

PRODUCT STEWARDSHIP

- examining the business case for this emerging paradigm in waste management

Managing Resources Industry Waste

May 2012



enabling responsible sourcing and use of commodities

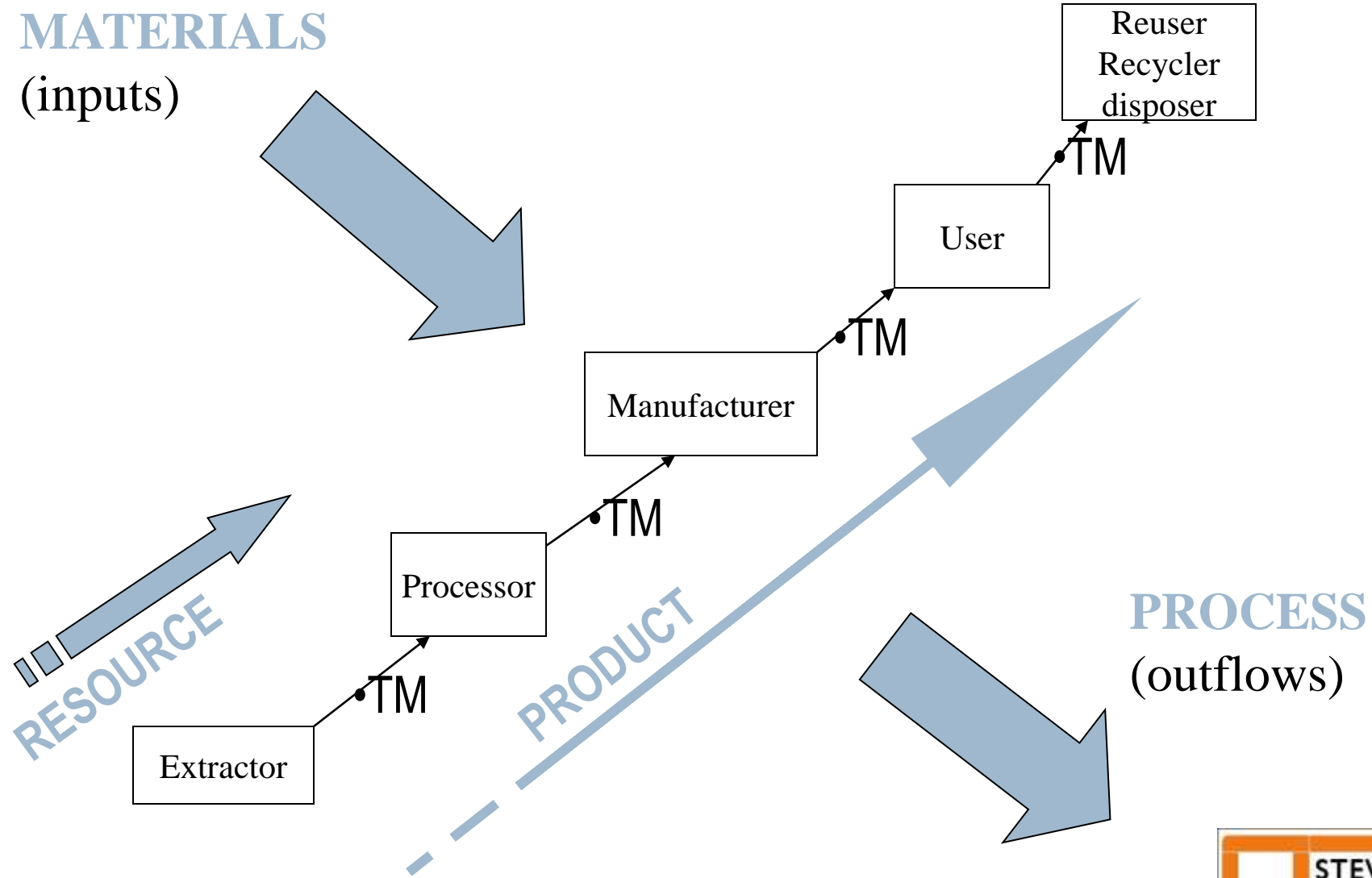
Stewardship

- “all players in a commodity life cycle working together to maximise the value to society from the mining, processing, manufacture, consumption and end of life management of that commodity - without harming people and the environment” [Stewardship Matters 2010]
- “the more its shared around the more effective is the stewardship” (USEPA 2005)
- “Sustainability is the goal - Stewardship is the means”
 - [ICMM Materials Stewardship Policy 2009]

Stewardship types in the product life cycle

MATERIALS

(inputs)



Other industries

Responsible Care®



Forest Stewardship Council



Roundtable on Sustainable Palm Oil



Marine Stewardship Council



Business Case for Product stewardship

- Supports vision of “zero harm” to people and planet
- Enhanced company reputation (“social licence to operate, market and grow”) amongst investors (eg SRI), regulators, NGOs, communities and customers will contribute to the sustainable development strategy of becoming “the company of choice”
- Keep markets open, and then expand these markets, by ensuring that all parts of the process meet buyer, community and regulator expectations.
- Identify potential competitive advantages by identifying and removing potential deleterious by-products/practises that then can be used to differentiate products (premium?).
- Potential to overcome some trade barriers (eg Basel Convention)
- Engaging with the entire lifecycle of a product to develop product stewardship standards may help to minimise future liability against the company
- Change practises rather than image
- Creates an umbrella for previously disconnected initiatives

Extended Producer Responsibility

"The responsibility, that the waste generated during the production processes could be taken care of in a proper way, from an environmental and resource-saving point of view, should primarily be of the manufacturer. Before the manufacturing of a product is commenced it should be known how the waste which is a result of the production process should be treated, as well as how the product should be taken care of when discarded."

