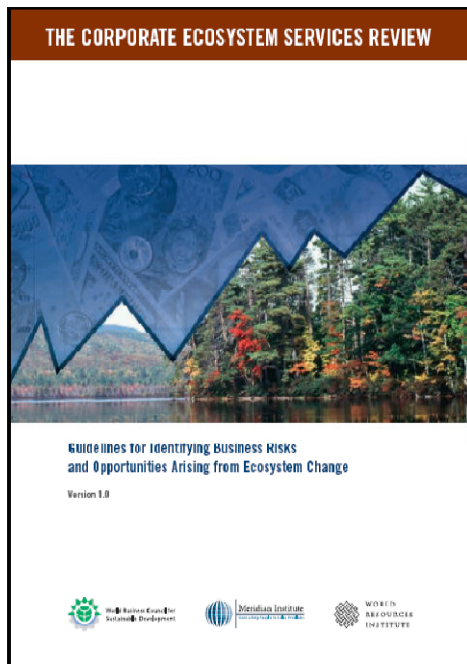




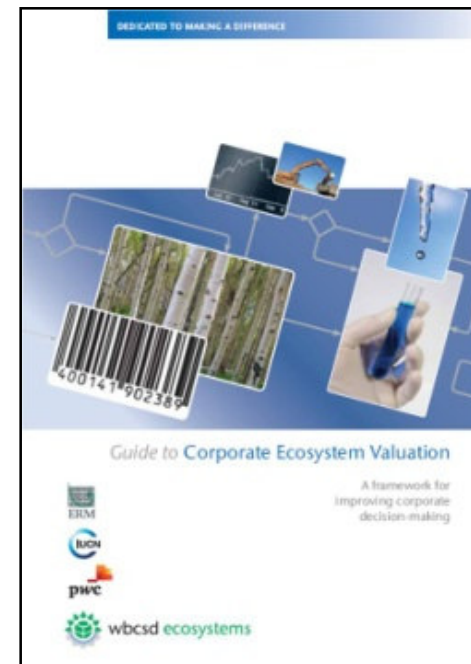
Mapping your ecosystem Impacts and Dependencies

Introducing the ESR and CEV



by
Mikkel Kallesoe

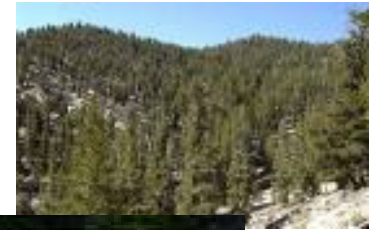
Leaders for Nature
Rabobank
May 25, 2011



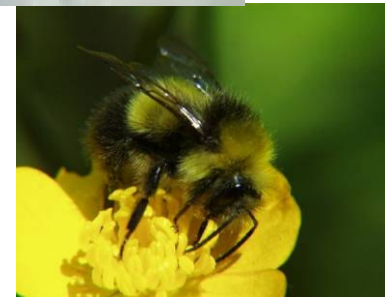


Why are ecosystems and their services important to business?

Businesses impact on ecosystems and ecosystem services



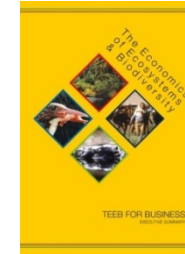
Ecosystem change creates business **risks** and **opportunities**



Businesses rely and depend on ecosystems and ecosystem services



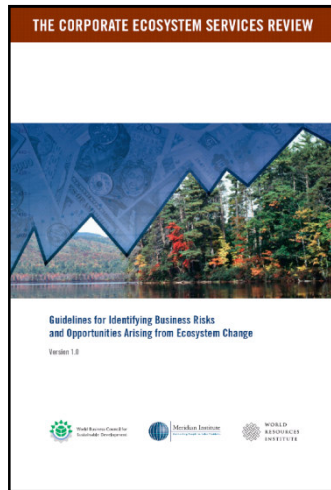
Responding to TEEB business recommendations



- Identify ecosystem impacts and dependence
- Assess risks and opportunities associated with ecosystem change
- Develop information systems, set targets, measure and value performance, report results
- Grasp opportunities, e.g. cost-efficiencies, new products and new markets
- Avoid, minimize, mitigate and offset ecosystem impacts
- Integrate ecosystem actions with wider CSR
- Engage business peers and other stakeholders to improve ecosystem guidance and policy



