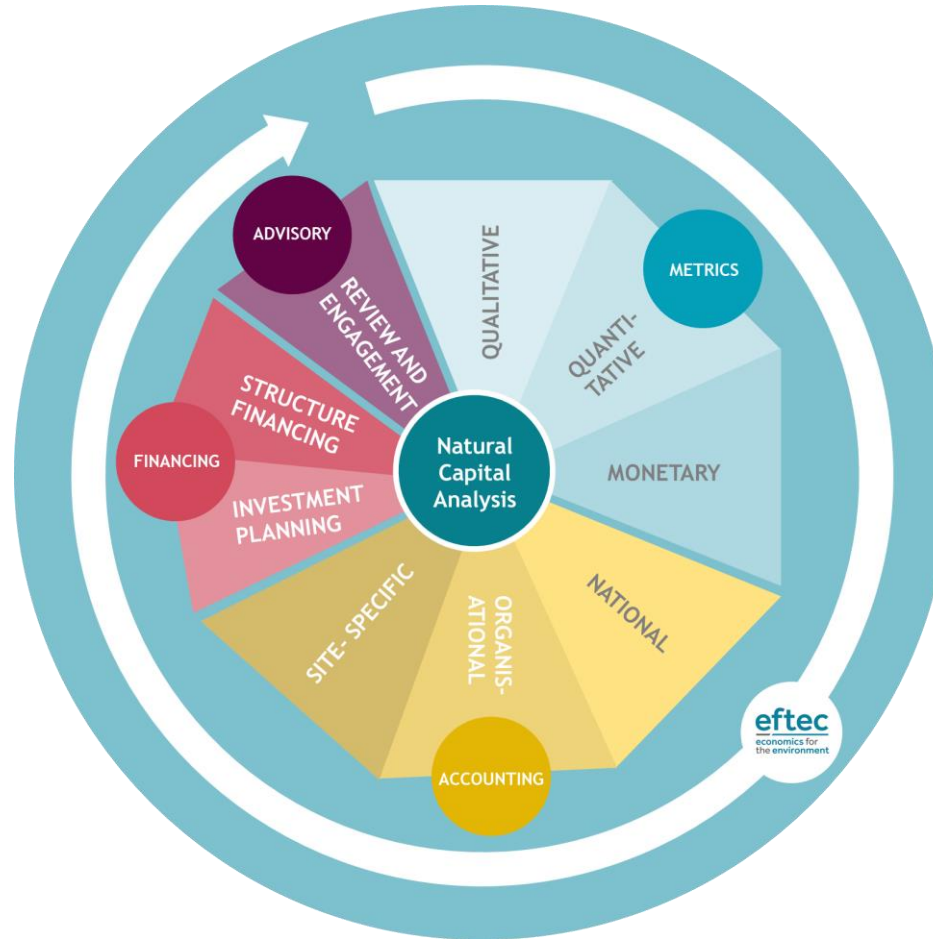


MEASURING, VALUING AND MONITORING NATURAL CAPITAL ASSETS



Ece Ozdemiroglu

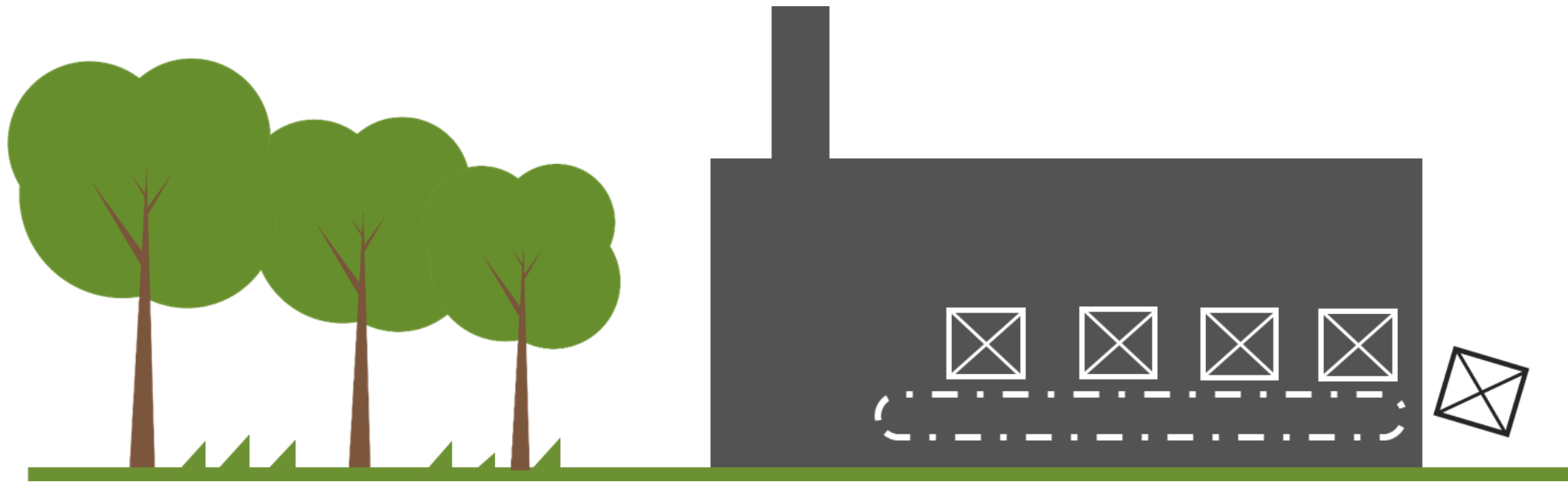
Adams Koshy

UKSIF conference, 22 March 2018