(Swedish Government definition of EPR in 1975)

Extended producer responsibility

VS

Extended product responsibility

VS

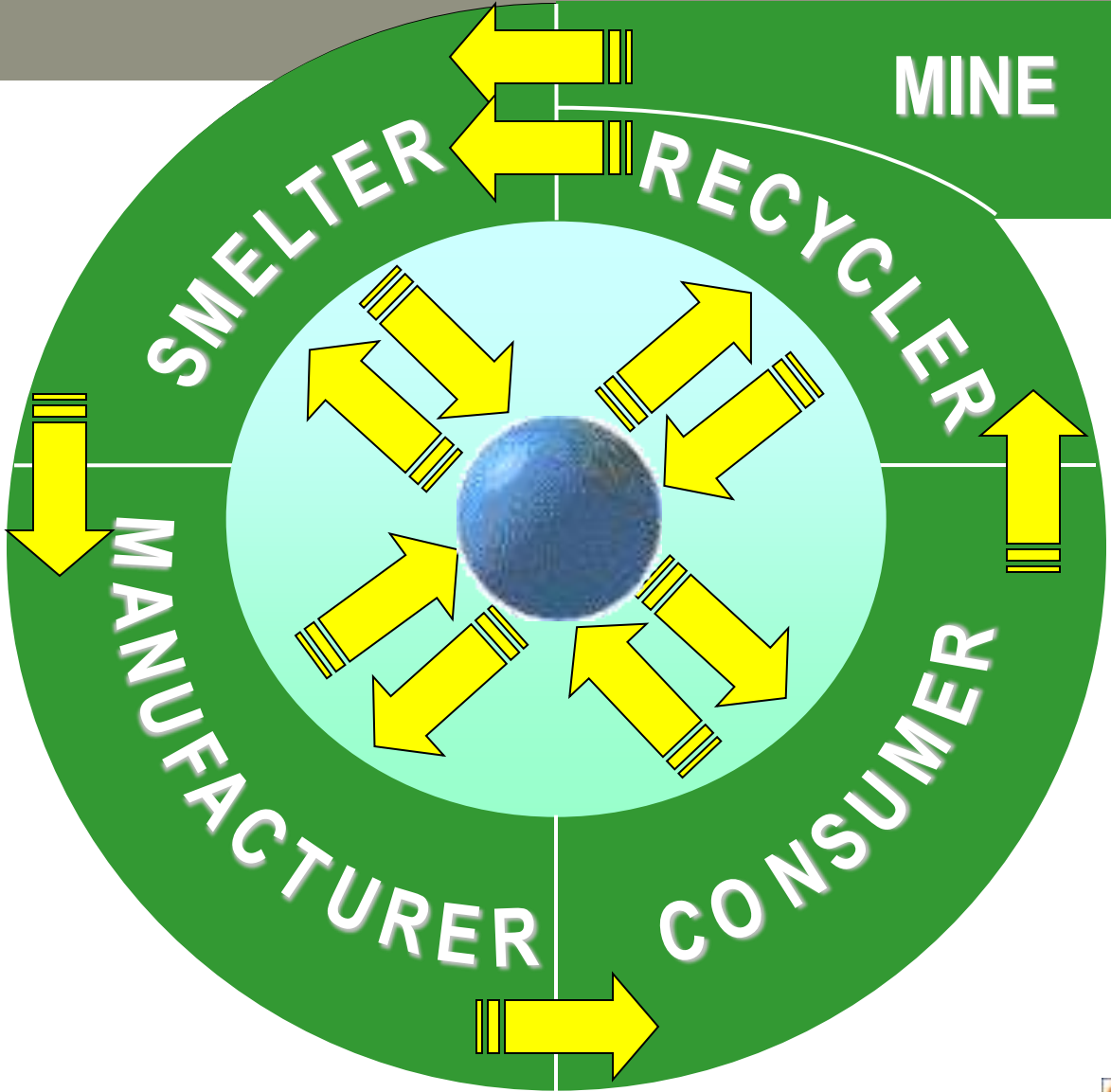
Product stewardship – a SHARED responsibility

Green Lead Vision (2000)

Green Lead™ is the vision of mining, processing, transporting, treating, manufacturing, storing, using and recycling lead – with zero harm from lead exposure to people and the environment.



