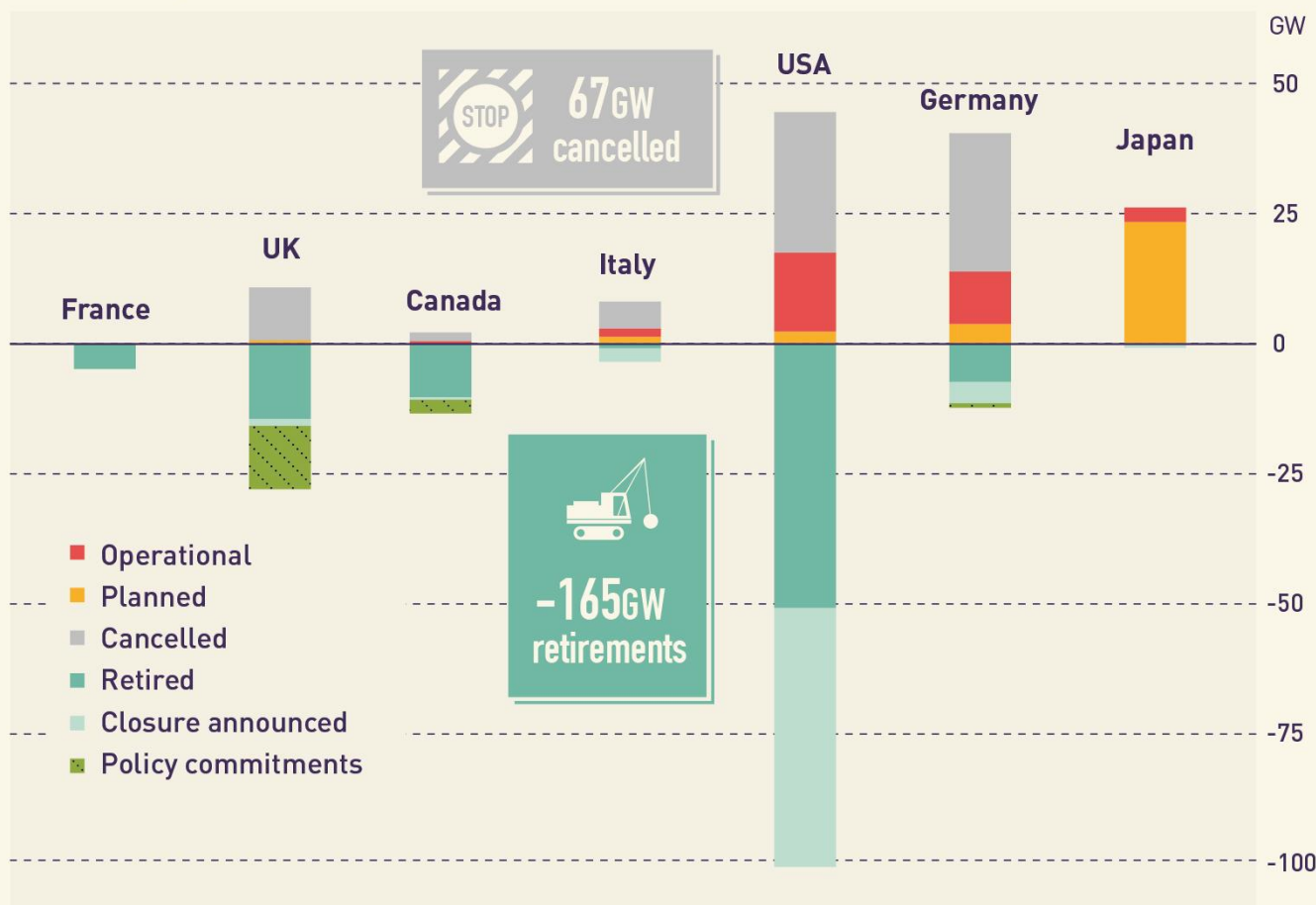


- Japan is the only G7 country still seeking to build new coal power plants
- In all other G7 countries the pipeline of new coal power plant developments has been turned off.
 - Germany has some coal power plants finishing construction now after being permitted in 2007-09, but they are all losing money.
- All other G7 countries are considering how to speed up the closure of existing coal power plants.

