Japan's Climate And Energy Policy and the Status of Coal Power

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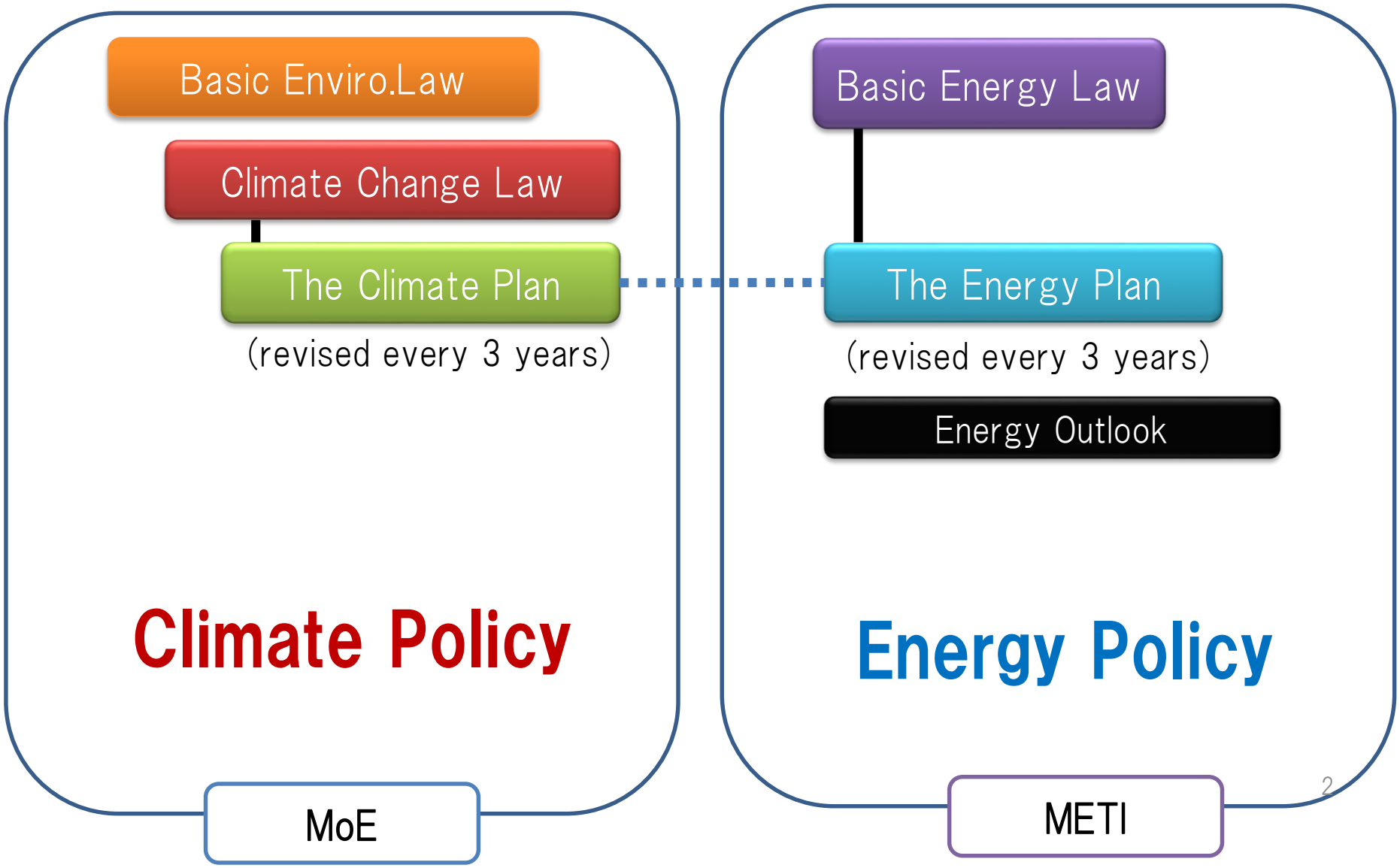
Climate・Energy Policy Structure



Energy Policy

- **The Basic Energy Plan**（revised in 2014）
  - Nuclear and coal power 「Important baseload electricity」

- **Electricity mix for 2030**
  - Fossil Fuel（coal 26%・LNG 27%） （more than 50%）
  - Nuclaer 20-22%、 renewables 22-24%

