



# Metals & Minerals

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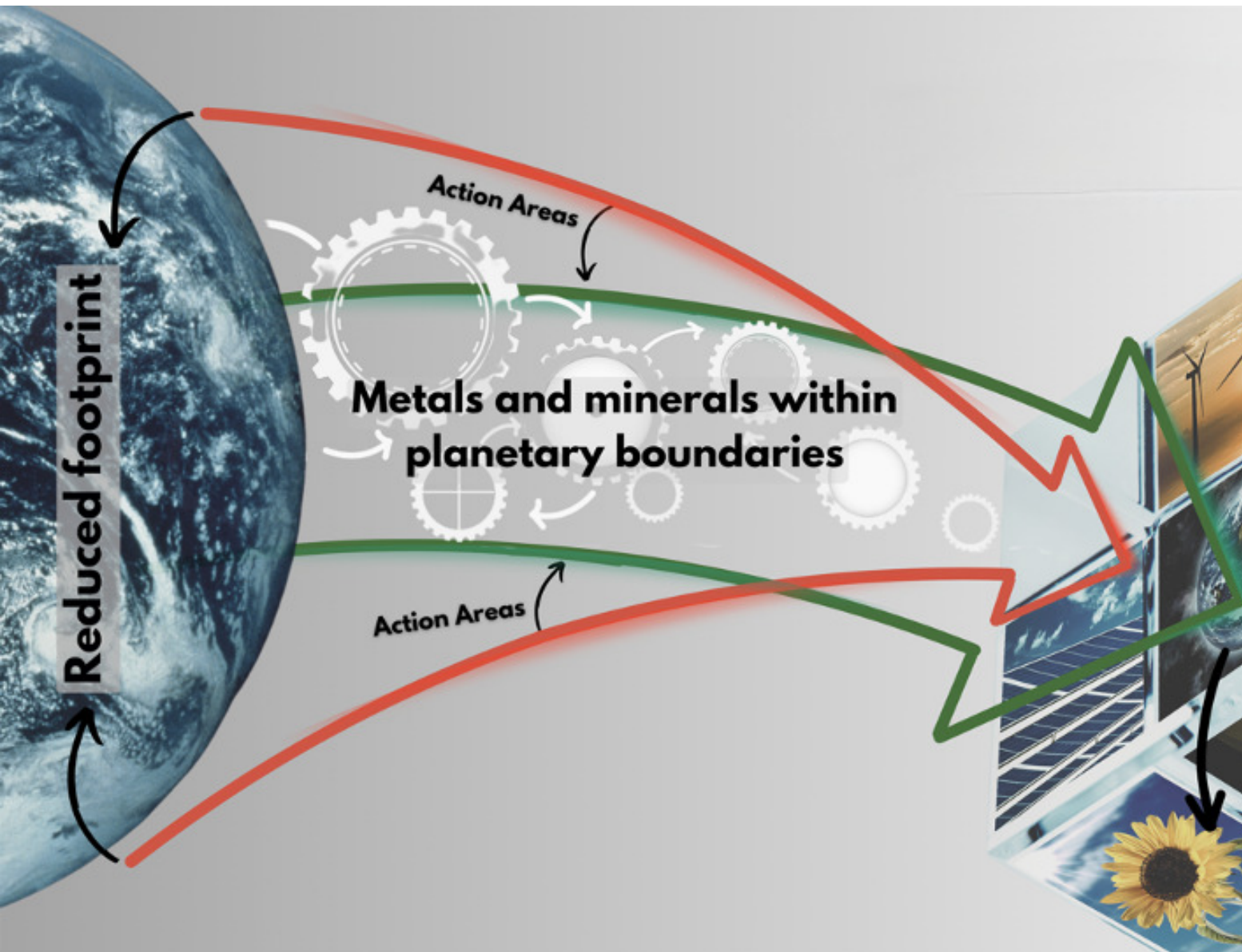
## MISSION

**Ensuring sustainable and resilient  
metals and minerals supply for the  
societal transition**

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# **Metals and minerals**

## **– within planetary boundaries**



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# Current state

- Sweden at the forefront
- Strong connections between industry, institutes, and academy
- Low European self-sufficiency
- Geopolitical tensions
- Shortage of competence

