# Energy related issues and standardization

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# 1. Situations of world energy systems

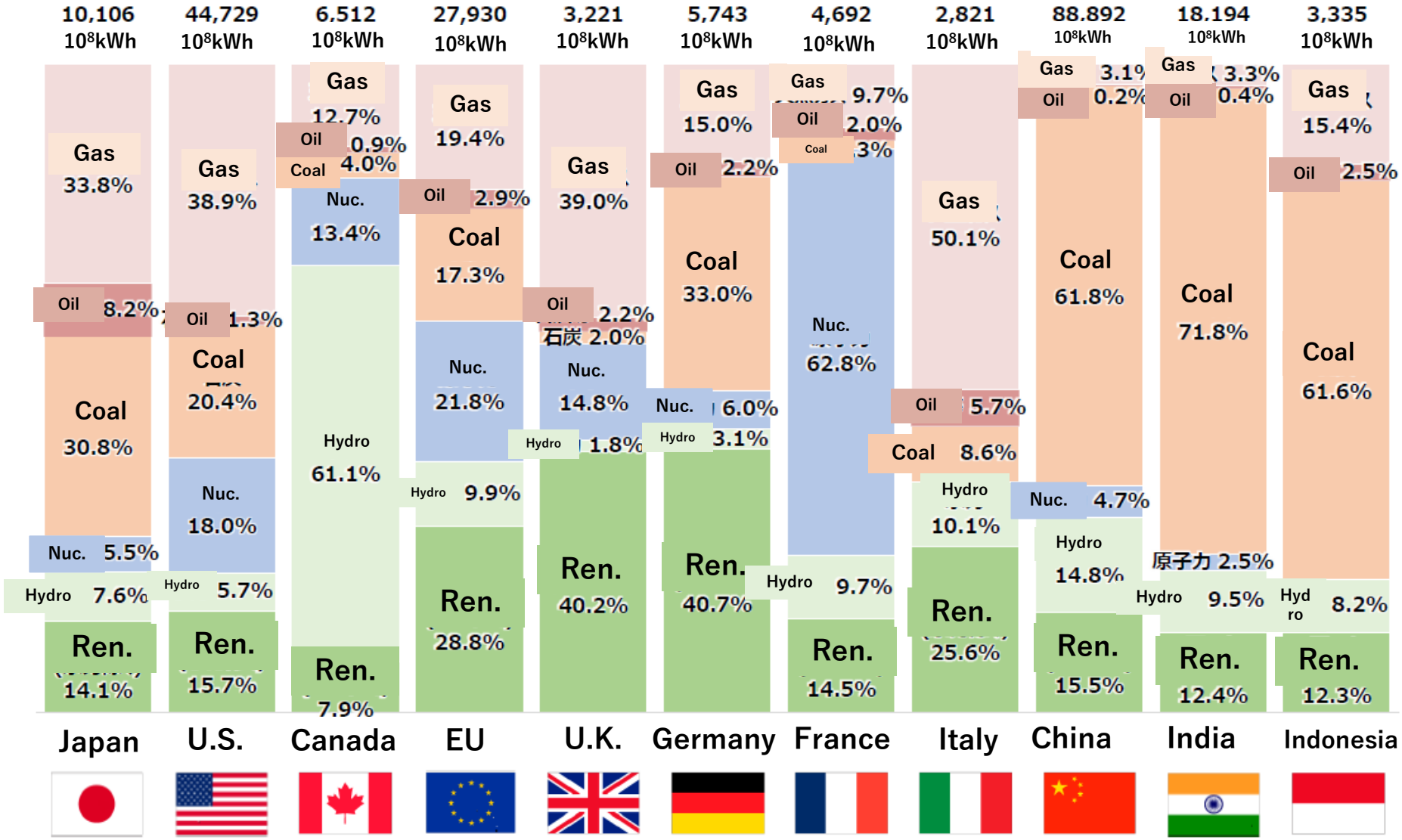
# Energy transitions for various countries and regions

**From the statement of Ms. Angela Wilkinson, CEO of World Energy Conference, April 22, 2024**

There is no single energy transition and no world energy system. There are energy transitions from different starting points and situations, and a variety of regional visions where the direction of travel is clear. But how to get there requires multiple pathways because what got us ‘here’ will not get us where we want to go.

