

CORE-CM in the Greater Green River and Wind River Basins: Transforming and Advancing a National Coal Asset

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Acknowledgement and Disclaimer

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U.S. Department of Energy's CORE-CM Initiative

Provide benefit to U.S. Coal Basins

- Develop planning for regional economic growth, job creation, and associated technology innovation around coal materials
- Define regional economic growth potential around existing strengths, energy infrastructure, business and industry
- Increase the supply of CORE-CM materials to manufacturers of non-fuel Carbon Based Products (CBP) and products reliant upon CM
- Plan for regional supply chain integration to create a diverse CORE-CM emerging economy
- Develop a coalition team to achieve these objectives by bringing together a committed network of stakeholders.

CORE-CM Initiative for U.S. Coal Basins

CORE-CM

Carbon
Ore

Rare
Earth
Elements

Critical
Minerals

- 13 projects across the United States
- 3 projects overlap in Colorado
- All projects connected in working groups



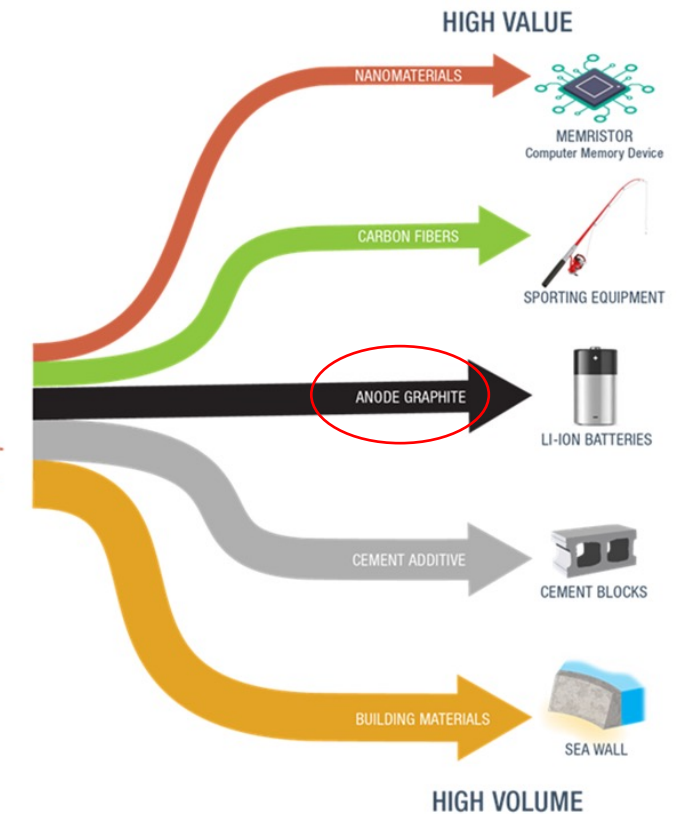
Carbon Ore

CORE-CM

Carbon Ore



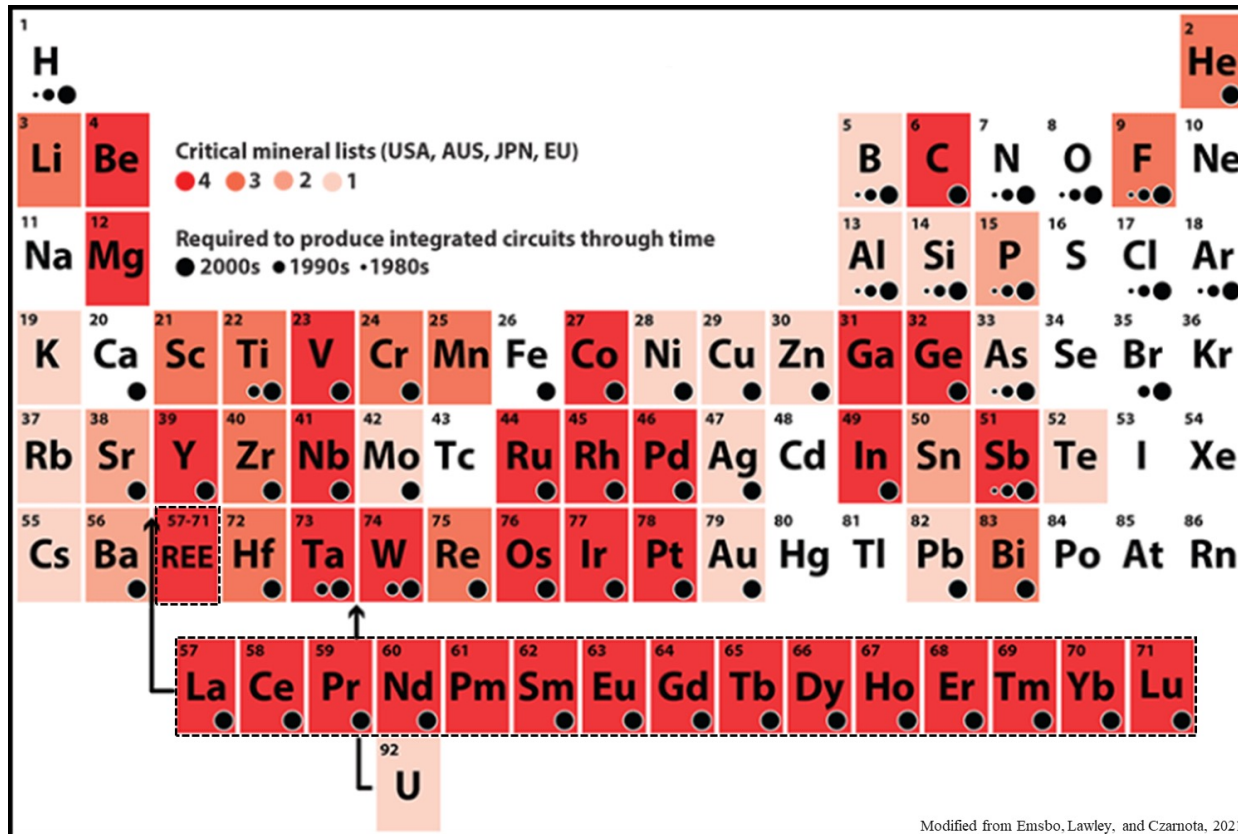
Certain carbon ore materials are included on the US Geological Survey revised list of 50 critical minerals (2022)



Rare Earth Elements & Critical Minerals

€ORE-CM

Rare Earth Elements – Critical Minerals



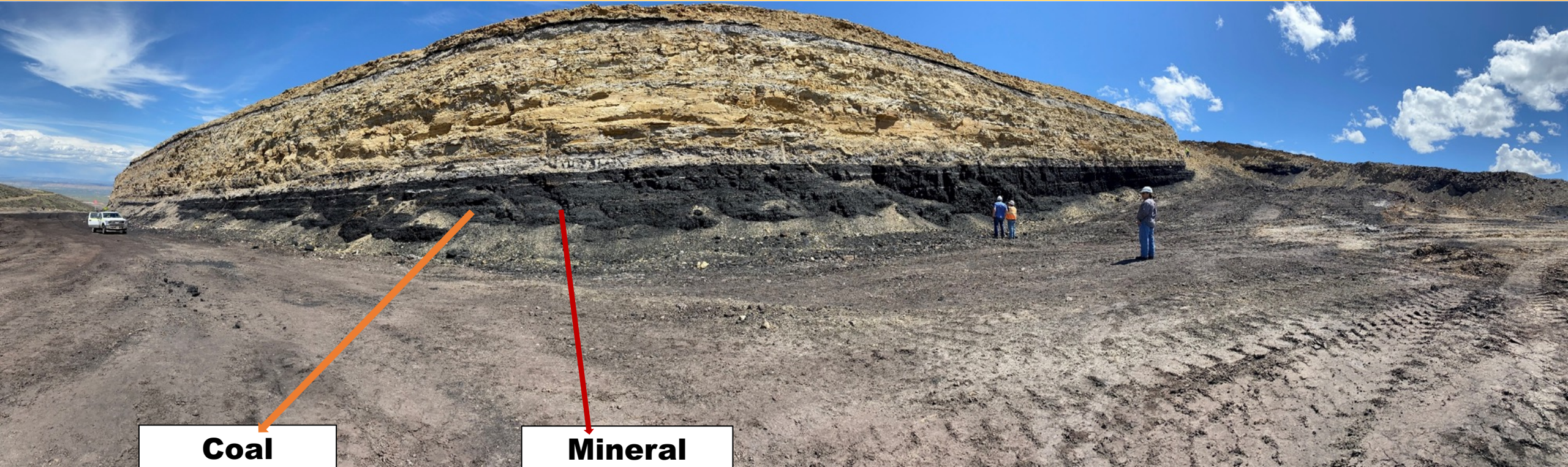
US Geological Survey finalized a revised list of 50 critical minerals (2022)

