



日独エネルギーパートナーシップチーム

Energiepartnerschaft - Team

DEUTSCHLAND - JAPAN

# CIRCULAR ECONOMY AND CRITICAL MINERALS FOR THE ENERGY TRANSITION

Policy overview and  
cooperation potentials  
for Japan and Germany



25.01.2024



# ADELPHI - ABOUT US

*As an independent think tank and leading policy consultancy, we facilitate transformative change and a liveable future.*

- Scientific policy analysis, evidence-based advice, and close communication with political and societal stakeholders: On this basis, we shape political agendas, promote vital issues in policy spaces, and support policy makers and implementers with strategies enabling them to act efficiently, decisively, and correctly.

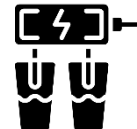
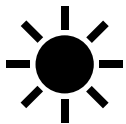
# 1 BACKGROUND



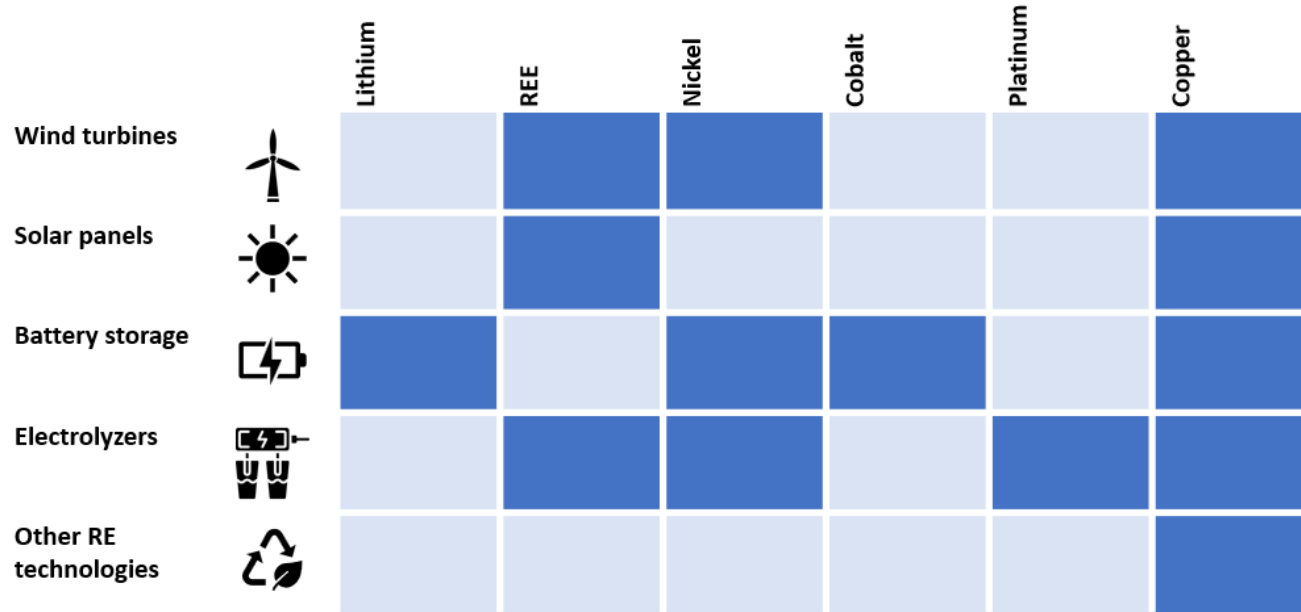
# BACKGROUND: EMISSION REDUCTION TARGETS

In order to achieve their **climate neutrality targets**, both Germany and Japan are planning to expand renewable energies and strengthen innovative technologies.

- **Germany**: renewable energy to cover **80%** of gross electricity consumption by 2030
- **Japan**: renewable energy to cover **36-38%** of gross electricity consumption by 2030



# CRM\* FOR THE ENERGY TRANSITION



Source: Own illustration based on [Simas et al. 2022](#), using additional data from [IEA 2022](#); [Kowalski and Legendre 2023](#)