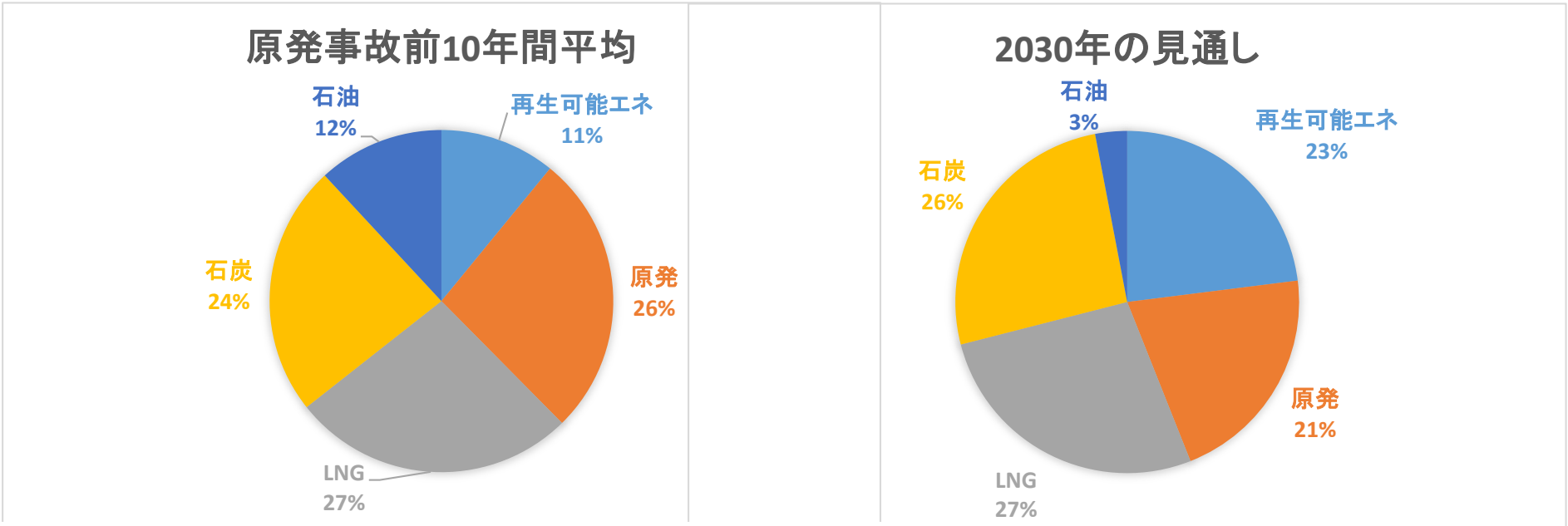


図　電源構成の2030年見通し（出所：資源エネルギー庁）

Energy Policy

- **Nuclear (20-22%) is realistic ?**
  - 14 units declare decommission
  - Capacity factor reduce half in 2030
    (40 years lifetime・capacity factor 70%)
  - Strong public opposition (2 units under operation)

- **Target for renewable is too low?**
  - FIT: a success in adopting solar
  - After FIT、 Re power increase from 11% to 15%
    (from 1% to 4.7%, excluding large hydro)

Policy aims to go back to the pre-Fukushima energy system?

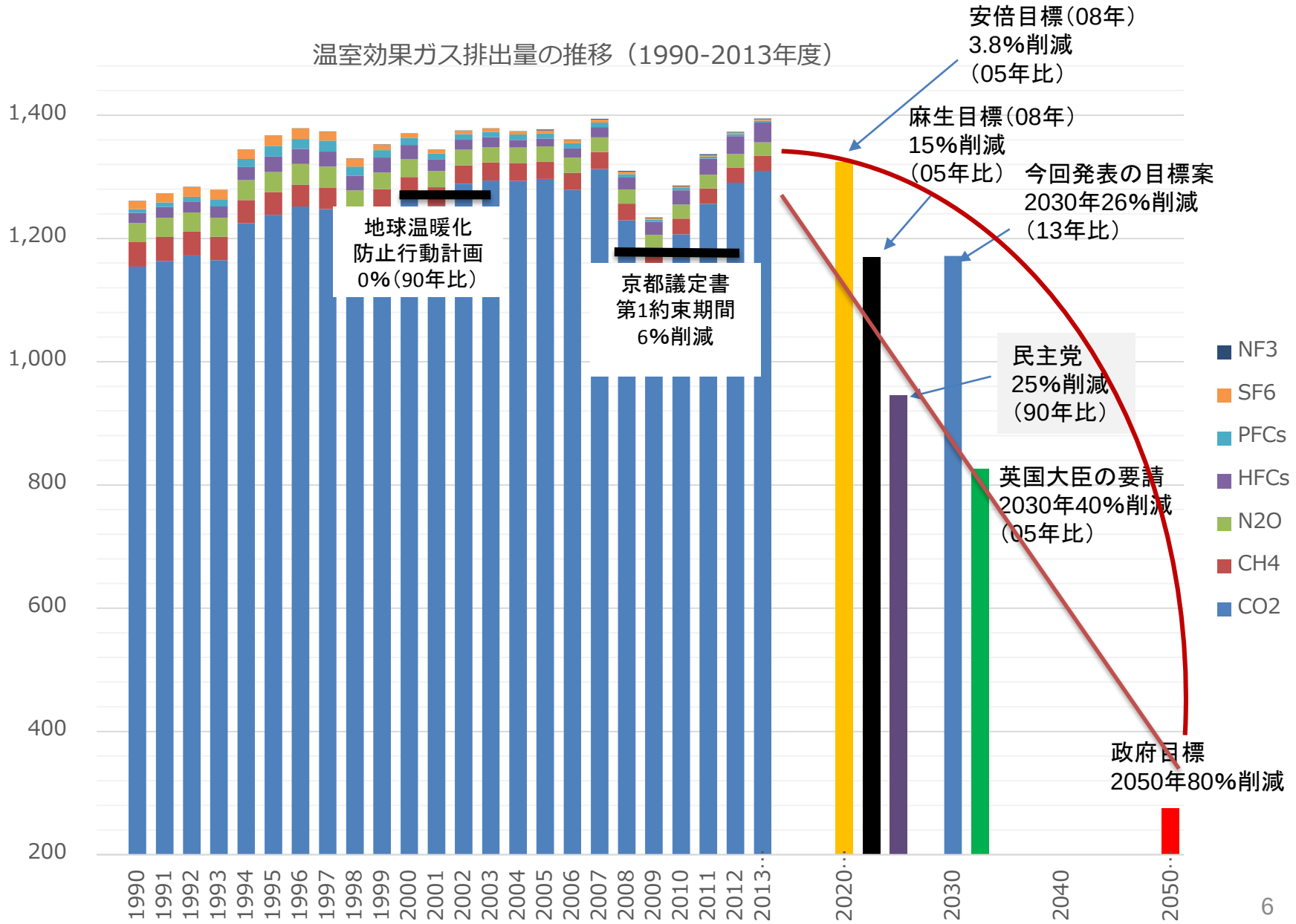
Climate Policy

- **The Plan for Global Warming Countermeasures**
  （May 2016）
  - **The plan agreed after the Paris Agreement**（After 3 years gap）
    ～ because of no participation of 2nd CP of the Kyoto P.
  - **Target**