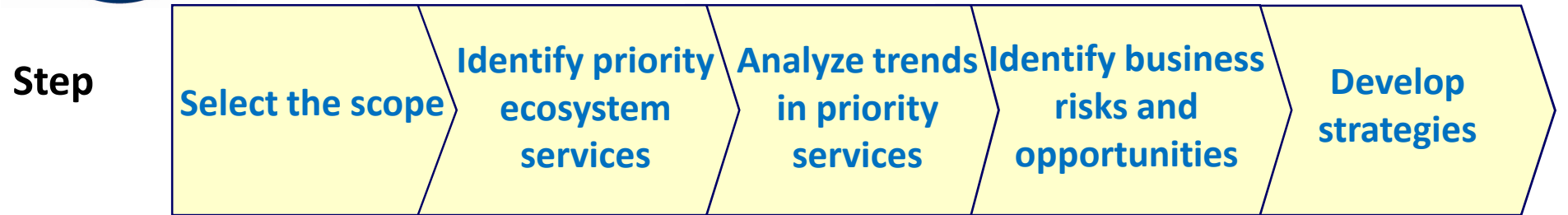
Corporate Ecosystem Services Review (ESR)



Structured 5 step methodology that helps managers develop proactive strategies to manage risks and opportunities arising from their company's dependence and impact on ecosystems.



Steps of the ESR



Step	Select the scope	Identify priority ecosystem services	Analyze trends in priority services	Identify business risks and opportunities	Develop strategies
Key activity	Choose boundary within which to conduct ESR	Systematically evaluate the degree of a company's dependence and impact on 20+ ecosystem services	Research and evaluate conditions and trends in the priority ecosystem services, and drivers of these trends	Identify and evaluate business risks and opportunities that might arise due to the trends in these priority ecosystem services	Outline strategies for minimizing the risks and maximizing the opportunities



Step 1: Identifying scope

1. Which stage of the supply chain?



2. Who and where specifically?

- Which supplier(s)?

- In which geographic market(s)?

- What aspect of the business?

- Business unit
- Product line
- Facility
- Project
- Landholdings

- Which customer(s)?

- In which geographic market(s)?



Step 2: Prioritizing ecosystem services

Dependence

1. Does this ES serve as an input or does it enable / enhance conditions for successful company performance?
2. Does this ES have cost-effective substitutes?

Impacts

1. Does the company affect the quantity or quality of this ES?
2. Is the company's impact positive or negative?
3. Does the company's impact limit/enhance the ability of others to use this ES?
 - Is the company's impact on this ES significant (absolute and relative)?
 - Is this ES already in short supply relative to demand?
 - Could the company's impact push this ES across a physical threshold?