Green Lead Sigma Cycle



Green Lead steps to success

- **Step 1** - Impact Identification
- **Step 2** - Develop Green Lead Standards/Criteria
- **Step 3** - Green Lead Process Certification
- **Step 4** - Product Stewardship and Sustainable Development

The draft guidelines

- 1. Medical surveillance – Blood Leads**
- 2. Solid Waste Management**
- 3. Effluent treatment and discharges**
- 4. Emission Control Systems**
- 5. ULAB Collection, transport and shipping**
- 6. Battery Labels**
- 7. Public Communications and awareness**
- 8. Site Sustainability**
- 9. Community Outreach**
- 10. Safety**



天津东邦铅资源再生有限公司
TIANJIN TOHO LEAD RECYCLING CO.,LTD



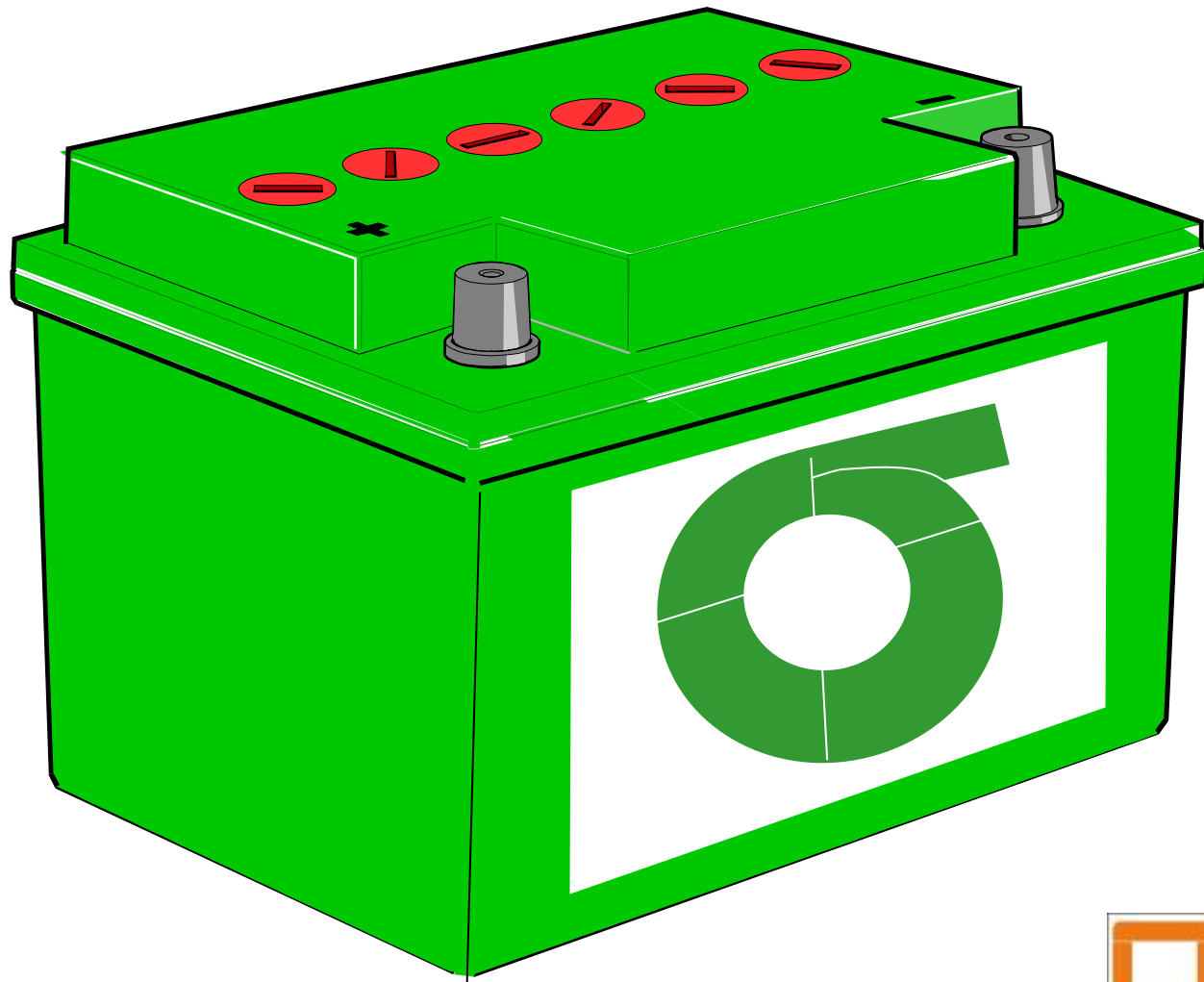
阿波罗 蓄电池
www.apollo-battery.com



The journey continues in

- El Salvador
- Guatemala
- Costa Rica
- China

Responsible sourcing and use of lead



Waste management?????



In 2005

- “Oxfam America, EARTHWORKS, and Global Witness are calling on jewellers to provide consumers with meaningful guarantees that the jewellery they buy is not tarnished with human rights abuses, environmental destruction, or conflict “
- “The symbol of one’s enduring love should not have to come at the expense of clean drinking water or respect for human rights,”

Responsible Jewellery Council



Core System Documents

Mission

“To advance responsible ethical, social and environmental practices, which respect human rights, throughout the diamond and gold jewellery supply chain, from mine to retail.”

Standards

1. *The RJC Principles and Code of Practices*, under which Members are to be Certified.

Guidance

2. *Certification Handbook*: overview of the System and requirements for achieving certification.

3. *RJC Standards Guidance*: information and advice about the Code.