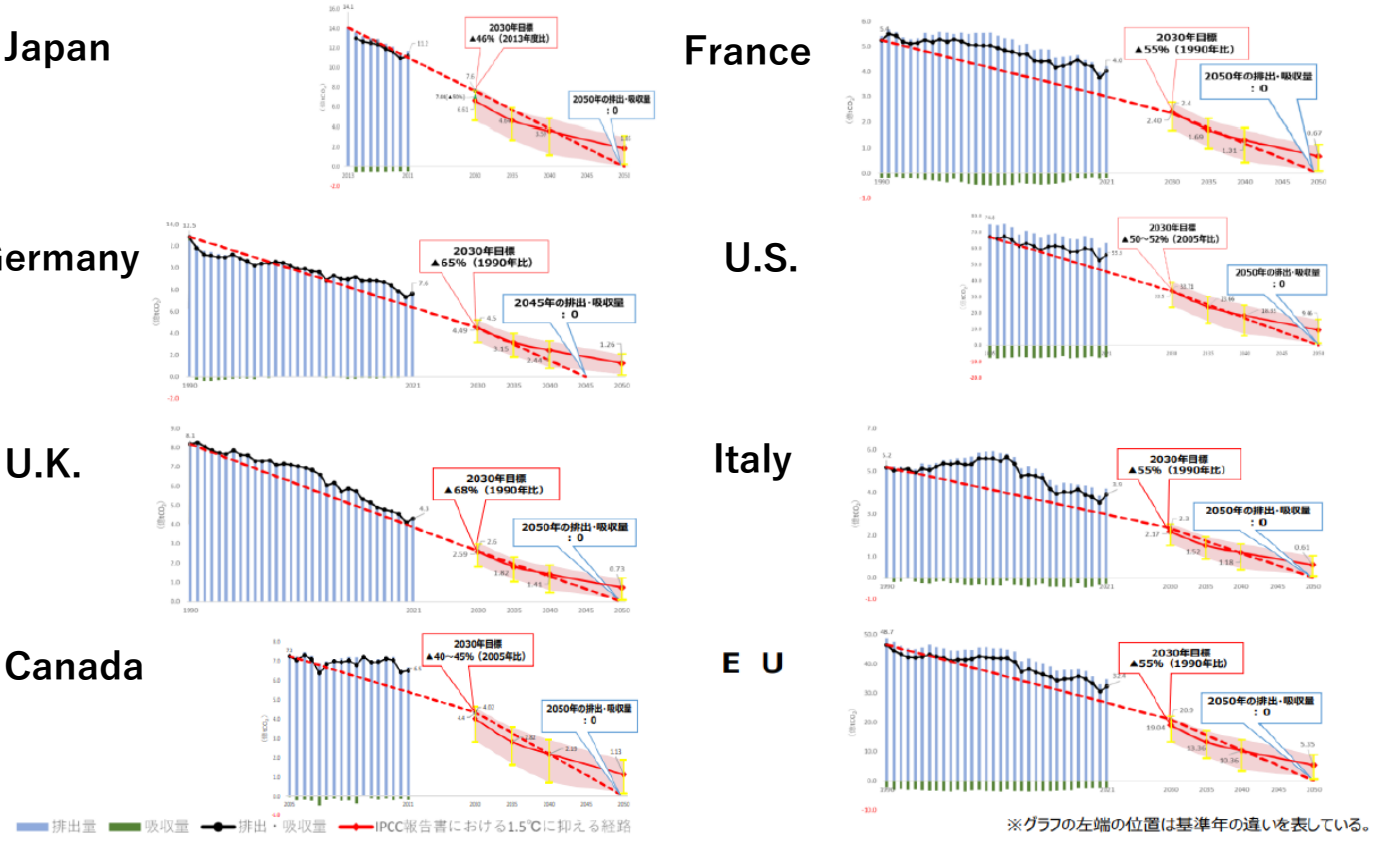
＜CEO leadership dialogue＞ World Energy Congress 2024 , CEO Ms. Angela Wilkinson

# The share of energy sources in total power generation in various countries (2022)




https://www.meti.go.jp/shingikai/enecho/denryoku_gas/denryoku_gas/pdf/079_03_00.pdf, p47, 2024.8.10 access

