

# **EU – Kazakhstan Strategic Partnership on Sustainable Raw Materials, Batteries and Renewable Hydrogen value chains**

## **Roadmap 2023-2024**

The Memorandum of Understanding between the European Union and Kazakhstan on a Strategic Partnerships on Sustainable Raw Materials, Batteries and renewable hydrogen value chains (hereinafter “the MoU”) was signed on 7 November 2022. The aim is to bring about closer integration of critical raw materials, batteries and renewable hydrogen value chains, with mutual benefits.

While the MoU sets the vision, defines the areas of cooperation, and provides a political framework for the enhanced cooperation, this Roadmap represents the actions to advance the goals of the Partnership in 2023 and 2024, which are defined under the four MoU work streams. These work streams are:

- **WS 1 - Integration of the sustainable CRM and battery value chains**
- **WS 2 - Development of renewable hydrogen and its integration**
- **WS 3 - Increasing the resilience of raw materials, battery and renewable hydrogen supply chains**
- **WS 4 – Research and innovation, skills & capacity-building**

This Roadmap will be a living document with regular updates to reflect progress made, and new opportunities identified in the course of its implementation. Any changes to the Roadmap will require endorsement at the ministerial level.

The Sides agree to monitor the implementation of the Roadmap of the Strategic Partnership through dedicated working group operating in the framework of the Cooperation Committee in trade configuration under the EPCA. The Sides will also facilitate exchanges between stakeholders relevant to the implementation of the Strategic Partnership.

The Sides intend to cooperate in the field of mobilisation of financial and investment instruments of the main relevant financial and investment organisations including investment platforms within the framework of the European Raw Materials Alliance and the European Battery Alliance that play a key role in the implementation of the actions of this Roadmap.

Stakeholders from both sides will be invited to engage in the identified actions of interest to them.

## List of Actions for 2023 and 2024

- 1) Establishing communication for the identification and implementation of joint projects for industrial and investment entities of the EU and Kazakhstan**  
Facilitate cooperation and active participation among their industrial stakeholders in the European alliances, notably the European Raw Materials Alliance and the European Battery Alliance, as platforms to collaborate and develop investment projects. Additionally, both sides will identify resources and investment opportunities to strengthen mutual supply chains and identify relevant financial instruments.
- 2) Exchange of experience and best practices in the field of geological exploration of the subsurface, search for resources and exploration of primary and secondary deposits**  
Access to geological and mining data and information will increase the attractiveness of business opportunities. The information should be accessible on-line, harmonised and evaluated using international standards.
- 3) Support for the development of renewable energy sources in Kazakhstan for decarbonisation of the energy and industrial sector, with a special focus on the production of green hydrogen**  
Cooperation and exchange of experience on improving legislation in the field of hydrogen economy and assistance with the implementation of investment projects for the production of "green" hydrogen.
- 4) Increasing the resilience of raw materials, battery and renewable hydrogen supply chains**  
Dialogue on the transparency and dissemination of information on measures related to investment, operations and export relevant to the scope of this partnership. Facilitation of bilateral trade and investment and prevention of disruptions of supply chains. Avoidance of trade and investment distortions.
- 5) Development of relations in the industry by harmonizing the regulatory framework in the critical raw materials industry and achieving mutual recognition of the quality of products**  
Improve the knowledge and application of responsible, social and governance practices throughout the raw materials and battery value chains in order to improve public acceptance and meet sustainable financing criteria. Align the strategic and legal frameworks in raw materials and battery sectors.
- 6) Cooperation in the field of investment, R&D, professional training and capacity building**  
R&D collaboration especially through EU Horizon R&I Framework Programme and EU-KAZ cooperation facility.