# Challenges

- Enough materials for a rapid transition
- Research system without gaps
- Relevant and sufficient competence supply
- Harmonised regulations and standards
- Social and political understanding
- Regional, national and international collaboration

## ACTION AREAS

# Exploration and mining

- Development of new models and tools for exploration
- System integration
- Deep mining
- Fossil-free mining operation and productivity
- Safety
- Waste management

## ACTION AREAS

# Raw materials resilience

- Access from domestic sources
- Substitution and tolerances - elements
- Substitution - fuels



## ACTION AREAS

# Zero emission processing

- Electrification
- Bio-carbon
- Hydrogen
- Carbon capture technologies
- Melting
- Electrode material
- Resource and energy efficiency
- *End-of-pipe* technologies
- Residual metals

## ACTION AREAS

# New metallurgy

- Mineral processing
- Hydrometallurgy
- Contamination
- Side and waste streams
- Optimized metal extraction

## ACTION AREAS

# Digitalization

- Artificial intelligence (AI)
- Automation
- Digital networks

## ACTION AREAS

# Material use and development for new applications

- Optimal choice and optimization models
- Materials development for new applications
- Process development for new applications

## ACTION AREAS

# Circularity

- Durability
- Metals recycling
- Scrap supply
- Non-ferrous scrap
- Traceability
- Business models including *Closed loops*
- LCA and global standards for material sustainability

## ACTION AREAS

# Environmental priorities

- Biodiversity
- Water management

## ACTION AREAS

# Societal transformation

- Social goals
- Competence supply
- Education
- Attractivity

## ACTION AREAS

# Policy development and standards

- Predictable permit processes
- Harmonizing policies
- Standardization



# Program office

Jernkontoret

SveMin



BE Business



# Program office

- Lead and coordinate — with our eyes on the mission

## Strategic priorities

- Promote collaboration across borders
- Create critical masses and increased capabilities
- Business models, policy proposals and social innovation



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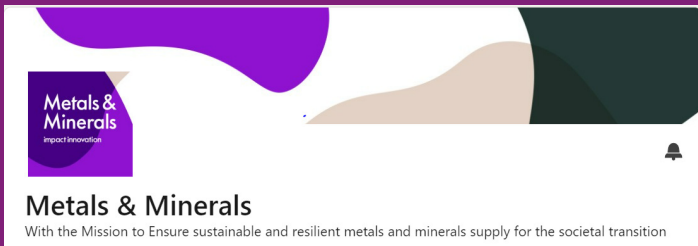
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# Stay in touch!

- [www.metalsandminerals.se](http://www.metalsandminerals.se)
- Sign up for newsletter
- Follow us on LinkedIn
- Visit us at the innovation showcase

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# Open Calls

- Technical Innovation
- Social Innovation
- Download our Scope document from our website
- Apply via [www.vinnova.se](http://www.vinnova.se)

# Technical Action areas



## Vad kan ni söka för?

Genomförbarhetsstudier som undersöker projektidéer som har potential att bidra till programmets mission och som adresserar något eller några av programmets tekniska insatsområden (Technological Action Areas, avsnitt 2.1 i programmets scopedokument).



## Vem kan söka?

Företag, offentliga organisationer, forskningsinstitut, universitet eller högskolor och andra relevanta juridiska personer som har kompetens och förmåga att genomföra projektet. Ett sökande konsortium ska bestå av minst två projektparter.



## Hur mycket kan ni söka?

Maximalt bidrag är 1 000 000 kronor per projekt och Vinnovas bidrag får uppgå till högst 70 procent av projektets totala stödberättigande kostnad.

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# Social Action areas



## Vad kan ni söka för?

Genomförbarhetsstudier alternativt forskningsprojekt som omfattar programmets sociala insatsområden ("Social Action Areas") enligt avsnitt 2.2 i programmets scopedokument.



## Vem kan söka?

Företag, offentliga organisationer, forskningsinstitut, universitet eller högskolor och andra relevanta juridiska personer. I genomförbarhetsstudier ska minst två projektparter delta. I forskningsprojekt ska minst tre projektparter delta, vara



## Hur mycket kan ni söka?

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# Program status

- Steering committee formed
- Mission Control members appointed
- First calls open

# Next steps

- Roadmap
- Strategic projects and calls
- Budget



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