ECOSYSTEM SERVICES DEPENDENCE AND IMPACT MATRIX



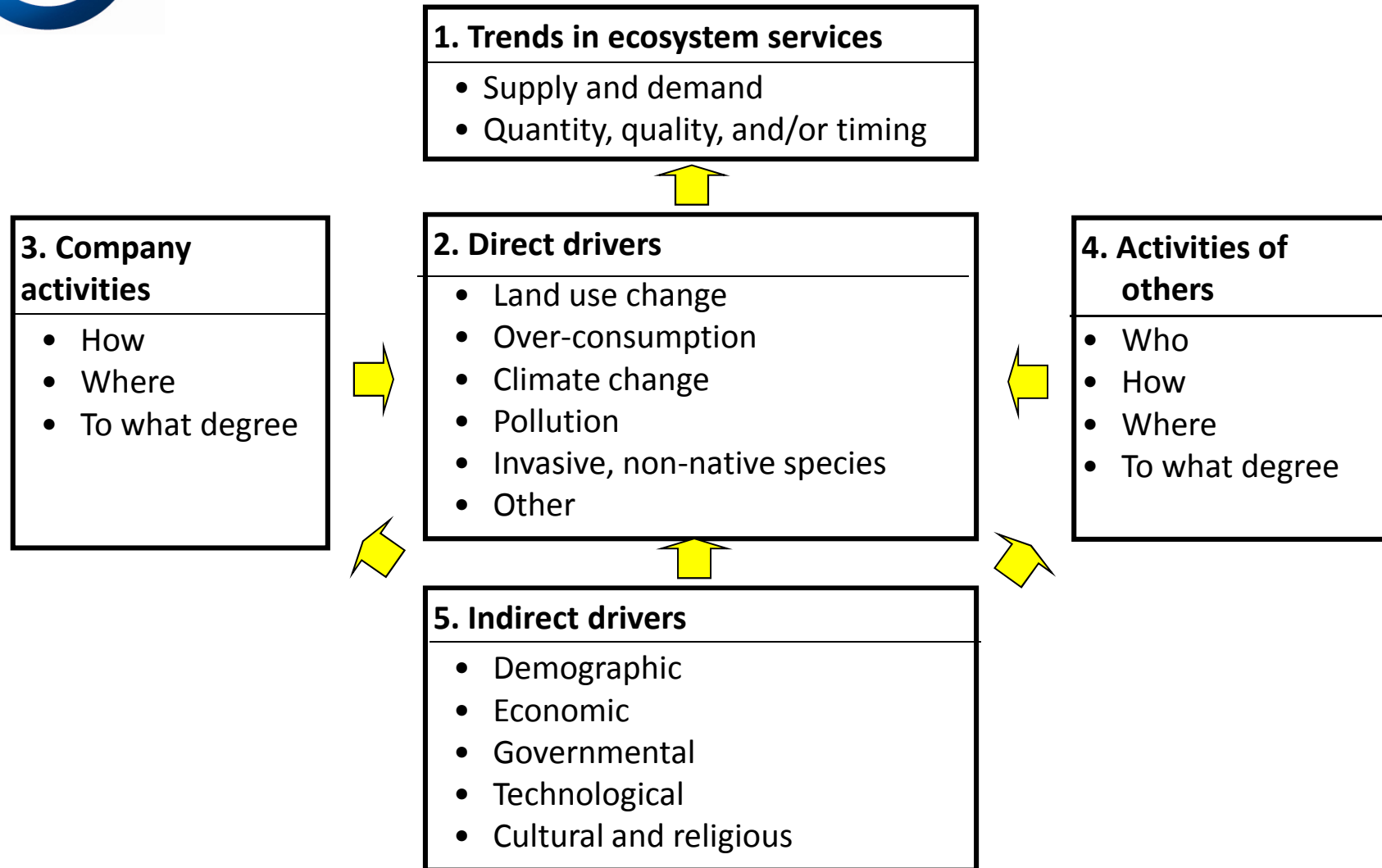
Key

- High
- Medium
- Low
- + Positive impact
- Negative impact
- ? Don't know

Ecosystem services	Suppliers		Company operations		Customers	
	Dependence	Impact	Dependence	Impact	Dependence	Impact
Provisioning						
Crops				○ -		
Livestock				● -		
Capture fisheries						
Aquaculture						
Wild foods				○ +		
Timber and other wood fibers				● +		
Other fibers (e.g., cotton, hemp, silk)						
Biomass fuel			○	● +		
Fresh water			●	● -		
Genetic resources			○	○ ?		
Biochemicals, natural medicines, and pharmaceuticals				○ +		
Regulating						
Air quality regulation				? ?		
Global climate regulation			○	● +		
Regional/local climate regulation			○	○ +		
Water regulation			●	● -		
Erosion regulation			○	○ -		
Water purification and waste treatment				○ -		
Disease regulation						
Pest regulation						
Pollination						
Natural hazard regulation						
Cultural						
Recreation and ecotourism				● +		
Ethical values				○ +		



Step 3: Analyzing trends





Step 4: Identifying risks and opportunities

- **Operational** (e.g. increased scarcity and cost of raw materials)
- **Regulatory and legal** (e.g. public policies like taxes and moratoria on extractive activities)
- **Reputational** (e.g. relationships and image from media and NGOs)
- **Market and product** (e.g. consumer preferences)
- **Financing** (e.g. availability of capital)

Prioritizing opportunities



Opportunity	H M L	Possible ROI	Other benefits	Ease of implementation	Timing
1. Implement additional internal water efficiency improvements	H	M	H	Year 1	
2. Use invasive species for biomass fuel	H	M	H	Year 2	
3. Acquire additional water entitlements by (co) financing water efficiency improvements of upstream landowners	M	H	L	Year 2	
4. Promote woodlots on marginal agricultural lands	M	H	M	Year 2	
5. Promote coppiced woodlots for biomass fuel	M	H	M	Year 2	
6. Partner with park to capture eco-tourism value	L	H	M	Year 2	
7. Engage policymakers to improve fresh water resource use policies	M	H	L	Year 3	



Step 5: Designing strategic responses

Internal changes

- Operations
- Product strategy
- Market strategy
- Procurement strategy
- Land management
- Etc.