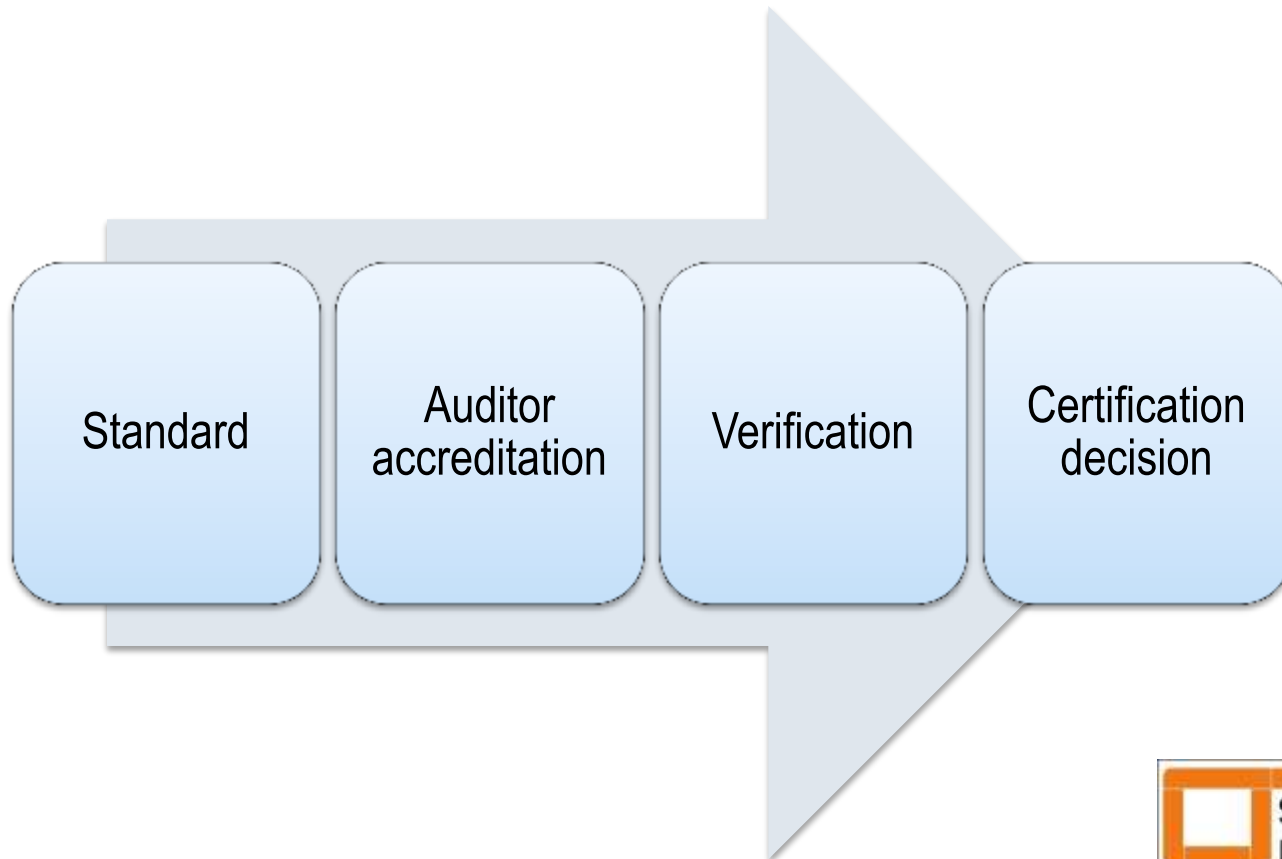
4. *RJC Assessment Manual*: instructions for members and auditors.

Forms and Toolkits

5. *RJC Assessment Workbook*: forms and detailed questions for assessments and audits.

RJC System Elements

- Certification is third party confirmation that fulfilment of specific requirements has been credibly demonstrated



RJC membership

Over 360 members including

- Diamond, gold and/or platinum group metals producer
- Diamond trader and/or cutter and polisher
- Gold and/or platinum group metals trader, refiner, hedger
- Jewellery Manufacturer or Wholesaler
- Jewellery Retailer
- Service Industries
- Trade Associations

Value of Copper Stewardship?

- Serving as an essential part of medium and long term survival of the industry, of the markets and of copper as a choice material
- Maintaining, or bolstering, company reputation & image
- Helping sustain market growth and protecting markets or licence to market
- Providing a framework to understand and avoid risk (a critical piece of the work ICA is doing)
- Linking clearly to a company' commitments to sustainable development and sustainability principles, which include looking at how sustainable copper is in the long run
- Offering potential opportunities for providing services, not only materials

Sponsoring Members



bhpbilliton

onesteel



BLUESCOPE
STEEL

Observer Participants:

DRET, GBCA, WWF

Eden Project, World Steel
Association, Outokumpu,

Stewardship Matters

MRIW May 2012

The purpose of the Steel Stewardship Forum

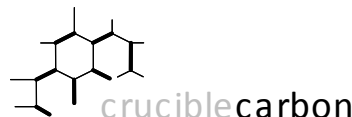
- Maximise the value of steel to society whilst minimising negative commercial, social and environmental impacts across the life cycle
- Unite key stakeholders along the steel product life cycle chain within a structured forum
- Work as a hub linking information, knowledge, leading practice and activity in the areas of environmental improvement and sustainability across the steel life cycle

Members

RIO
TINTO



Associate Member



Affiliate



Australian Steel Institute



enabling responsible sourcing and use of commodities

OECD Pilot Project in the Mining and Minerals Sector:

- strengthen company management systems, including chain of custody tracking system over the mineral supply chain.
- identify facts and assess risk in the supply chain
- design and implement mitigation strategies by establishing improvement plans or discontinuing engagement with suppliers;
- ensure independent third-party audit
- report on supply chain due diligence and findings

