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

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

- United States: 241GW
- Germany: 49GW
- Japan: 42GW
- UK: 14GW
- Canada: 10GW
- Italy: 9GW

Share of electricity generation from coal-fired power plants

- 2009: 50%
- 2015: 40%
- 2015 (p): 30%
- 2015 (p): 20%
- 2015 (p): 10%
- 2015 (p): 0%

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

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?
October 2015:
G7 Coal Dynamics: 2010-15 and beyond

G7 Coal Dynamics
2010-15 and beyond*

Stop 63GW cancelled

USA
Germany
Japan

France
UK
Canada
Italy

-124GW retired or confirmed retirement by 2020

Operational
Planned
Cancelled
Retired
Confirmed retirement

Source: Endcoal Global Coal Plant Tracker, Kiko Network, E3G analysis, Sierra Club. Canada profile includes closure of one plant in 2005 as part of Ontario coal phase out plan. *Includes confirmed retirements up to 2020
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*

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

### Coal scorecard comparison

**G7 coal phase out progress**

<table>
<thead>
<tr>
<th></th>
<th>Risk of new coal</th>
<th>Plant retirements</th>
<th>International impact</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Market drivers</td>
<td>Government policy</td>
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</tr>
<tr>
<td>Canada</td>
<td>✓</td>
<td>✓</td>
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<td>France</td>
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**Source:** E3G assessment
## Coal scorecard comparison

### G7 coal phase out progress

<table>
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<th>Poor performer</th>
<th>Needs improvement</th>
<th>Clear progress</th>
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<th>Private sector actions</th>
<th>Government finance</th>
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<tr>
<td>Canada</td>
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Source: E3G assessment
# G7 ranking: coal phase out

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.

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

Assessment scoring based on [G7 Coal Scorecard](https://example.com) and [G7 Scorecard comparison](https://example.com) chart for greater detail on specific scoring.
# G7 ranking: May 2016

## G7 ranking: coal phase out

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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.*

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<tr>
<td>=2&lt;sup&gt;nd&lt;/sup&gt; France</td>
<td>-</td>
<td>2</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>=2&lt;sup&gt;nd&lt;/sup&gt; UK</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>UK 2025 coal phase out commitment made, now policy delivery required. Ageing plants retiring.</td>
</tr>
<tr>
<td>4&lt;sup&gt;th&lt;/sup&gt; Canada</td>
<td>2.5</td>
<td>2.5</td>
<td>1</td>
<td>Alberta 2030 phase out commitment a major step forward. Needs to be matched at federal level.</td>
</tr>
<tr>
<td>5&lt;sup&gt;th&lt;/sup&gt; Italy</td>
<td>-</td>
<td>0</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>6&lt;sup&gt;th&lt;/sup&gt; Germany</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>Starting to consider phase out timeframes. Initial retirements planned but insufficient.</td>
</tr>
<tr>
<td>7&lt;sup&gt;th&lt;/sup&gt; Japan</td>
<td>-</td>
<td>0</td>
<td>1</td>
<td>Needs to address new coal plant risk, both at home and abroad.</td>
</tr>
</tbody>
</table>

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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E3G - Third Generation Environmentalism

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Canada coal phase out

Current coal use

Electricity generated from coal in 2014

10%

Trend since 2009

2014: 10%
2009: 20%

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

Ranking: 4th in G7
No change since October 2015

May 2016
France coal phase out

Current coal use
Electricity generated from coal in 2015
2%

Trend since 2009
20%

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
Germany coal phase out

Germany

Ranking: 6th in G7
No change since October 2015

May 2016

Current coal use
Electricity generated from coal in 2015
42%

Risk of new coal power plants
Market drivers
Needs improvement
Government policy
Needs improvement

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

Current coal use
Electricity generated from coal in 2014:
17%

Trend since 2009:
- 20%

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

Ranking: 5th in G7
No change since October 2015

May 2016

*2015 data not yet available
Japan coal phase out

Current coal use

Electricity generated from coal in 2014: 33%

Trend since 2009:
- 2009: 30%
- 2014: 40%

Risk of new coal power plants

Market drivers:
- Needs improvement

Government policy:
- Poor performer

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: 23%
- Trend since 2009: Decreasing from 40% to 30%

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: Clear progress

International impact
- Private sector actions: Poor performer
- Government finance: Needs improvement

UK

Ranking: joint 2nd in G7
Up one place since October 2015

May 2016
USA coal phase out

Current coal use

Electricity generated from coal in 2015: 33%

Trend since 2009:
- 09: 50%
- 15: 40%
- 30: 33%

Risk of new coal power plants

Market drivers: Clear progress
Government policy: Clear progress

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

Ranking: 1st in G7
No change since October 2015

May 2016