Sector or stakeholder engagement

- Industry peer collaboration
- Cross-sector collaboration
- NGO collaboration
- Transactions with stakeholders
- Etc.

Policy-maker engagement

- Tax incentives
- Subsidy reforms
- Protected areas
- Zoning
- Etc.



Recorded business benefits of using the ESR

- Identifies business risks and opportunities
- Helps anticipate new markets and government policies
- Strengthens existing approaches to environmental management
- Improves stakeholder relationships
- Demonstrates leadership in corporate sustainability

Why Mondi used the ESR?



- Mondi recognizes that its business depends on and impacts ecosystems for the supply of wood, fibre, water, energy and other ecosystem services.
- Mondi policy clearly states that they “will demonstrate active stewardship of land, freshwater systems and biodiversity” and furthermore “proactively identify and protect HCV areas and strive to maintain or enhance the critical environmental and social values of the associated ecosystems”.
- Mondi understands that maintaining functioning ecosystems is the master-key to sustainable ecosystem services and biodiversity.
- Mondi’s approach to “the responsible management of ecosystems and ecosystem services” are Ecosystem Management Plans (EMP) supported by tools such as the ESR and CEV.

Some Observations and Results



- ESR clearly identified impacts and opportunities
- External stakeholder input was very useful and influenced the prioritization of ES
- Freshwater ecosystems were identified as a priority in the Mhlatusze catchment, where Mondi has a significant presence
- Water resources have been over-allocated in this catchment and the challenge is to profitably operate a large integrated forest-product business under constrained resources into the future. Efficient use of resources including ecosystem services is key to Mondi's strategy.
- From being widely criticised Mondi is now "acclaimed" for the high standard of alien invasive species control. Biofuel potential is being explored.

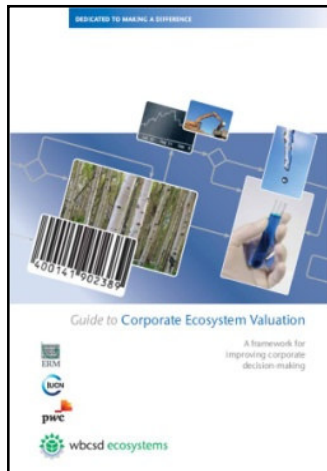


Guide to Corporate Ecosystem Valuation (CEV)

Partners



Road Testers



Approach where both ecosystem degradation and the benefits provided by ecosystem services are explicitly valued and accounted for with the intention of informing and improving business decision-making

