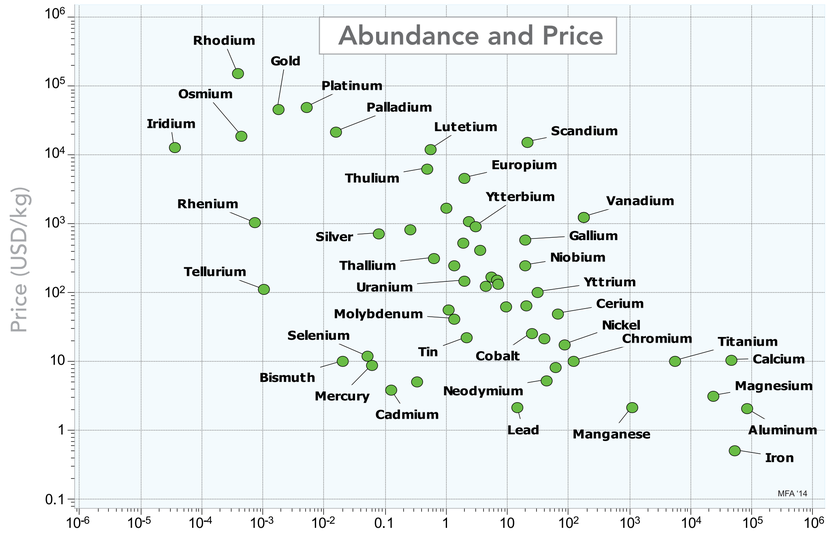
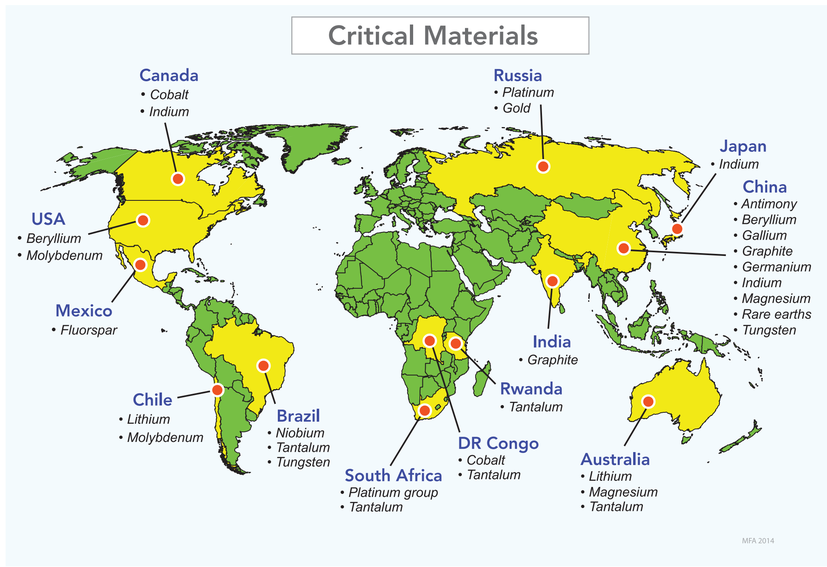
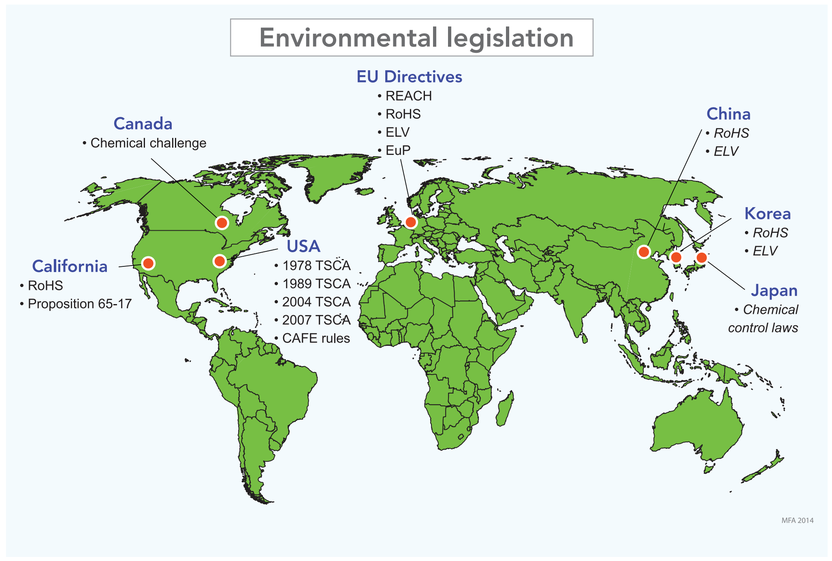
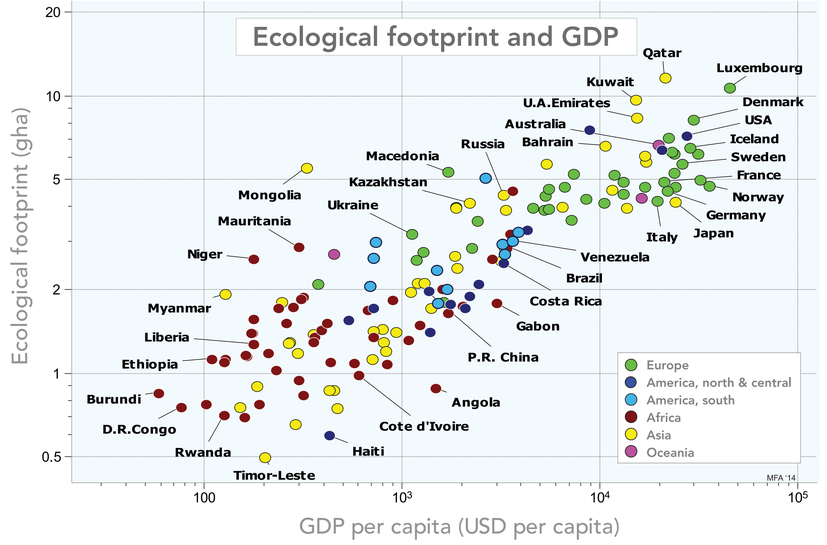
Materials and Sustainable Development









Materials and Sustainability

The CES EduPack Sustainability database aids the Fact-Finding step in analysing an articulation of sustainable development.

Abundance and Price

Modern technology is increasingly dependent on rare elements: platinum-group, lanthanides and actinides. Those most at risk are classified as “critical”.

Material supply risk

Criticality reflects supply-chain uncertainty resulting from:

- Abundance risk
- Price volatility risk
- Export restrictions risk
- Conflict minerals risk
- Regulation risk

Environmental Legislation

The use of materials is increasingly constrained by regulations such as:

TSCA = Toxic Substances Control Act

REACH = Registration, Evaluation & Authorization of Chemicals Directive

RoHS = Restriction of Hazardous Substances Directive

ELV = End-of-life Vehicles Directive

Ecological footprint

The ecological footprint is an indicator of human pressure on the environment. It is the biologically productive land and marine area, in (global) hectares (gha), required to produce the resources consumed, per capita, of a population. The earth’s bio-capacity at present is 2.1 gha per person.

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