Australia, Japan and European Union also have Critical minerals lists

Rare Earth Elements (REE) compose 15 elements of the 50 on the U.S. list

- On all four lists
- On three lists
- On two lists
- On one list

How We Use Coal (Now and the Future)



**Coal
Molecules**

Thermal
Metallurgical
Carbon Engineering

**Mineral
Component**

Valuable Metals
Other Potential Uses



Don't Forget Coal Byproducts and Other Resources



Power Station Waste



AMD



Non Spec Coal



Heavy Minerals

CORE-CM in the Greater Green River and Wind River Basins

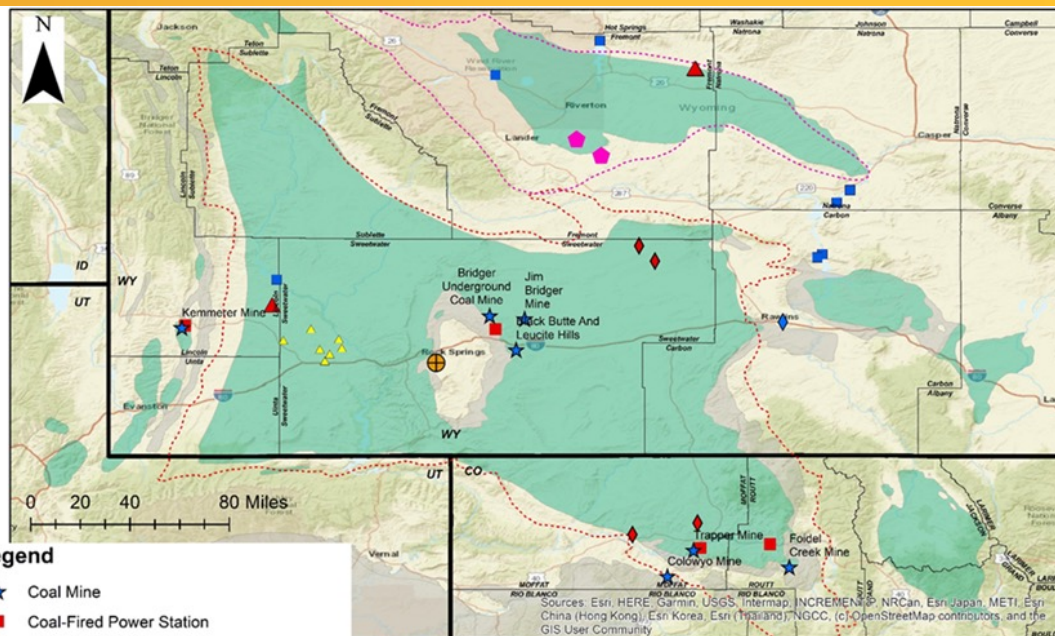


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Legend

- ★ Coal Mine
- Coal-Fired Power Station
- ◆ Uranium Mines
- ◆ Oil Refinery
- ▲ Trona Mines and Refineries
- ▲ Mixed-Gas (He, CH₄, CO₂, H₂S) Processing
- ◆ Natural Gas Electric Power Station
- ⊕ Phosphate Processing Plant
- Hydro Electric Power Station