\*Critical Raw Materials

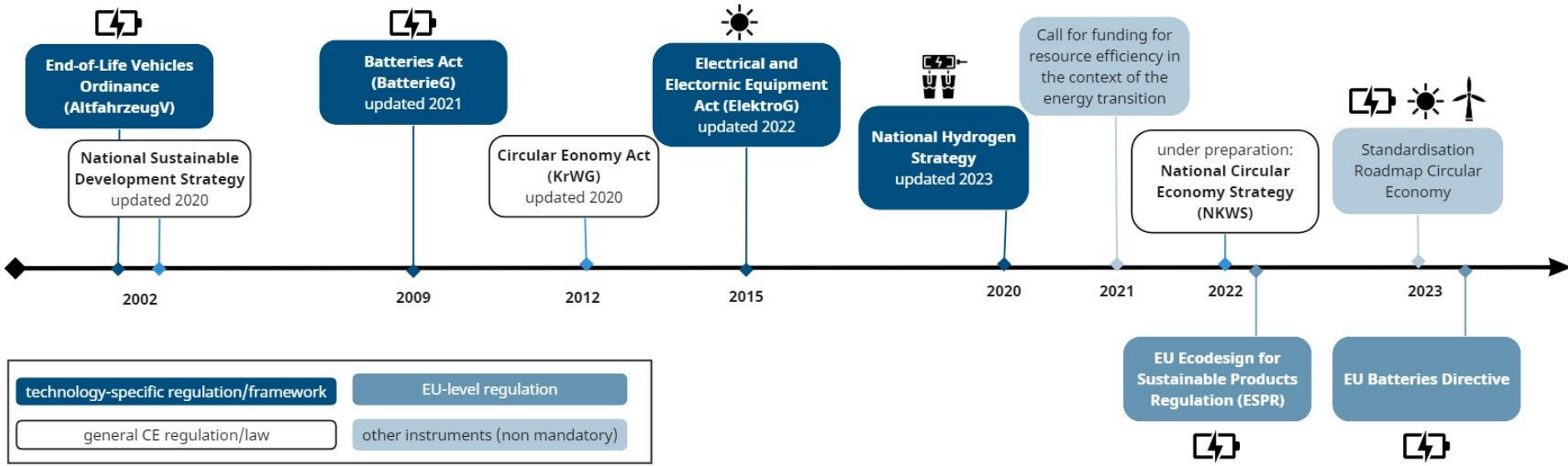
# POLICY GOALS AND STRATEGIES TO SECURING CRM SUPPLY

|                | Strategy / Policy  | Key content   |
|----------------|--|---|
| <b>Japan</b>   |  |   |
| 2004           | Guidelines for Securing Stable Supplies of Specified Critical Minerals | Strong public support via: <ul style="list-style-type: none"> <li>- Provision of grants &amp; financial incentives for exploration</li> <li>- National stockpiling</li> <li>- Strengthening <b>recycling</b></li> </ul> |
| 2020           | International Resource Strategy  |   |
| 2023           | Policy on Measures to Ensure Stable Supplies of Critical Minerals      |   |
| <b>Germany</b> |  |   |
| 2010           | First Raw Materials Strategy   | 3 focus areas: <ul style="list-style-type: none"> <li>- Increase domestic production</li> <li>- Diversify import sources</li> <li>- Increase <b>resource efficiency, circular economy and recycling</b></li> </ul>      |
| 2020           | New Raw Materials Strategy   |   |
| 2023           | BMWK „Eckpunktepapier“   |   |