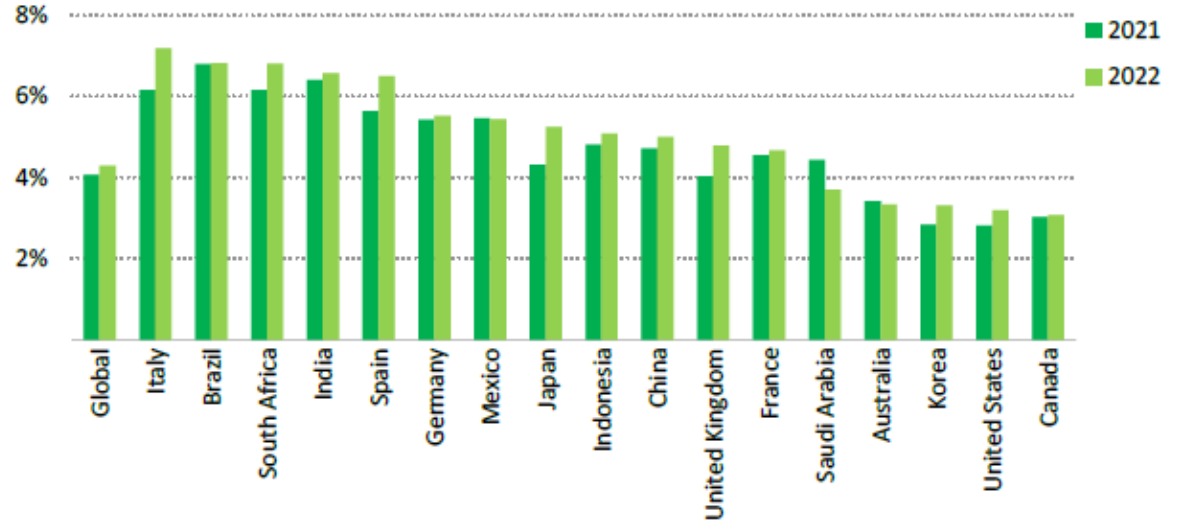
# Reduction of greenhouse gas emissions in the selected countries




Agency of resource and energy, the committee for basic policy of electricity and gas, the document no.3 Present situation on power systems, 2024.1.22, 2024.6.8 access

# Share of energy expenditure in average household income for selected countries

**Figure 4.26** ▷ Household energy expenditure in average household income in selected countries, 2021 and 2022




IEA. CC BY 4.0.

*Energy prices increased sharply in 2022, though support measures, mild weather and behaviour change cushioned the impact on household incomes*

Note: Residential energy expenditure for average households reflects energy bill rebates and relief payments.

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World Energy Outlook 2023, Figure 4.26, 2024.6.8 access

# 2. Energy related issues and standardization

# Energy related issues and standardization

1. Environmental performance of energy
   - London declaration
   - Green, climate or sustainable finance
   - Taxonomy, Carbon neutrality

2. Energy security and resilience
   - Energy resilience
   - Supply chain trustability, DPP

# Energy related issues and standardization

## 1. Environmental performance of energy

- London declaration

In TC301, they develop NP24492, which is guidance for requirement of decarbonization.

**The above standard enables us to manage PDCA cycles for energy performance and decarbonization in TC301 frameworks. Possible issues are consistencies between TC301 and TC207.**

# Energy related issues and standardization

## 1. Environmental performance of energy

- Green, climate or sustainable finance

In TC207, they develop ISO14030, Green bond, ISO14097, climate finance, and 14100, green finance. On the other hand, we have to watch TC322, which is the technical committee for sustainable finance.

**These standards could influence financial flow for green technologies.**
**Possible issues include how we should deal with the taxonomies.**

# The standards relating green, climate or sustainable finance

| | SC/WG | Standardization number | Contents of the standards |
|---|---|---|---|
| 1 | SC4/WG7<br>Green bond | ISO14030-1 | Environmental management - Green debt instruments - Part 1: Process for green bonds |
| 2 | SC4/WG7<br>Green loan | ISO14030-2 | Environmental management - Green debt instruments - Part 2: Process for green loans |
| 3 | SC4/WG7<br>Taxonomy | ISO14030-3 | Environmental management - Green debt instruments - Part 3: Taxonomy |
| 4 | SC4/WG7<br>Requirement for verification | ISO14030-4 | Environmental management - Green debt instruments - Part 4: Verification programme requirements |
| 5 | SC7/WG10<br>Climate finance | ISO14097 | Greenhouse gas management and related activities — Framework including principles and requirements for assessing and reporting investments and financing activities related to climate change |
| 6 | SC4/JWG1<br>Green finance | ISO14100 | Guidance on environmental criteria for projects, assets and activities to support the development of green finance |

# Energy related issues and standardization

## 2. Energy security and resilience

- Energy resilience

In TC292, they are developing ISO22366, which defines the framework and the principles for energy resilience. It is now in the stage of DIS.

**This standard could promote realization of resilient energy systems.**
**Possible issues include how we should develop more concrete standards for actual system design.**

# Energy related issues and standardization

## 2. Energy security and resilience

In TC292, they are developing ISO22373, which defines framework for establishing trustworthy supply and value chains. It is now in the stage of DIS.

**This standard could support risk management of supply chains.**
**Possible issues include data confidentiality on using the standard.**

# Conclusions

(1) Comprehensive contents are pursued in developing energy related standards such as environmental performances, carbon neutrality, energy resilience and so on.

(2) The energy related standards could influence financial flow and even stimulate research and development for specific energy technologies.

(3) Taking the above into consideration, we should be careful on developing the energy related standards.