2050	- 80%
2030	-26%（2013 base yr） (-18%（1990 base yr）
2020	-3.8%（2005 base yr） (+5.8%（1090 base yr）

  - **Policies and measures**
    - Request continuation of voluntary action to industry
    - No further additional measures

Japan's GHG emission and targets



Climate Action Trackerの評価
“Inadequate（不適切）”

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CLIMATE ACTION TRACKE

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Role Model
Bhutan

Sufficient
Costa Rica
Ethiopia
Morocco

Medium
Brazil
China
EU
India
Indonesia
Kazakhstan
Mexico
Norway
Peru

Japan

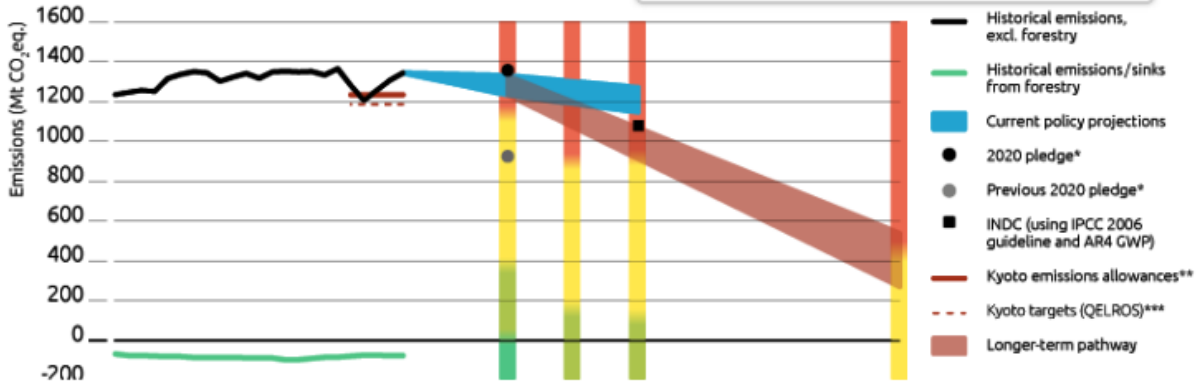