# 2 POLICY APPROACHES TO CIRCULAR ECONOMY FOR CRMS



# GERMANY: CIRCULAR ECONOMY RELATED LEGISLATION & INSTRUMENTS

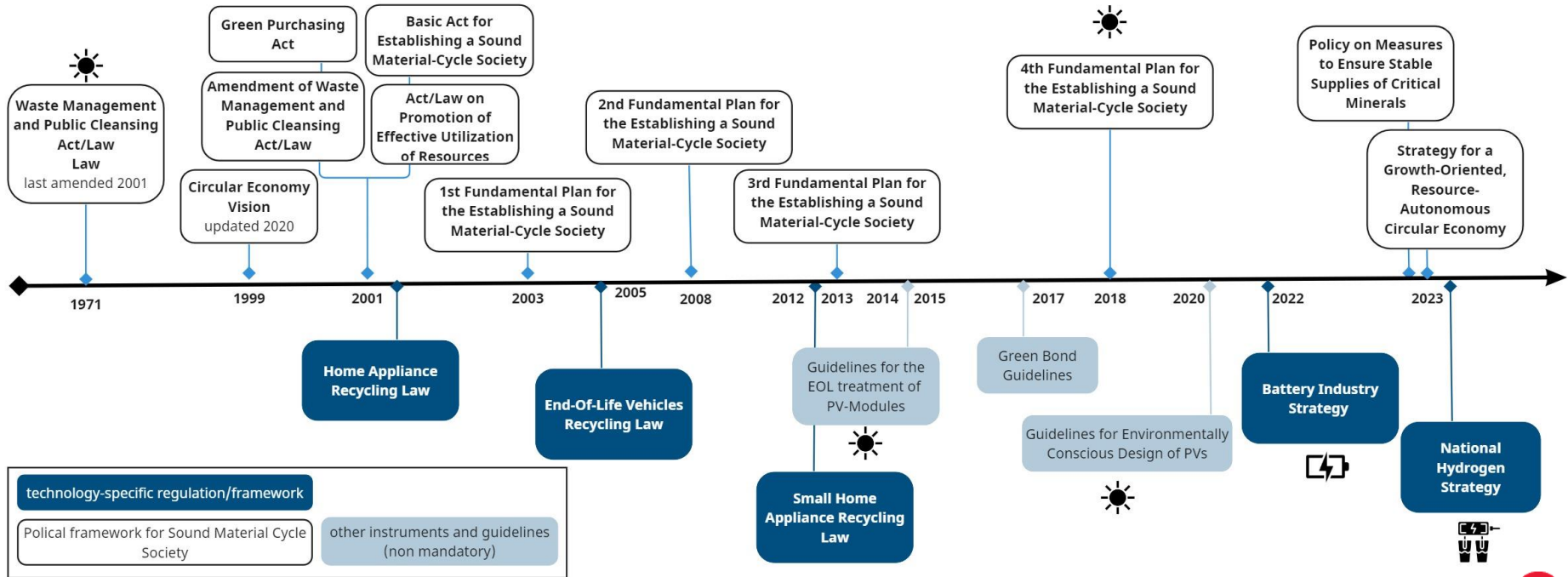


Source: own illustration





# JAPAN: CIRCULAR ECONOMY RELATED LEGISLATION & INSTRUMENTS



# 2 COMPARISON AND AREAS FOR COOPERATION



# SIMILAR APPROACHES & CHALLENGES

## Similar strengths & approaches:

- Clear commitment to strengthening the circular economy, recycling and resource efficiency to secure CRM supply
- Strong focus on recycling

## Similar challenge:

- Overall few technology-specific regulations & concrete targets on disposal, recycling, reuse etc. (especially: wind power and electrolyzers)

Mix of demand and supply side policies is needed

# AREAS FOR COOPERATION & MUTUAL LEARNING

| Key CE approaches     | Recommendations/tools to strengthen CE approaches  | Examples/initial approaches   |
|-----------------------|--|---|
| <b>Recycle</b>        | <ul style="list-style-type: none"> <li>• Mandatory levels of recycled content</li> <li>• Mandatory collection &amp; recycling quotas at the EOL</li> <li>• Extended Producer Responsibility with take-back requirements</li> <li>• Investment in R&amp;D and public loans supporting high quality recycling, collection, sorting and processing</li> </ul> | <ul style="list-style-type: none"> <li>➤ EU Batteries Directive: mandatory minimum levels of recycled content for CRMs</li> <li>➤ Japan's Green Bond Guidelines: R&amp;D investments</li> </ul>   |
| <b>Reuse / Reduce</b> | <ul style="list-style-type: none"> <li>• Creation of mandatory design criteria &amp; standards for producers to design and manage their products durable/reusable and recyclable</li> <li>• Substitution of CRMs with materials that are more easily recyclable</li> </ul>   | <ul style="list-style-type: none"> <li>➤ German Standardisation Roadmap Circular Economy &amp; EU ESPR draft; Japanese Guidelines for Environmentally Conscious Design of PVs</li> <li>➤ Japan: NEDO Green Innovation Fund Projects and R&amp;D for next generation PVs (perovskite)</li> </ul> |
| <b>Other</b>          | <ul style="list-style-type: none"> <li>• Improvement of information base &amp; data compatibility for circularity</li> </ul>   | <ul style="list-style-type: none"> <li>➤ EU Batteries Directive: Digital Product Passport (also mentioned in EU ESPR draft)</li> </ul>  |

# POTENTIAL FORA FOR EXCHANGE & POLICY COOPERATION

## Key coordination bodies:

- Germany: BMWK, BGR/DERA, BMUV
- Japan: MOE, METI, JOGMEC

2023 joint declaration during the first German-Japanese government consultations on increased cooperation regarding CRMs for clean energy and batteries

## Existing fora of bilateral & multilateral exchange:

- Japanese-German Energy Partnership & German-Japanese Environment and Energy Dialogue Forum
- G7 Alliance on Resource Efficiency (ARE)
- G20 Resource Efficiency Dialogue





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# THANK YOU FOR YOUR ATTENTION!

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