Leading Practice Sustainable Development Program Handbooks

- [Airborne contaminants, noise and vibration](#)
- [Biodiversity management](#)
- [Community engagement and development](#)
- [Cyanide management](#)
- [Evaluating performance: monitoring and auditing](#)
- [Hazardous materials management](#)
- [Managing acid and metalliferous drainage](#)
- [Mine closure and completion](#)
- [Mine rehabilitation](#)
- [Risk management](#)
- [Stewardship](#)
- [Tailings management](#)
- [Water management](#)
- [Working with indigenous communities](#)



Australian Government

**Department of Industry
Tourism and Resources**

STEWARDSHIP

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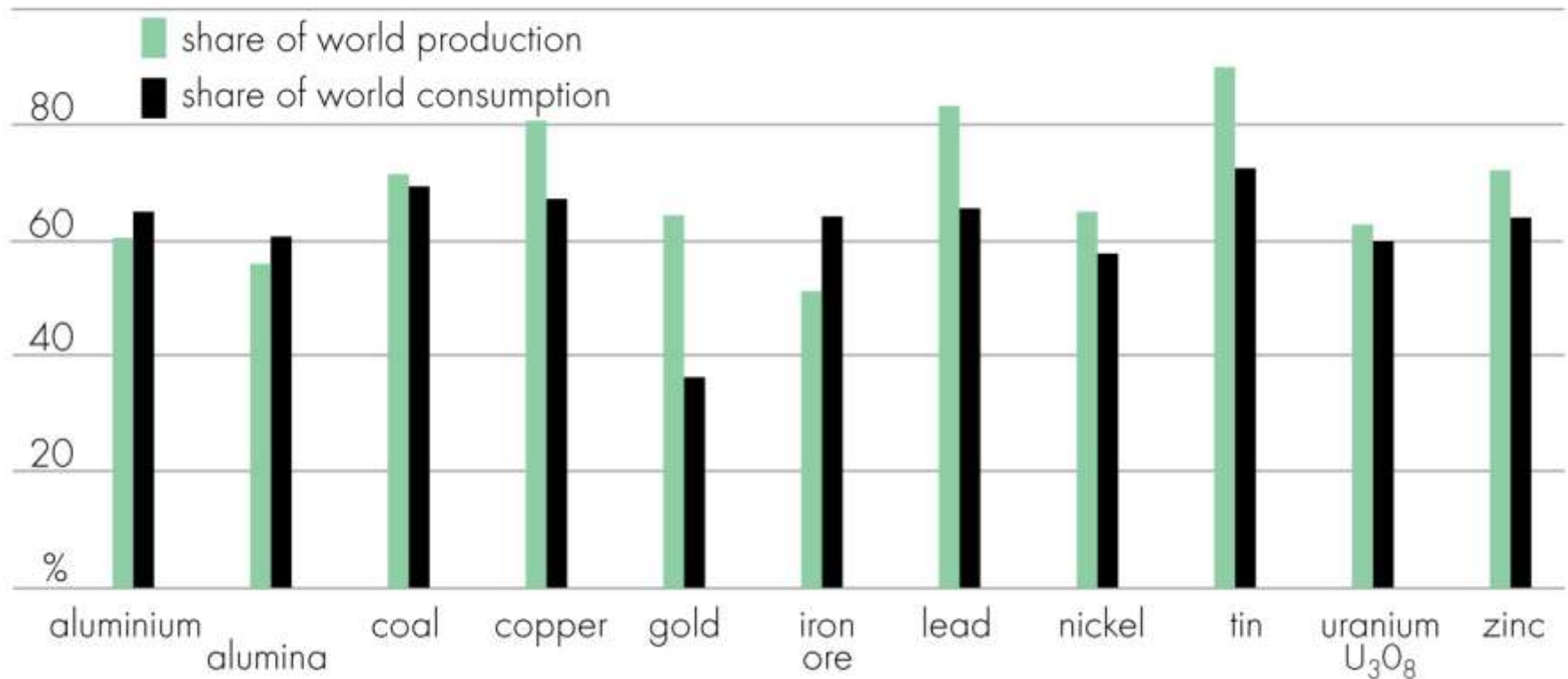


APEC Ministers Responsible for Mining – February 2007

Recognising the importance of APEC producer and consumer economies taking responsibility over the life cycle of minerals resources utilisation, and the benefits of capacity building initiatives between APEC economies, we noted that:

- **Life cycle partnerships involves participants working together** to ensure that mining materials and products are produced, consumed and disposed in a responsible manner.
- There is a **distinction between** those parts of the life cycle where the mining industry has a **direct role**, and those parts where there is a **shared concern**.
- A life cycle approach can assist economies in identifying capacity building priorities.
- Capacity building can occur on many levels: institutional systems such as regulatory approaches, operational improvements relating to mine sites, including through transfer of technology and services, and community development and engagement.