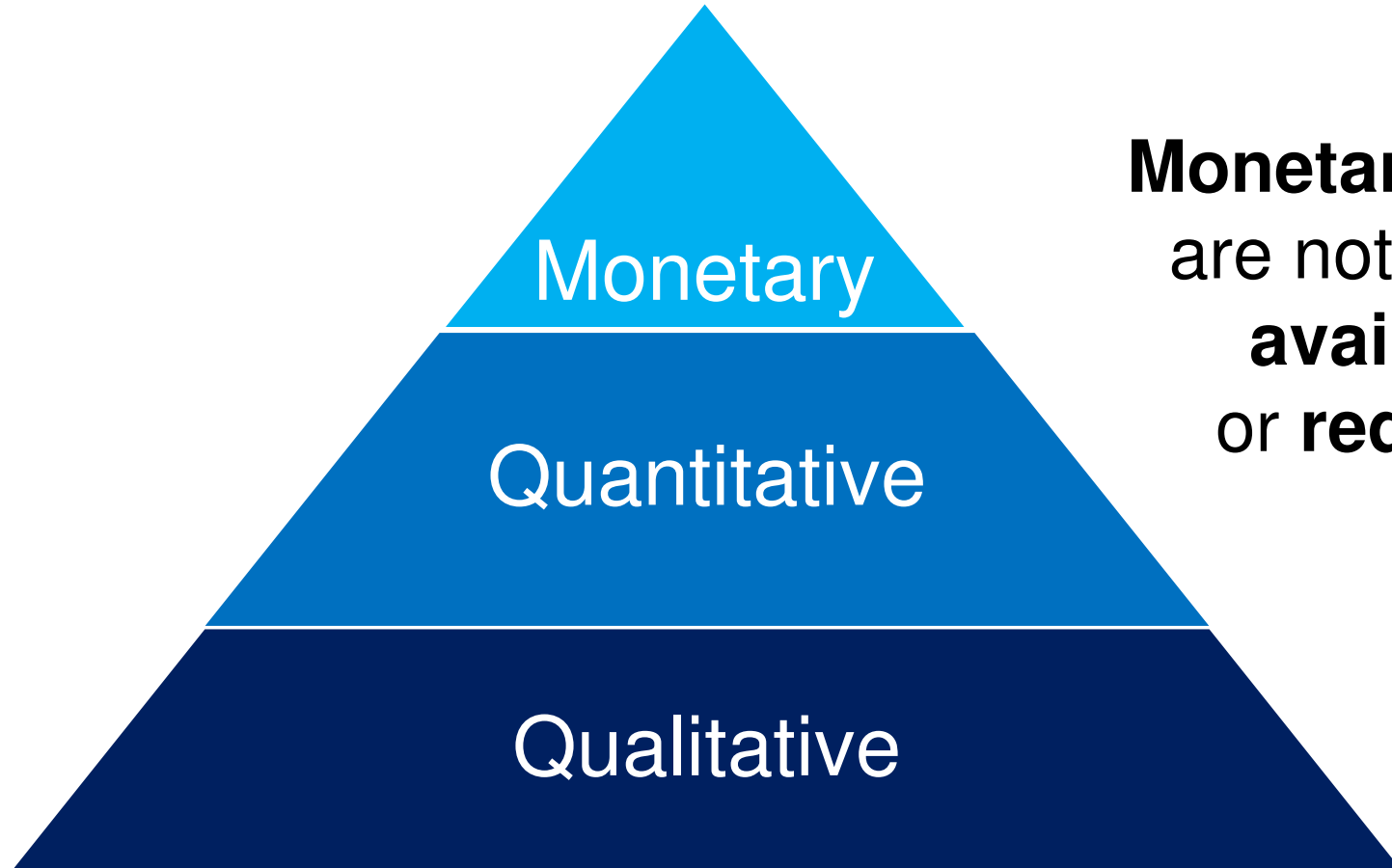


One key challenge

- Despite the economic importance of ecosystem services, their values remain largely unreflected in the policies, prices and markets that shape economic behavior.
- Business should think of ecosystems as:
 - Valuable assets and natural capital
 - Elements of the basic infrastructure that supports production, consumption, trade and investment (conventional definitions of infrastructure often omit natural ecosystems)