Page last updated: 22nd July 2015

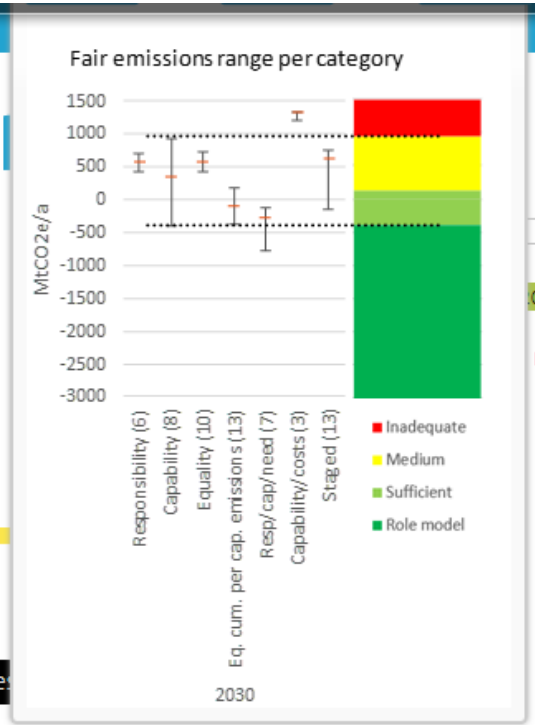
Rating

Medium

Inadequate

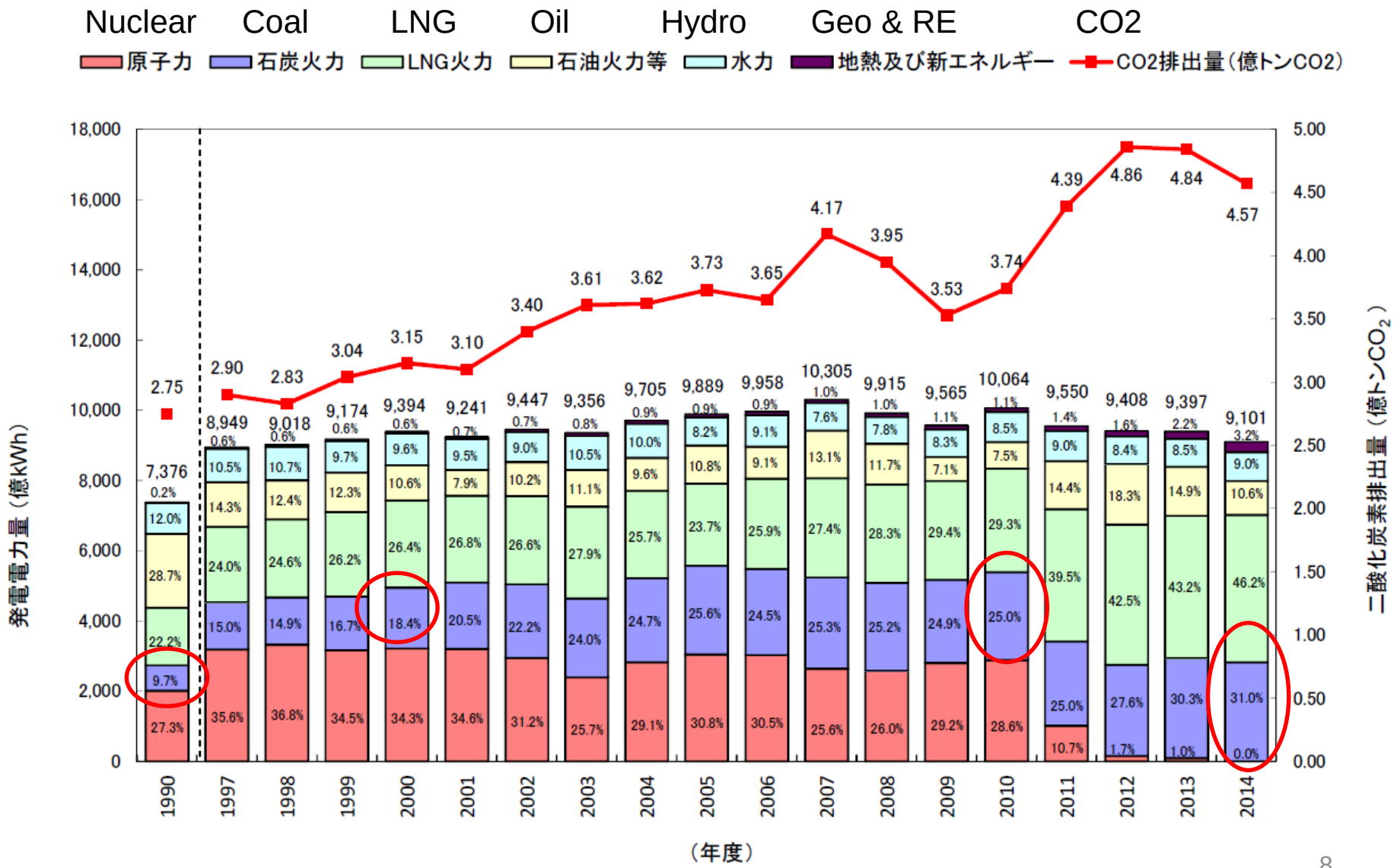
+Pledge





Coal power increase in electricity Generation

9.7%（90）→**18.4%**（00）→**25.0%**（10）→**31.0%**（14）



出典：環境省「2014年度の温室効果ガス排出量（確報値）について」より抜粋・加筆

Existing coal power

- 42GW
- Many old plants, but small
- New plants: big and many
- operation year : less than 20 yrs：55%、 less than 30 yrs：80%

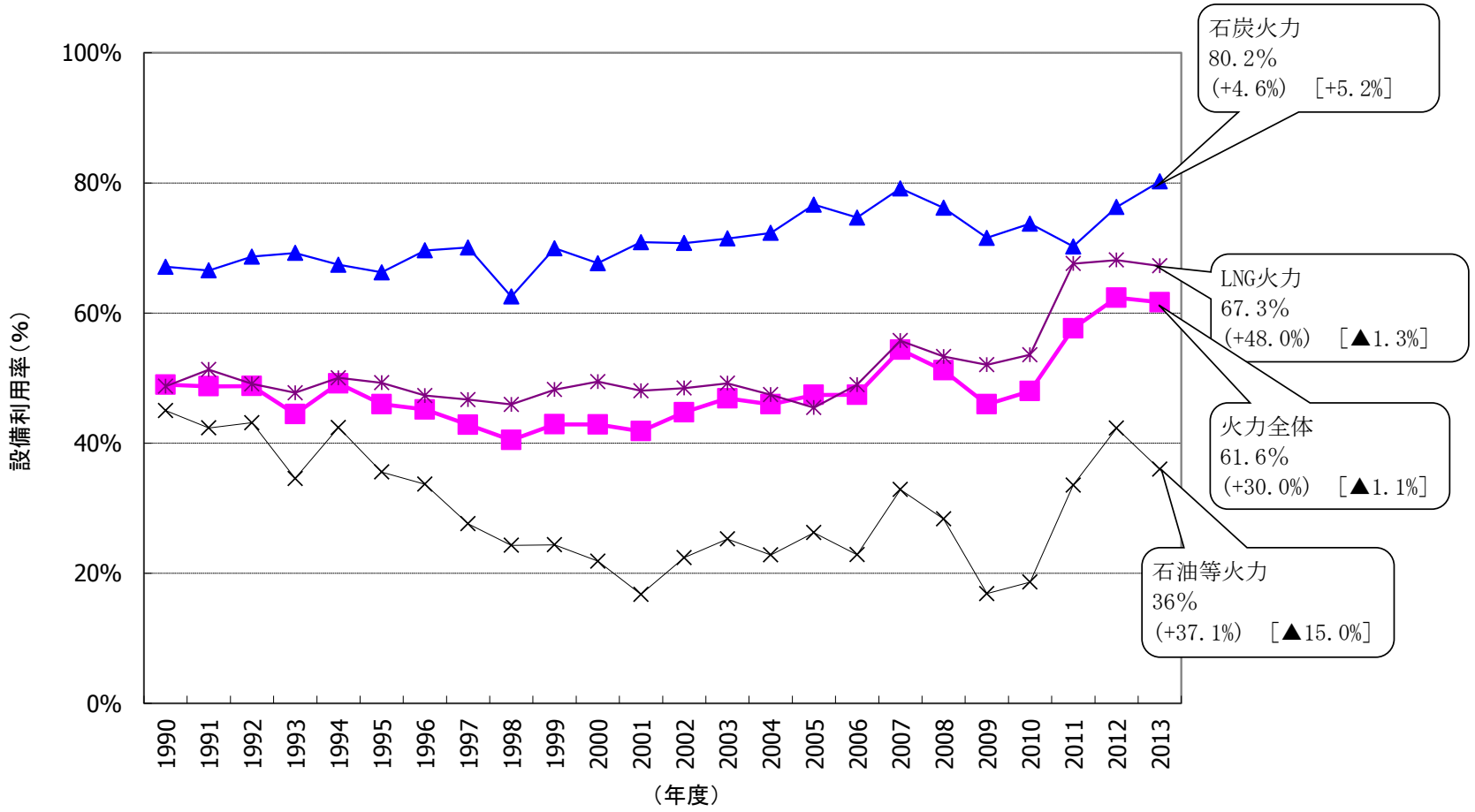
Operation yr	Start yr	Capacity（GW）	No.
- 40	～1975	3.54	18
30～39	1976～1985	4.89	12
20～29	1986～1995	10.47	19
- 20	1996～	22.95	45
（計）		41.85	94