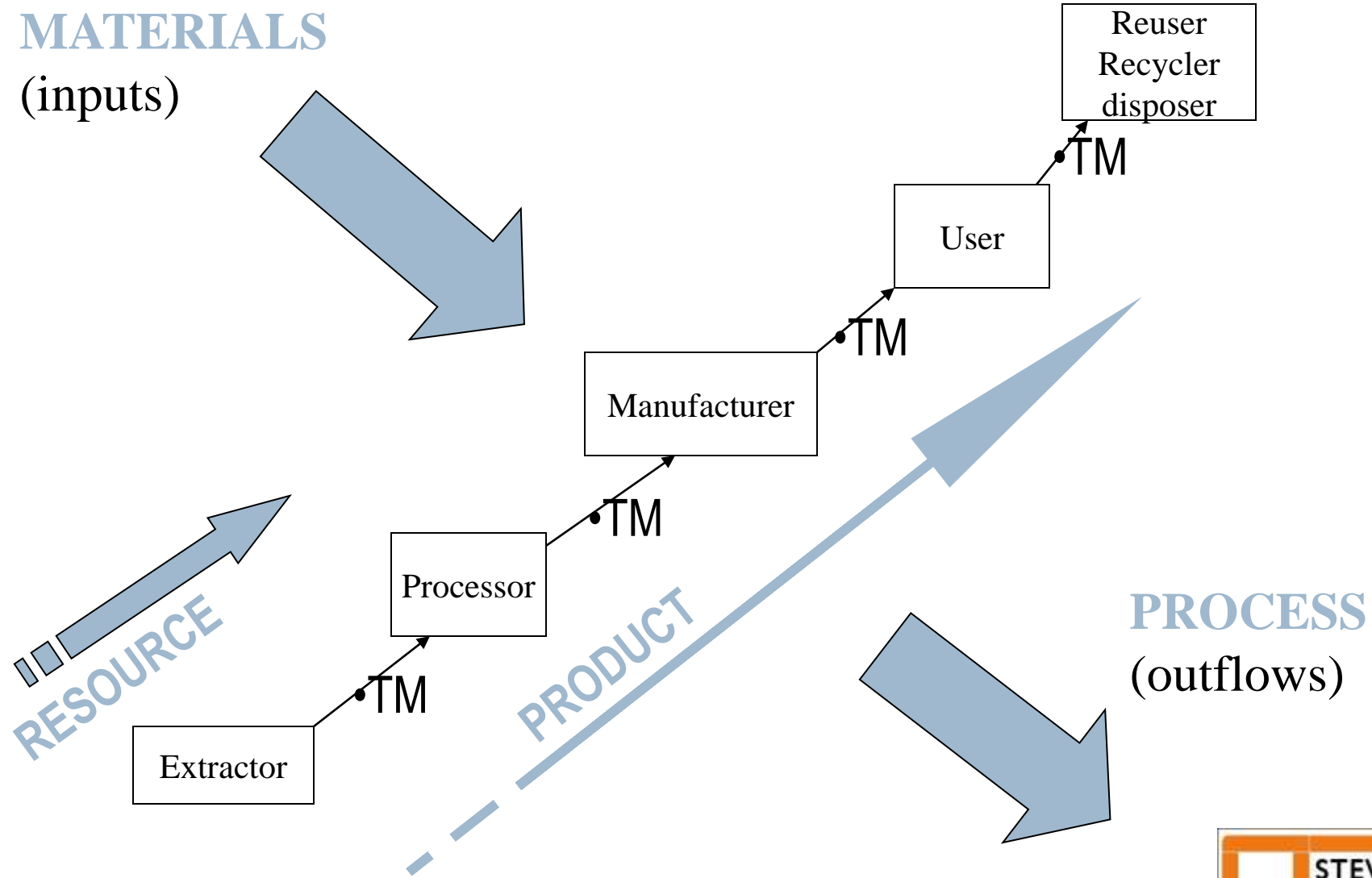
fig 1 **APEC share of world minerals production (mine) and consumption, 2005**



Stewardship types in the product life cycle

MATERIALS

(inputs)