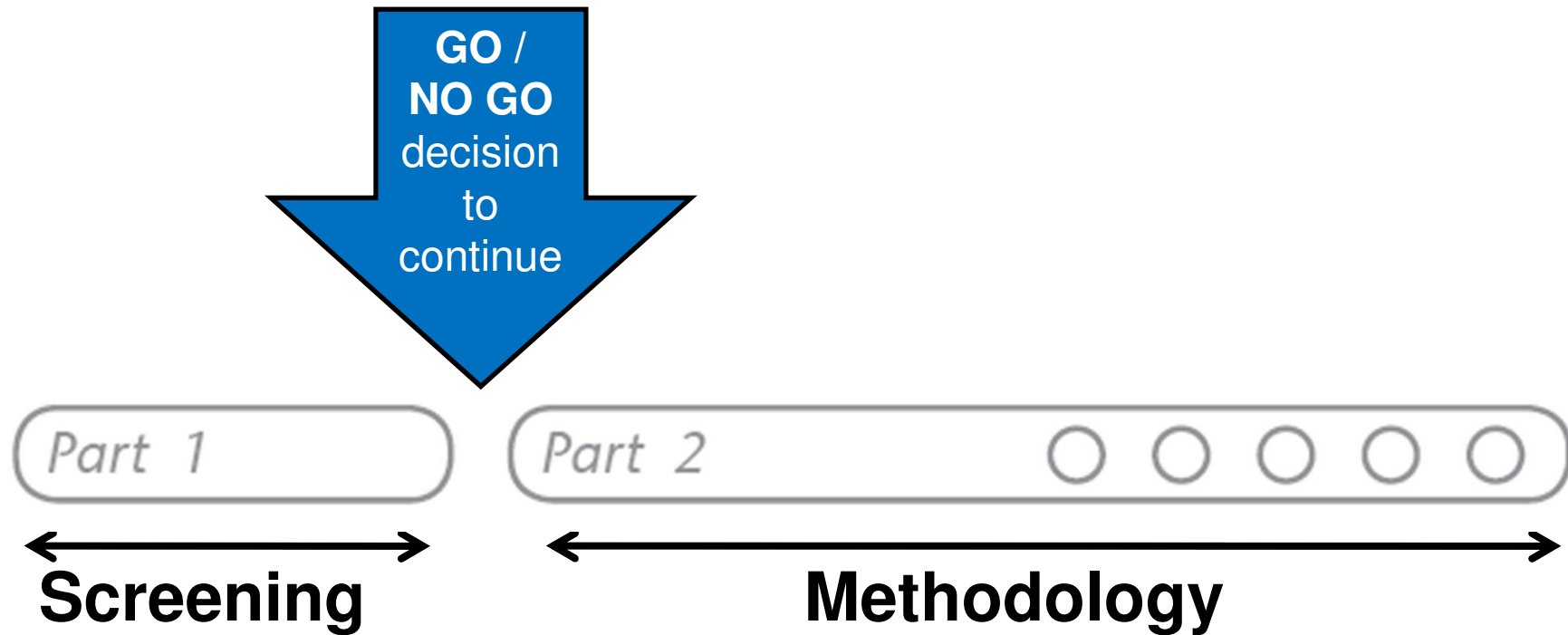
Hierarchy of valuation approaches



Monetary values
are not always
available
or **required**



Guide structure: 2 parts



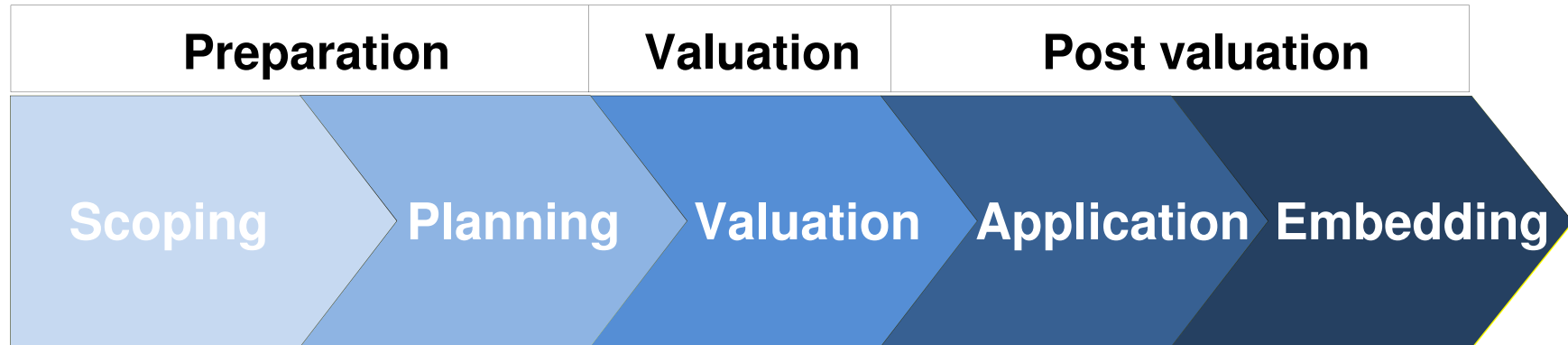


Part 1: Do you need to conduct a CEV at all?

- Before using the 5-stage methodology, the Guide asks a number of questions to ensure there is a need for a CEV study, e.g.
 - Are your impacts & dependence on ecosystem services “material” / significant?
 - Is there a mandatory requirement to value them?
 - How will valuation help make your decision?



Part 2: 5 stages to undertake a CEV exercise



Define scope for valuation exercise, using checklist of questions

Develop suitable plan to undertake valuation effectively

Actual valuation: may be qualitative, quantitative and/or monetary

Use & communicate valuation results to influence internal & external decision-making

Embed the CEV approach within company processes & procedures



In summary

- The ESR provides companies with a qualitative framework and methodology to assess ecosystem service impacts and dependencies potentially resulting in business risks and opportunities
- The CEV Guide provides an approach for companies to quantify their ecosystem service risks and opportunities

Thank you