Capacity factor for thermal power

Coal operates fully

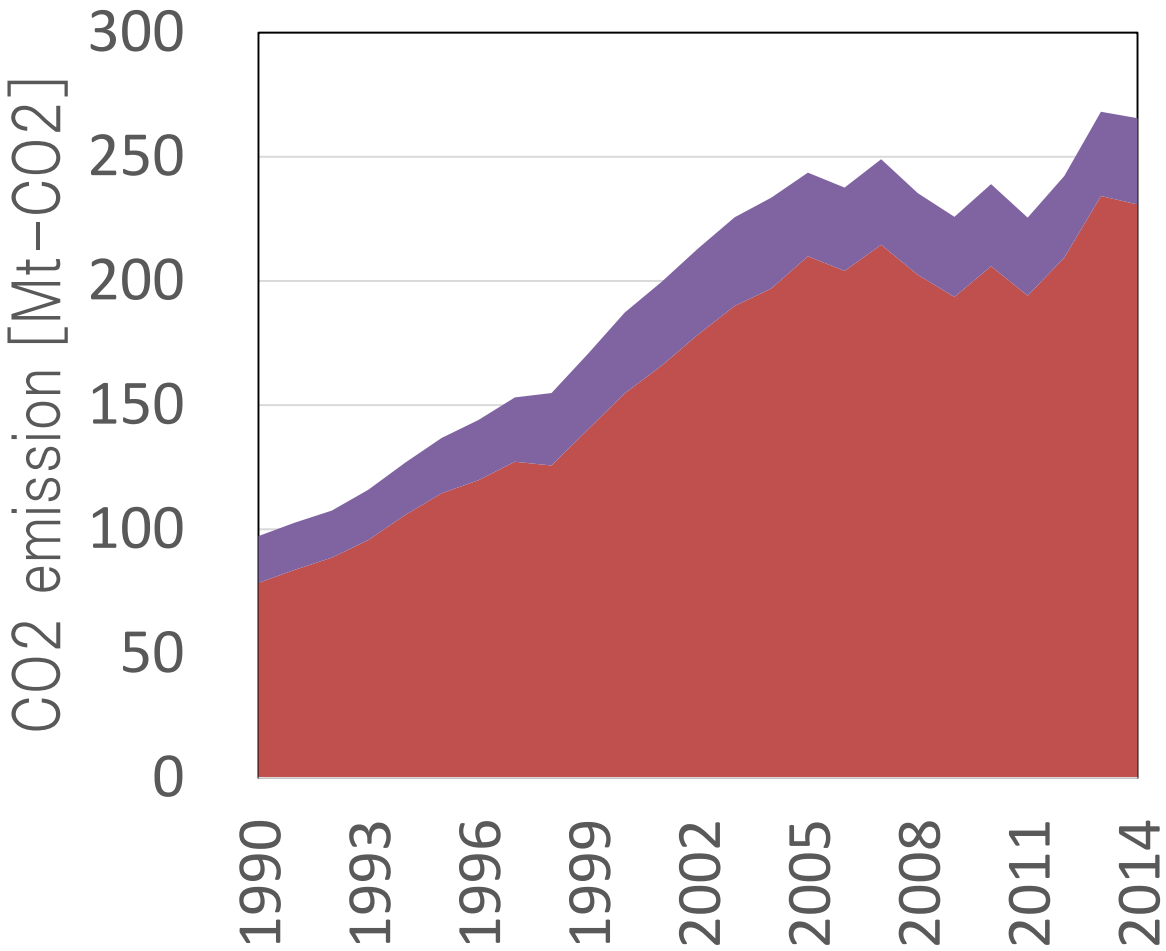
coal : 80.2%、LNG : 67.3%、oil36%

（発電所のユニット（号機）ごとの設備利用率は非公開）



出典：環境省「2013年度の温室効果ガス排出量（確報値）について」より抜粋・加筆

CO2 emissions from Coal Power Generation



Over 270Mt-CO2 from coal (13% of 1990 emissions)