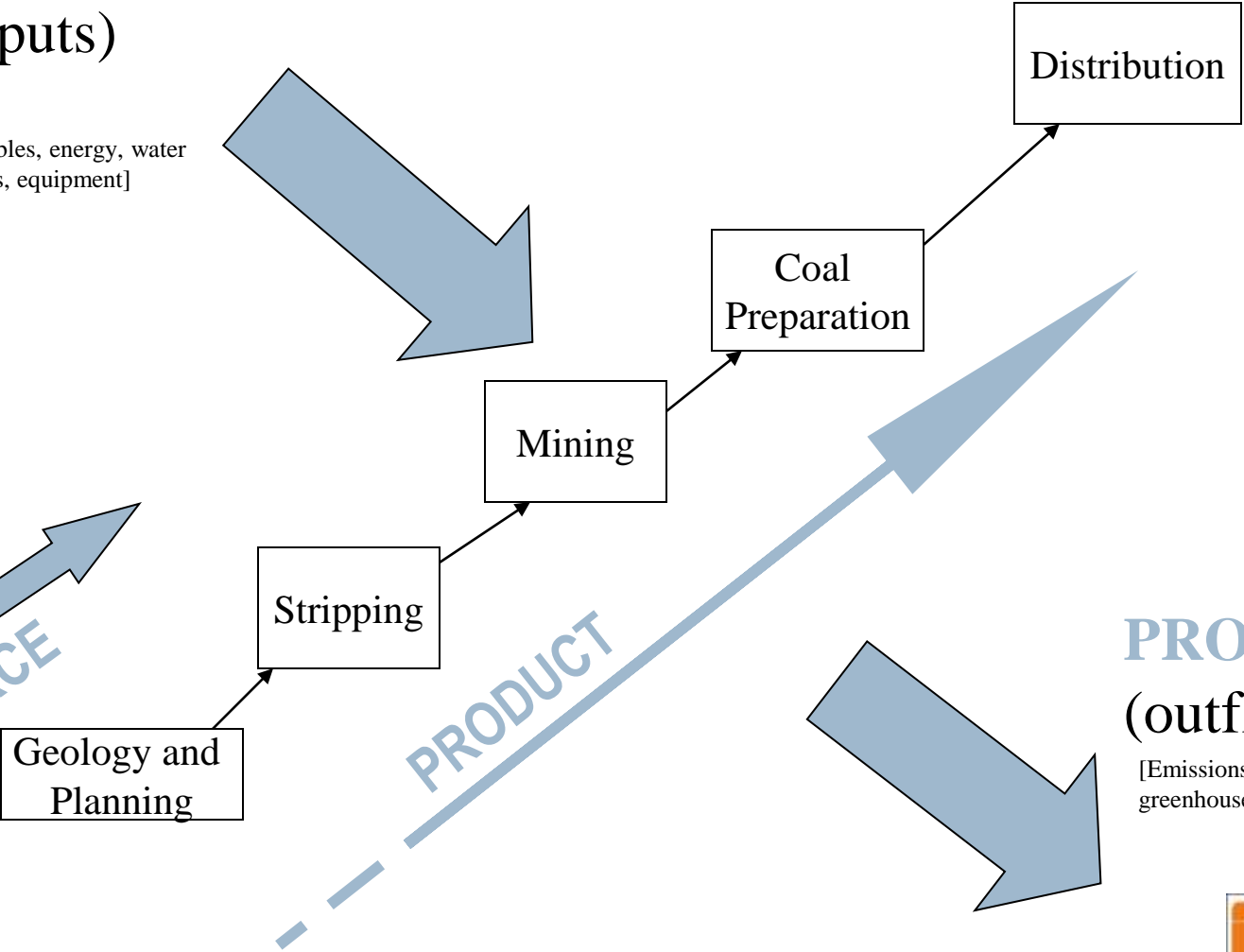


Stewardship types in the mine sector of a coal life cycle

MATERIALS

(inputs)

[consumables, energy, water
explosives, equipment]



RESOURCE

PROCESS

(outflows)

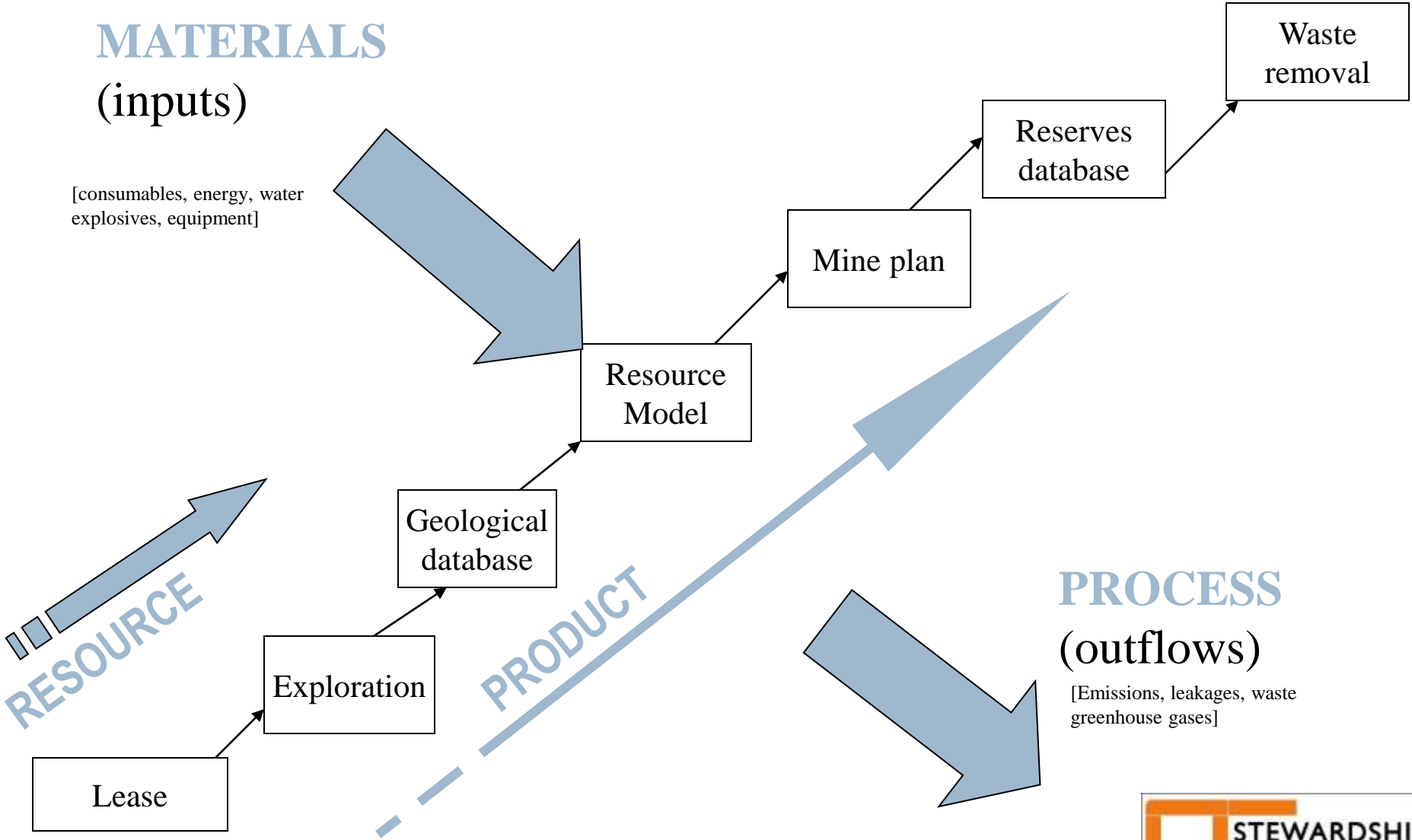
[Emissions, leakages, waste
greenhouse gases]