May 2016 update: G7 Coal Dynamics: 2010-16 and beyond

G7 Coal Dynamics 2010-16 and beyond*

May 2016



Source: EndCoal Global Coal Plant Tracker, Kiko Network Japan Coal Map, Sierra Club, E3G analysis. Canada profile includes closure of one plant in 2005 as part of Ontario coal phase out plan. *Includes coal plants with firm closure dates already announced plus closures due to result from government policy commitments.



What is new since October 2015?

- Total cancelled projects now = 67GW. +4GW
- Total retirements now = 165GW. +41GW
- Retirements charts now include a new category of ‘policy commitments’:
 - UK commitment to Coal Phase Out by 2025
 - Policy paper expected soon.
 - 4GW of coal power plant capacity already closed in 2016
 - Province of Alberta, Canada commitment to Coal Phase out by 2030
 - Alberta is home to half of Canada’s coal plants, and coal is currently majority source of electricity generation

Coal scorecard comparison: Oct 2015



E3G

Coal scorecard comparison

G7 coal phase out progress

October 2015

Poor performer

Needs improvement

Clear progress

		Risk of new coal		Plant retirements		International impact	
		Market drivers	Government policy	Market drivers	Government policy	Private sector actions	Government finance
	Canada						
	France						
	Germany						
	Italy						
	Japan						
	UK						
	USA						

Source: E3G assessment

Coal scorecard comparison: May 2016

Coal scorecard comparison
G7 coal phase out progress

May 2016

✖ Poor performer
- Needs improvement
✓ Clear progress

	Risk of new coal		Plant retirements		International impact	
	Market drivers	Government policy	Market drivers	Government policy	Private sector actions	Government finance
 Canada	✓	✓	-	✓	✖	-
 France	✓	-	-	-	-	✓
 Germany	-	-	✖	-	✖	✖
 Italy	-	-	-	✖	-	✖
 Japan	-	✖	✖	✖	✖	✖
 UK	✓	✓	✓	✓	✖	-
 USA	✓	✓	✓	✓	✖	✓

Source: E3G assessment

G7 ranking: October 2015

G7 ranking: coal phase out

October 2015

Countries ranked good to bad by action to phase out coal power

An aggregate ranking of G7 country performance towards phase out of coal power. Each country shows six scores, weighted across three progress indicators.

		Clear progress	Needs improvement	Poor performer	Performance summary
1 st	 USA	5	0	1	Policy efforts capitalising on market dynamics. Strong international leadership
2 nd	 France	2	4	0	Political direction impacting internationally. Needs to complete domestic phase out
3 rd	 UK	2	3	1	Ageing power plants are ripe for retirement. Political interest but policy incoherence
4 th	 Canada	2.5	1.5	2	Ontario has shown the way. Alberta set to follow. Federal efforts can be accelerated
5 th	 Italy	0	4	2	Enel moving but must prioritise coal phase out. Government needs to get a grip
6 th	 Germany	0	2	4	Climate leadership undermined by coal lobby influence on policy and international finance
7 th	 Japan	0	1	5	Worst performer in every category. Must turn off the tap of new coal plants

Assessment scoring based on 'Coal phase out: G7 country scorecard comparison' chart for greater detail on specific scoring.








G7 ranking: May 2016

G7 ranking: coal phase out

May 2016

Countries ranked good to bad by action to phase out coal power

An aggregate ranking of G7 country performance towards phase out of coal power. Each country shows six scores, weighted across three progress indicators. **Change compared to October 2015.**

			Change	Clear progress	Needs improvement	Poor performer	Performance summary
1 st	 USA	-	5	0	1	Over 100 GW of retirements.	
=2 nd	 France	-	2	4	0	Strong international leadership prior to Paris.	
=2 nd	 UK	⬆️	3	2	1	UK 2025 coal phase out commitment made, now policy delivery required. Ageing plants retiring.	
4 th	 Canada	⬆️	2.5	2.5	1	Alberta 2030 phase out commitment a major step forward. Needs to be matched at federal level.	
5 th	 Italy	-	0	4	2	Political rhetoric must result in firm commitments and a phase out plan.	
6 th	 Germany	⬆️	0	3	3	Starting to consider phase out timeframes. Initial retirements planned but insufficient.	
7 th	 Japan	-	0	1	5	Needs to address new coal plant risk, both at home and abroad.	