出典：総合エネルギー統計より作成

日本語 English

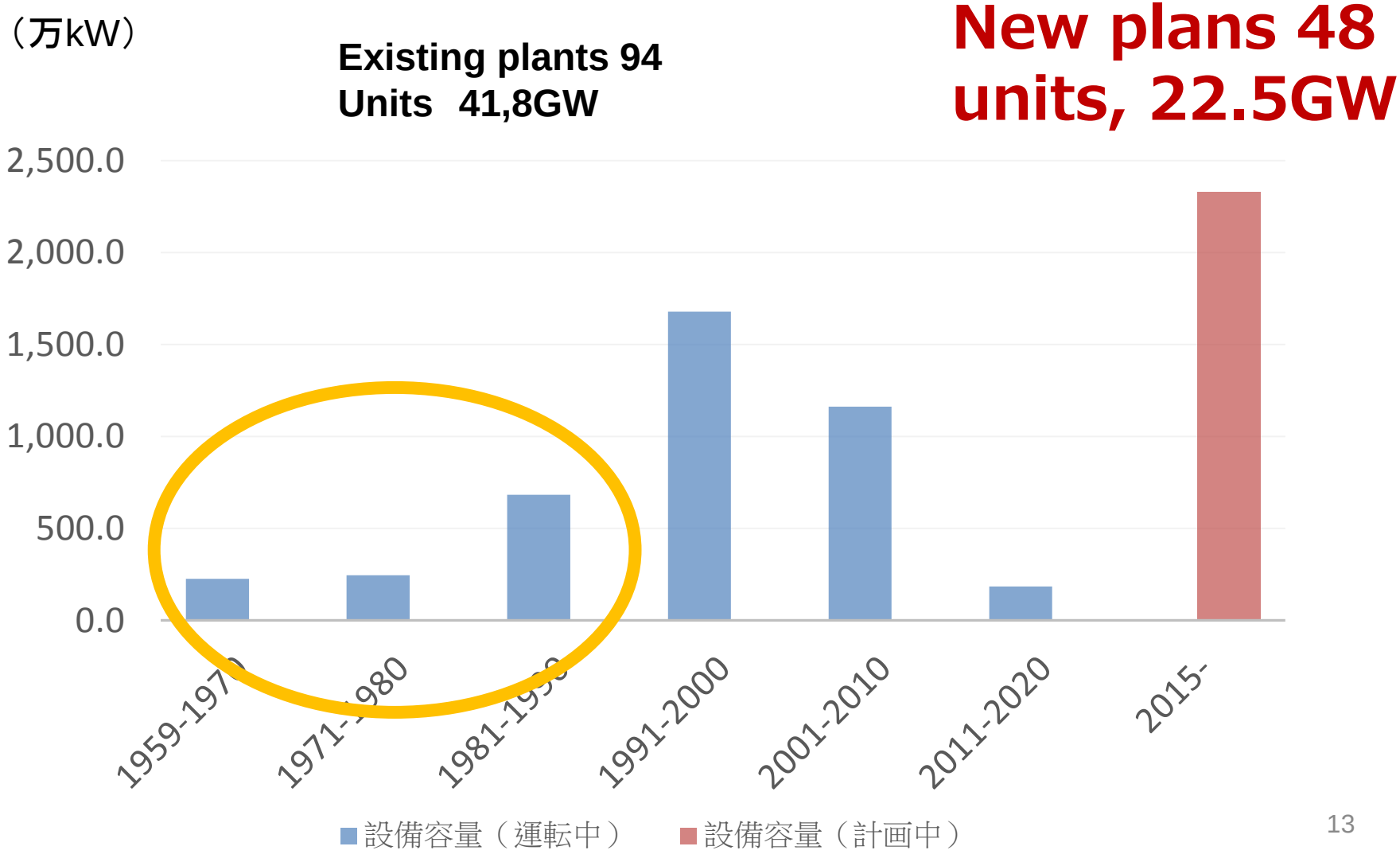
石炭発電所新設ウォッチ

Don't go back to the 石炭！

石炭発電所新設マップ | 一覧表

Impact of new construction plan of coal power

Coal Capacity (start year of operation and new plans)



Impacts of Construction Plans

- **New Plans：47 units、22,5GW**
  - 17 Small scale plants requires no EIA
  - Construction rush in 2020
  - Fukushima reconstruction and Olympic electricity in 2020
  - Developers from different sectors (steel・trade, gas, paper&pulp)）

Under construction	Under EIA
3.17GW	15,05GW

- **Additional CO2 emissions： 135Mt-CO2**
  - Accounts for 10% of Japan's total GHG in 1990
  - More than half of total GHG emission in 2050 (250Mt-CO2) which Japan commit 80% reduction

Trend of Coal Power Policy in Japan

- **Kyoto Effects in 2009**: New construction plan was once freesd after entry into force of the KP
  - New plan has been stopped in 2009

  （After the comment of Minister of the Envrionment during the process of EIA）

- **After Fukushima（2012～）：** New policy introduction to incentivize coal power generation after Fukushima accident.

- **Basic Energy Plan in 2014:** Promoting nuclear power & and coal power simultaneously as ”base load electricity”

massive increase of
new coal power plans

Promotion of Coal Power Generation after Fukushima

１）Speeding up of Environmental Assessment

The government agreed to simplify and speed up EIA for coal power plants replacements.