Stewardship types in coal geology/planning/stripping

MATERIALS

(inputs)

[consumables, energy, water explosives, equipment]



PROCESS

(outflows)

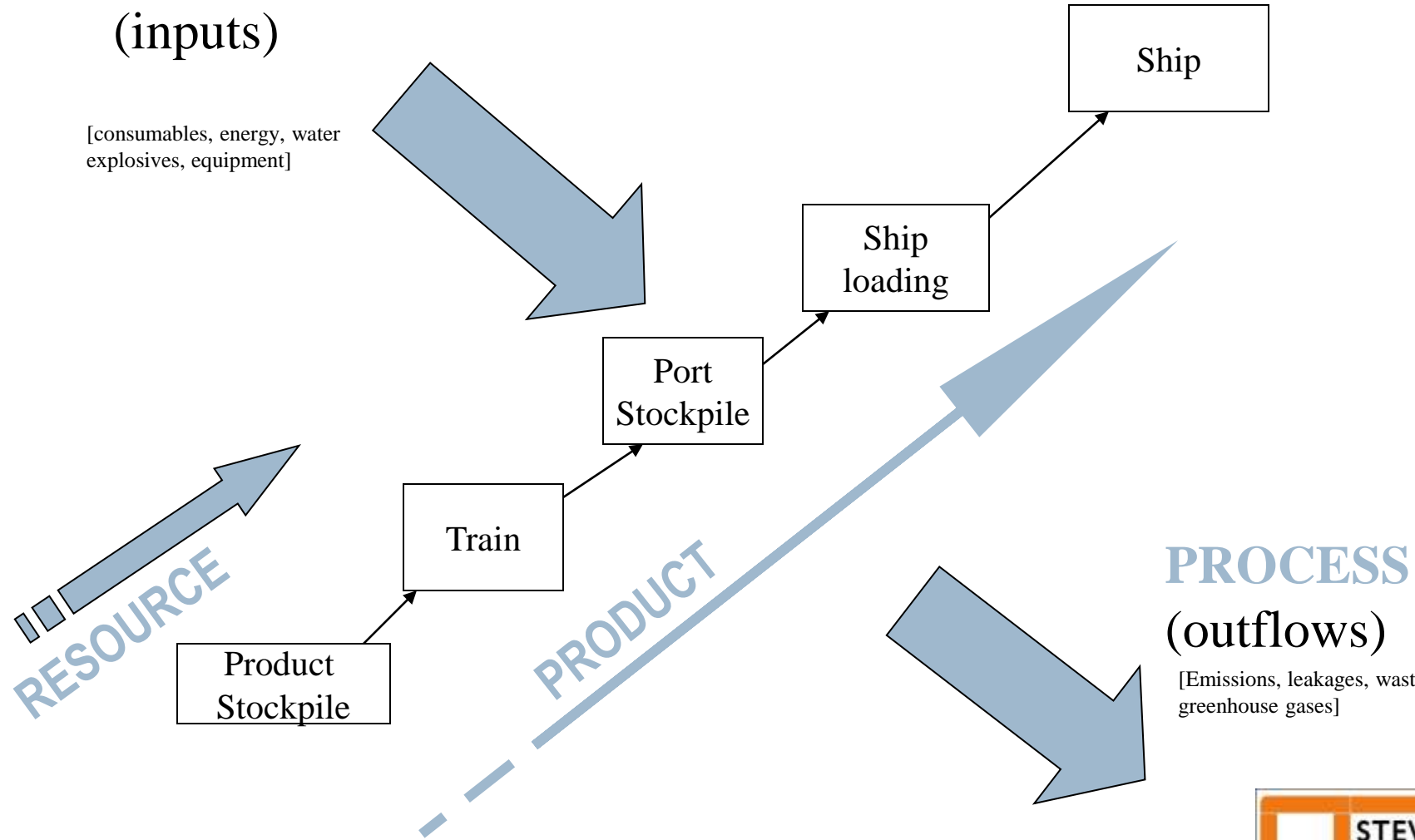
[Emissions, leakages, waste greenhouse gases]

Stewardship types in the Distribution sector of coal life cycle

MATERIALS

(inputs)

[consumables, energy, water explosives, equipment]



PROCESS

(outflows)

[Emissions, leakages, waste greenhouse gases]

In conclusion

- Stewardship is about all players in a commodity life cycle working together to maximise the value to society from the mining, processing, manufacture, consumption and end of life management of that commodity - without harming people and the environment
- Redefine how you see/think “waste” – see it as a potential resource
- Look outside the “pigeon-hole”
- If Sustainability is your goal – then Stewardship is your means

For further details see www.stewardshipmatters.com