## Partnership Roadmap 2023-2024

| MoU work streams / specific objectives  | Proposed Actions   | Potentially engaged organisations  |
|---|--|--|
| <p><b>Action 1)</b><br/>Establishing communication for the identification and implementation of joint projects for industrial and investment entities of the EU and Kazakhstan</p>  |  |  |
| <p><b>1</b> – modernisation of mining and refining processes and technologies through the introduction of new technologies and sustainable practices<br/><b>1</b> – support for the circular economy in raw materials through integrated and efficient use, recycling and processing of CRMs<br/><b>1</b> – identification and promotion of battery and other industrial production related projects including component manufacturing</p>  | <p><b>1.1.</b> Organise, conduct and follow up on B2B matchmaking events between sustainable and responsible raw materials and battery projects in Kazakhstan and investors via the business investor platforms of the European Alliances followed by development of concrete joint investment cases.</p> <p><b>1.2.</b> Within the concrete joint venture projects support voluntary and on mutually agreed terms technology transfer in the fields of sustainability of secondary CRMs production and processing, closed-cycle and recycling technologies.</p> <p><b>1.3.</b> Facilitate engagement of Kazakh industrial and research stakeholders (membership) in EU industrial alliances</p> <p><b>1.4.</b> Promote active participation of key partnership stakeholders in the relevant international events organised by the parties</p> | <p><b>EU:</b><br/>- DG GROW<br/>- EU Delegation<br/>- EIT InnoEnergy, EBA<br/>- EIT Raw Materials, ERMA<br/>- EBRD<br/>- EIB</p> <p><b>KAZ:</b><br/>- MIID<br/>- ME<br/>- Kazakh Invest<br/>- NCTF<br/>- NC CPMR</p> |
| <p><b>Action 2)</b><br/>Exchange of experience and best practices in the field of geological exploration of the subsurface, search for resources and exploration of primary and secondary deposits</p>  |  |  |
| <p><b>1</b> – exploration of new primary and secondary CRMs deposits in Kazakhstan<br/><b>1</b> - application of data, services and technologies to support exploration<br/><b>1</b> - advancing best practices for resource classification and mapping, including mapping mineral potential from waste sources<br/><b>4</b> - management of industrial mineral waste and extraction of CRMs from them<br/><b>4</b> - digitalisation, data management and harmonisation<br/><b>4</b> - exchange of experience and best practices in the field of geological exploration of the subsurface using methods of remote sensing</p> | <p><b>2.1.</b> Exchange of experience on digitalization of geological materials.</p> <p><b>2.2.</b> Exchange of experience on application of international classification system (e.g. UNFC, JORC) on assessment/verification/re-assessment of CRM reserves.</p> <p><b>2.3.</b> Facilitate exchange of experience and conduct joint research in determination of mineral potential from mining waste.</p> <p><b>2.4.</b> Organise a dedicated workshop to facilitate exchange of experience/good practices in the application of the Earth Observation / Copernicus data and services for Raw Materials.</p>   | <p><b>EU:</b><br/>- DG GROW<br/>- EBRD<br/>- ESA<br/>- EGS<br/>- UNECE</p> <p><b>KAZ:</b><br/>- MIID<br/>- MDAI<br/>- NGS (Kazgeology)<br/>- KGS</p>   |
| <p><b>Action 3)</b><br/>Support for the development of renewable energy sources in Kazakhstan for decarbonization of the energy and industrial sector, with a special focus on the production of green hydrogen</p>   |  |  |
| <p><b>4</b> – decarbonisation of the CRM value chain including by using renewable energy and digitalisation<br/><b>2</b> – support the development of renewable energy to decarbonise the energy system, including support to investments through open and fair competitive markets<br/><b>2</b> – sustainably develop a renewable hydrogen market and promote new channels for investment and trade opportunities</p>  | <p><b>3.1.</b> Facilitation of technical exchange on the design and development of new materials and technologies, research of processes related to the collection, storage and transport of hydrogen in cooperation with the respective scientific organisations and associations.</p> <p><b>3.2.</b> Advisory support in the development of a regulatory framework for hydrogen.</p> <p><b>3.3.</b> Consideration of possibilities for the development of capacities for the production of "green hydrogen" in the areas where steel enterprises are located.</p> <p><b>3.4.</b> Facilitation of business-to-business matchmaking on technologies for direct reduction of iron using "green hydrogen" with the aim</p>   | <p><b>EU:</b><br/>- DG ENER<br/>- EU Delegation<br/>- DG GROW</p> <p><b>KAZ:</b><br/>- ME<br/>- MENR<br/>- MIID<br/>- NCTF<br/>- Kazakh Invest<br/>- ICGTIPC</p>   |