-> Green light for coal construction

２）Tender system for new thermal power development

The government introduced tender system for thermal power development to lower the electricity price by widely opened its bit for new entrants like IPP business operators.

-> push coal rather than gas

Promotion of Coal Power Generation after Fukushima

3）Electric Industry's voluntary framework

The government requests industry group to conduct "voluntary framework" to tackle with CO2 in line with Japan's national GHG target, rather than considering new instruments.

⇒ "voluntary" not regulation

※Utilities association and new entrants announce voluntary framework（2015.7.17）
「0.37kg-CO_2/kWh by 2030」

New policy measure to restrict coal power

Too much to meet national target in 2030～

- **New Plants: revise efficiency standard**

  Coal: Ultra-super Critical （USC） level

  （generation efficiency ＞42.0%（HHV)

  LNG：Combined cycle gas generation level

  （ generation efficiency ＞ 50.5%（HHV)

※However, projects already under bidding process or EIA process will be excluded.

→ Most plants won't be affected

New policy measure to restrict coal power

Too much to meet national target in 2030～

- **Existing plants: benchmark standards** (company level)

  Indicator 1） Generation efficiency for each fuel

  （coal41%、LNG48%、oil39%）

  Indicator 2） Combined efficiency for all thermal power

  （44.3%）

→Utilities with high coal share will be affected

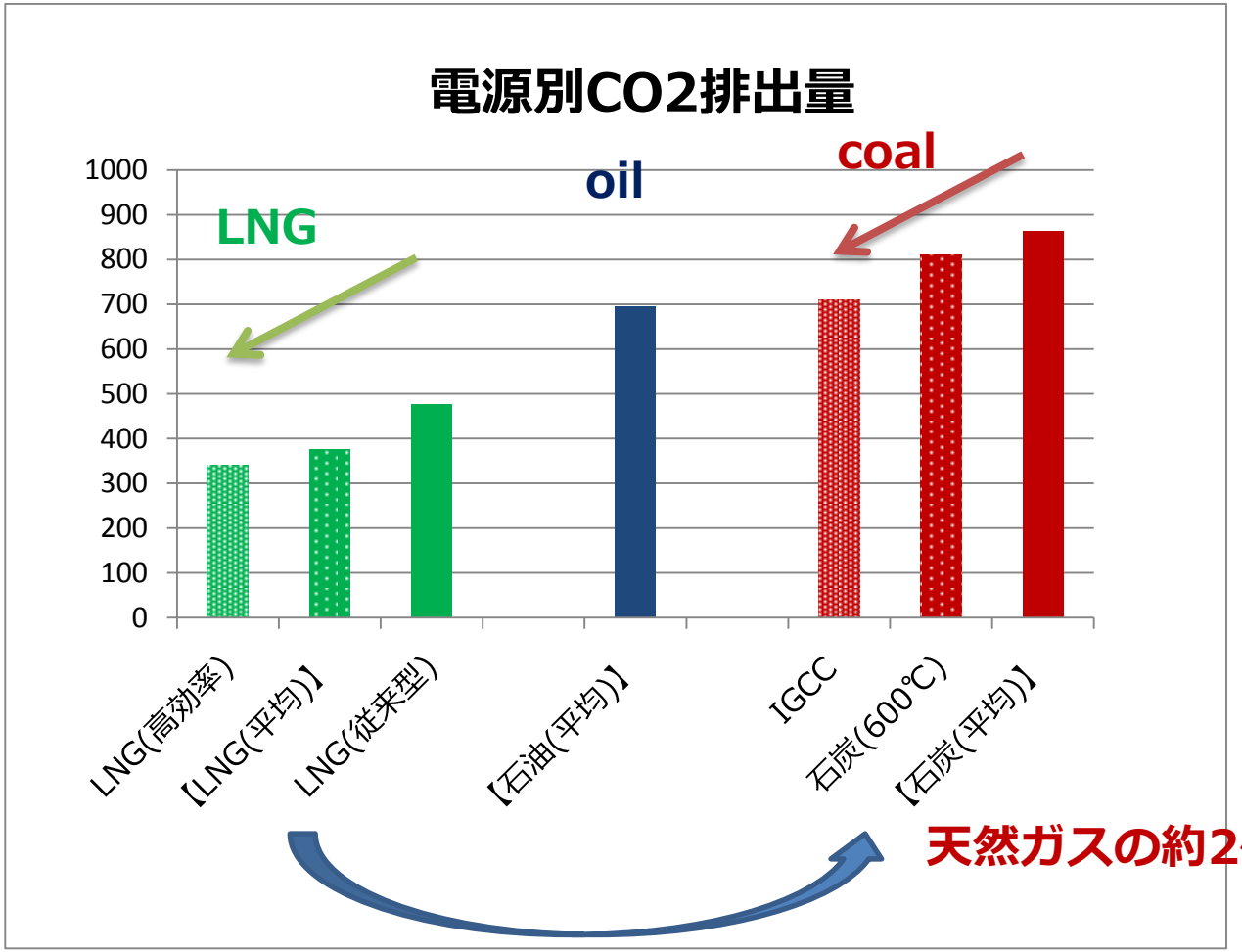
(But joint achievement is allowed)