- Wind River Basin
- Greater Green River Basin
- County Boundary
- State Boundary

- ### Coal Fields
- #### RANK
- Medium and High Volatile Bituminous
 - Subbituminous

Phase I Timeline:
September 2021 – February 2024

Goals & Objectives

- Establish a strategic volume, including strategic plans to maximize the development of potential carbon ore, rare earth elements, and critical minerals (CORE-CM); within the creation of public-private partnerships.
- Complete detailed assessments, including State of The Art DATA (SOTA) acquisition of potential CORE-CM materials across both the Greater Green River and Wind River Basins.
- Develop planning to leverage highly trained workforces, existing and novel coal technologies, and energy infrastructure in development of CORE-CM supply chains.
- Bring together a committed network of stakeholders, gaining acceptance of new energy technology within coal regions and across communities.

Regional Strengths, Regional Support

Regional

Strengths

Home to a diversity of potential feedstocks and materials to benefit CORE-CM planning and development

- Major coal mines & extractive industries (e.g., uranium, trona, helium, oil, natural gas)
- Major industrial operations (e.g., power, soda-ash, gas-separation, phosphate) with

Advanced manufacturing and supply chain infrastructure relevant to CORE-CM is currently being initiated in the region

Economic downturn is well understood by regional stakeholders composed of a highly trained, adaptable & energy-savvy work-force

Workforce development, coalition team building & stakeholder involvement in public-private teams are all familiar to region partners

Regional Support



Wyoming Partners & Supporting Stakeholders:

U.S. Congressional Delegation of Barrasso, Lummis, and Cheney; Wyoming Governors Office; Wyoming Mining Association; Wyoming Representative Donald Burkhardt; Wyoming Representative Mike Greear; Wyoming County Commissioners Association; Wyoming Business Council; Wyoming Small Business Development Center; Impact 307; Wyoming Counties of Sweetwater, Sublette, Fremont, Carbon, and Uinta; Kemmerer Operations, LLC; Black Butte Coal; Bridger Coal Company; Sweetwater Economic Development Coalition; Southwest Wyoming Manufacturing Partnership; Central Wyoming College; City of Rock Springs; City of Green River

Colorado Partners & Supporting Stakeholders:

Colorado State Land Board; Colorado Division of Reclamation, Mining and Safety; Colorado Office of Just Transition; Associated Governments of Northern Colorado; Routt County, CO Economic Development Office; Moffat County, CO; Trapper Coal Mine; Colowyo Coal Mine; Mango Materials; Ur-Energy Inc.

Regional

Tri-State; Peabody Energy; PacifiCorp; The University of Texas at Austin; Concurrent Technologies Corporation; Tetra Tech; Novex, LLC; Disa, LLC; NTEC

CORE-CM Project Strategy

Integrated Strategic Plan for the Greater Green River and Wind River Basins

- Basinal Assessment of CORE-CM Resources
- Basinal Strategies for Reuse of Waste Streams
- Basinal Strategies for Infrastructure, Industries and Businesses
- Technology Assessment, Development and Field Testing
- Technology Innovation Centers
- Stakeholder Outreach and Education

- Summary of Environmental Justice Considerations
- Summary of Economic Revitalization and Job Creation Outcomes
- Environmental, Safety, and Health Analysis for Products Proposed to be Manufactured from CORE-CM Resources

Each results in a
Strategic Plan or Assessment Summary

Thank You

*Please contact Davin Bagdonas with inquiries at
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