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| 2 – foster the decarbonisation of their economies through renewable hydrogen   | of voluntary and mutually agreed transfer of technologies.   |   |
| <b>Action 4)</b><br>Increasing the resilience of raw material, battery and renewable hydrogen supply chains  |  |   |
| <p>3 - enhancing the transparency and dissemination of information on measures related to investment, operations and export relevant to the scope of this partnership to foster new foreign direct investments</p> <p>3 - enhancing efforts to implement trade and investment facilitating measures</p> <p>3 - discussing at an early stage any concerns of disruptions of supply chains reported by the industry and possible mitigation measures to be taken by the Sides</p> <p>3 – ensure that bilateral trade and investment is not distorted</p> | <p>4.1. Review of the business climate environment to increase attractiveness of parties' economies as a destination for new foreign direct investments.</p> <p>4.2. Review the existence of possible trade and investments restrictions that could hinder the development of the supply chains or new foreign direct investments.</p> <p>4.3. Discussions on global developments of the raw materials market environment.</p>   | <p><b>EU:</b><br/>- DG TRADE<br/>- DG GROW</p> <p><b>KAZ:</b><br/>- MFA<br/>- MTI<br/>- MIID<br/>- ME<br/>- Kazakh Invest<br/>- CTPD</p>  |
| <b>Action 5)</b><br>Development of relations in the industry by harmonizing the regulatory framework in the critical raw materials industry and achieving mutual recognition of the quality of products  |  |   |
| 4 – greening and sustainability of mining processes  | <p>5.1. Supporting the Kazakh policy on CRMs by exchanging on best practices.</p> <p>5.2. Support with the harmonization of legislation in the sphere of CRMs.</p> <p>5.3. Support in the field of product standardization.</p> <p>5.4. Exchange on the criteria and methodology for assessing "green standards" for implementation in the production of CRM.</p> <p>5.5. Discuss EU / Kazakh financial incentives to reduce carbon emission in the production of CRM, including on ETS.</p>   | <p><b>EU:</b><br/>- EU Delegation (TAIEX)</p> <p><b>KAZ:</b><br/>- MIID<br/>- MENR<br/>- MTI<br/>- NCTF<br/>- KISM</p>  |
| <b>Action 6)</b><br>Cooperation in the field of investment, R&D, professional development and capacity building  |  |   |
| <p>4 – advanced materials and their replacement</p> <p>4 - management of industrial mineral waste and extraction of CRMs from them</p> <p>4 - Voluntary and on mutually agreed terms technology transfer and mutual access to advanced technology developments for the Sides research centres</p>  | <p>6.1. Facilitate Kazakh participation in the European Raw materials and Battery Academies.</p> <p>6.2. Cooperation in the field of research and development, professional development and capacity building.</p> <p>6.3. Organization of a dedicated workshop to present relevant EU Horizon Europe R&amp;I success stories, on-going projects and Raw Materials dedicated Calls (Work programme 2023-2024) - to facilitate joint R&amp;D activities e.g. on new materials (composite, alternative), identification of CRM potential in mining/industrial waste.</p> <p>6.4. Provide support for the implementation of the MoU under the forthcoming EU-Kazakhstan bilateral facility following the signature of the required Financing Agreement in 2023.</p> | <p><b>EU:</b><br/>- DG INTPA<br/>- DG GROW<br/>- EU Delegation<br/>- HADEA<br/>- EIT Raw Materials, ERMA<br/>- EIT InnoEnergy, EBA</p> <p><b>KAZ:</b><br/>- branch governmental agencies<br/>- NCTF<br/>- NC CPMR<br/>- concerned parties (R&amp;D)<br/>- second tier banks</p> |

## **List of the acronyms:**

### **EUROPEAN UNION:**

**DG GROW** – European Commission, Directorate General for Internal Market, Industry, Entrepreneurship and SMEs  
**DG TRADE** – European Commission, Directorate General for Trade  
**DG ENER** – European Commission, Directorate General for Energy  
**DG INTPA** – European Commission, Directorate General for International Partnerships  
**EU Delegation** – European Union External Action, Delegation of the European Union to the Republic of Kazakhstan  
**HADEA** – European Health and Digital Executive Agency  
**EIT RawMaterials** – European Institute for Innovation and Technology - Knowledge and Innovation Community on Raw Materials  
**ERMA** – European Raw Materials Alliance  
**EIT InnoEnergy** – European Institute for Innovation and Technology - Knowledge and Innovation Community on Energy  
**EBA** – European Battery Alliance  
**ESA** – European Space Agency  
**EGS** – EuroGeoSurveys - a not-for-profit organisation representing the Geological Surveys of Europe.  
**UNECE** – United Nation Economic Commission for Europe, Expert Group on Resource management and UNFC Bureau  
**EBRD** – European Bank for Reconstruction and Development

### **REPUBLIC OF KAZAKHSTAN:**

**MIID** – Ministry of Industry and Infrastructural Development  
**ME** – Ministry of Energy  
**MENR** – Ministry of Ecology and natural resources  
**MTI** – Ministry of Trade and Integration  
**MFA** – Ministry of Foreign Affairs  
**MDAI** – Ministry of Digital Development, Innovations and Aerospace Industry  
**NCTF** – National Center for technology foresight  
**NGS** – National Geological Survey  
**NC CPMR** – National Center on complex processing of mineral raw materials  
**ICGTIPC** – International green technologies and investment projects center  
**KGS** – National Company “Kazakhstan Gharysh Sapary”  
**KISM** – Kazakhstan Institute of Standardization and Metrology  
**CTPD** – Center for Trade Police Development “QazTrade”

**CRM** – critical raw materials  
**EPCA** – Enhanced Partnership and Cooperation Agreement  
**EU Horizon R&I** – EU Horizon Research & Innovation  
**R&D** – Research and Development  
**UNFC** – United Nations Framework Classification for Resources  
**JORC** – The Joint Ore Reserves Committee  
**ETS** – emissions trading system