Assessment scoring based on qualitative analysis by E3G. See 'coal scorecard comparison' chart for greater detail on specific scoring.

Conclusions

- Positive dynamics in favour of a proactive transition away from coal power generation in 6 of the G7.
- Governments (national, provincial, state) are making policy commitments that will further accelerate these trends .
- But Japan remains isolated among its peers.
- Banks and utilities are starting to restrict finance flows and close (or sell) coal power plants.
- Will Japan strictly control its international coal finance and export credits?

Many thanks



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Canada coal phase out

Ranking: 4th in G7

No change since October 2015

May 2016

Current coal use

Electricity generated from coal in 2014



Risk of new coal power plants

Market drivers

✓ Clear progress

Government policy

✓ Clear progress

Retirement of existing coal power plants

Market drivers

— Needs improvement

Government policy

— ✓



International impact

Private sector actions

✗ Poor performer

Government finance

— Needs improvement



Trend since 2009



*2015 data not yet available

France coal phase out

Ranking: joint 2nd in G7

No change since October 2015

May 2016

Current coal use

Electricity generated from coal in 2015



Risk of new coal power plants

Market drivers

✓ Clear progress

Government policy

— Needs improvement

Retirement of existing coal power plants

Market drivers

— Needs improvement

Government policy

— Needs improvement



International impact

Private sector actions

— Needs improvement

Government finance

✓ Clear progress



Trend since 2009



Germany coal phase out

Ranking: 6th in G7

No change since October 2015

May 2016

Current coal use

Electricity generated from coal in 2015



Risk of new coal power plants

Market drivers

— Needs improvement

Government policy

— Needs improvement

Trend since 2009



Retirement of existing coal power plants

Market drivers

✘ Poor performer

Government policy

— Needs improvement



International impact

Private sector actions

✘ Poor performer

Government finance

✘ Poor performer

Italy coal phase out

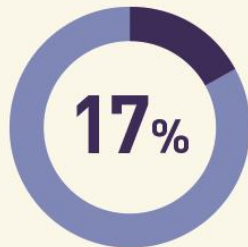
Ranking: 5th in G7

No change since October 2015

May 2016

Current coal use

Electricity generated from coal in 2014*



Risk of new coal power plants

Market drivers

— Needs improvement

Government policy

— Needs improvement

Retirement of existing coal power plants

Market drivers

— Needs improvement

Government policy

✘ Poor performer



International impact

Private sector actions

— Needs improvement

Government finance

✘ Poor performer



Trend since 2009



*2015 data not yet available



Japan coal phase out

Ranking: 7th in G7

No change since October 2015

May 2016

Current coal use

Electricity generated from coal in 2014



Risk of new coal power plants

Market drivers

— Needs improvement

Government policy

✘ Poor performer

Trend since 2009



Retirement of existing coal power plants

Market drivers

✘ Poor performer

Government policy

✘ Poor performer



International impact

Private sector actions

✘ Poor performer

Government finance

✘ Poor performer

*2015 data not yet available

UK coal phase out

Current coal use

Electricity generated from coal in 2015



Trend since 2009



Ranking: joint 2nd in G7

Up one place since October 2015

May 2016

Risk of new coal power plants

Market drivers



Clear progress

Government policy



Clear progress

Retirement of existing coal power plants

Market drivers



Government policy



International impact

Private sector actions



Poor performer

Government finance



Needs improvement

USA coal phase out

Ranking: 1st in G7

No change since October 2015

May 2016

Current coal use

Electricity generated from coal in 2015



Risk of new coal power plants

Market drivers



Clear progress

Government policy



Clear progress

Trend since 2009



Retirement of existing coal power plants

Market drivers



Clear progress

Government policy



Clear progress



International impact

Private sector actions



Poor performer

Government finance



Clear progress