→expected effects: reduction of coal utilization, increase of LNG share

Voluntary scheme & no information disclosure

-> Effectiveness is in doubt

High efficient low emission (HELE) is not clean



【coal】
BAT:　810g/kWh
IGCC: 710g/kWh
IGFC: 約600g/kWh

【oil】
平均：695g/kWh

【LNG】
汽力：476g/kWh
平均：375g/kWh
複合高効率：341g/kWh
…さらにもっと？

Ministry of the Environment

- **“Not acceptable” in EIA process**（2015）

年月	発電所名	企業名	設備容量（万kW）
2015.6	西沖の山	山口宇部パワー	120
2015.8	武豊5号	中部電力	107
2015.8	千葉袖ヶ浦	出光興産，九州電力，東京ガス	200
2015.11	秋田港	丸紅，関電エネルギーソルーション	130

- **But, it turn around the position with METI’s new policy and cooperation with METI**

→ Virtual “acceptance”

Summary

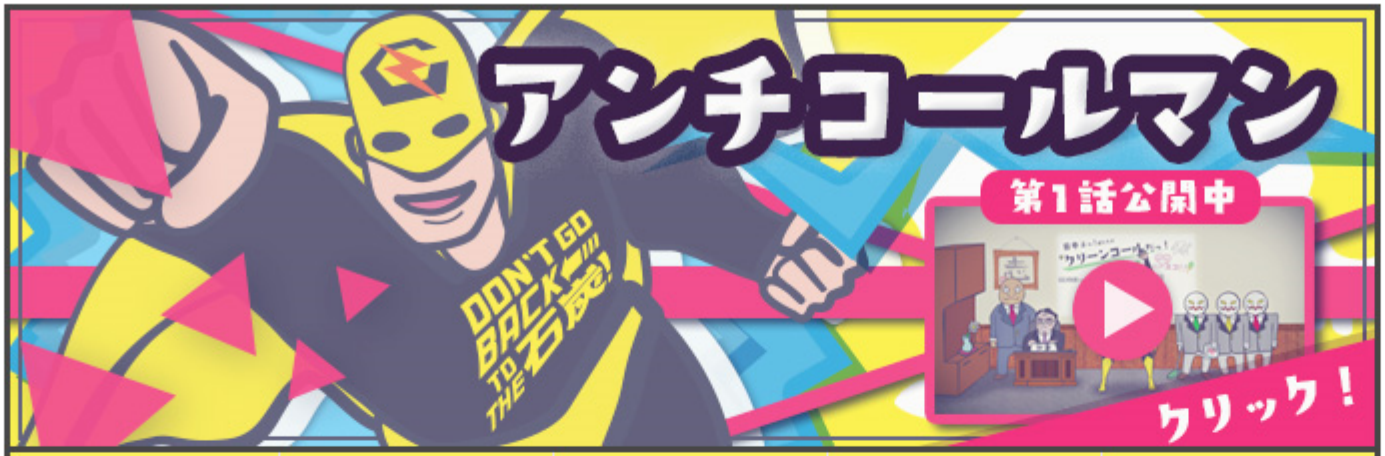
・Coal power emits a lot of CO2, even HELE

・After Fukushima, coal was reassessed and pushed by policies

・A number of new coal plans. Questions arise for METI's policy measures. Measures to restrict current expansion is still missing.

・Coal power have Environmental (climate)risk, health risk, and Economic risk.

・At G7, climate and energy is one of the agenda. Japan should reconsider current energy policy, especially on coal.



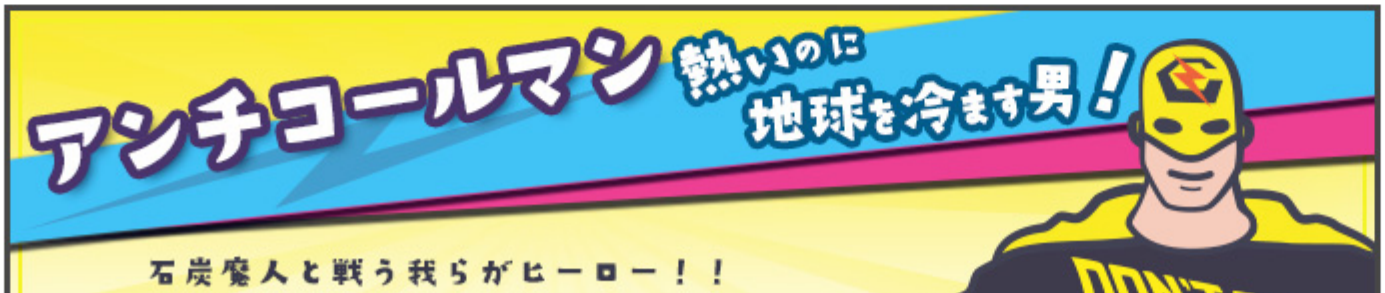
本編を見る | あらすじ | 登場人物 | 賛同しよう | 石炭帝国の野望

あらすじ

200年もの間、地球上で栄華を誇ってきた「石炭帝国」。その勢いは一度ついえたかに見えた。
しかし・・・日本を襲った大震災により石炭帝国は息を吹き返し、地底に姿を潜めていたその手先「石炭魔人」
ひどく活発化しているのだ。
そこにどこからともなく現れた、我らがヒーロー、アンチコールマン。
石炭帝国の野望を砕くべく、アンチコールマンは今日も行く！！！

トップへ

登場人物



トピックス topics 一覧 list

2016/1/11 福島の大型石炭火力発電計画2件で意見募集（1月15日まで）

2016/1/7 脱石炭への大きなシグナル：OECDの石炭技術[illegible]制への合意と「パリ協定[illegible]

[illegible]動画[illegible]の

No Coal, Go Green!

検索: 検索

ツイート フォローする

アンチコールマン 23時間