eftec
economics for
the environment

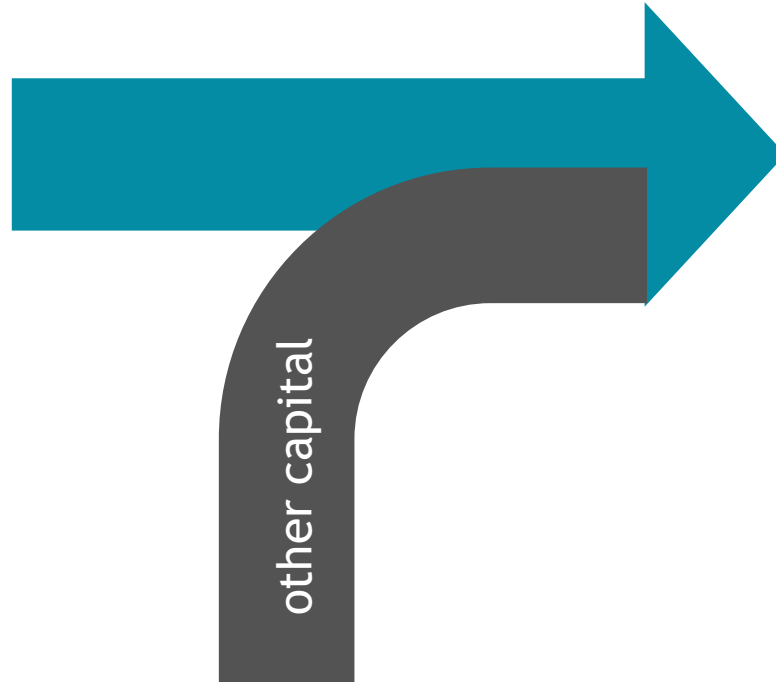
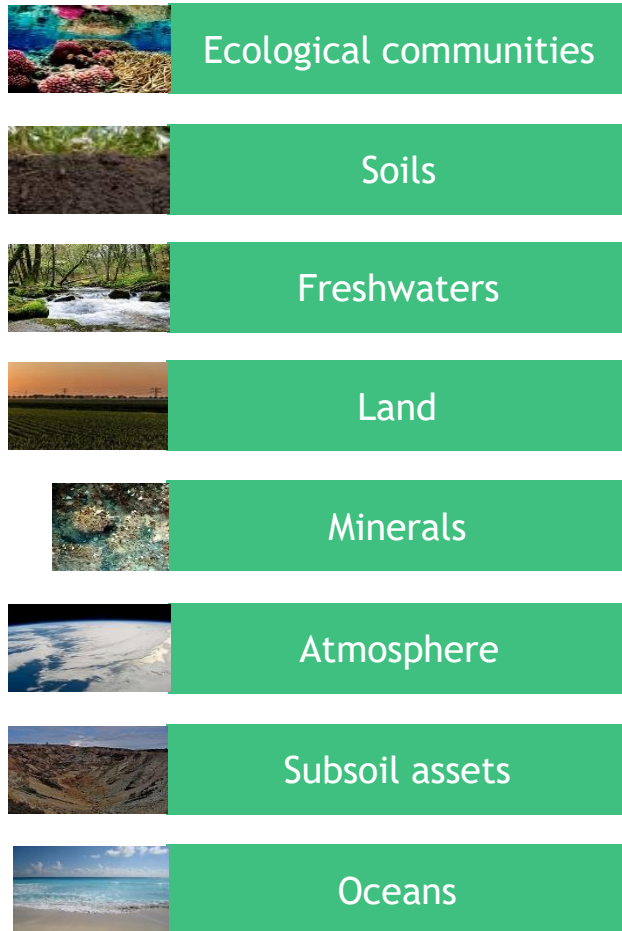
1. WHAT ASSETS WOULD A PAPER AND PULP COMPANY OWN / LEASE?

PAPER AND PULP COMPANY

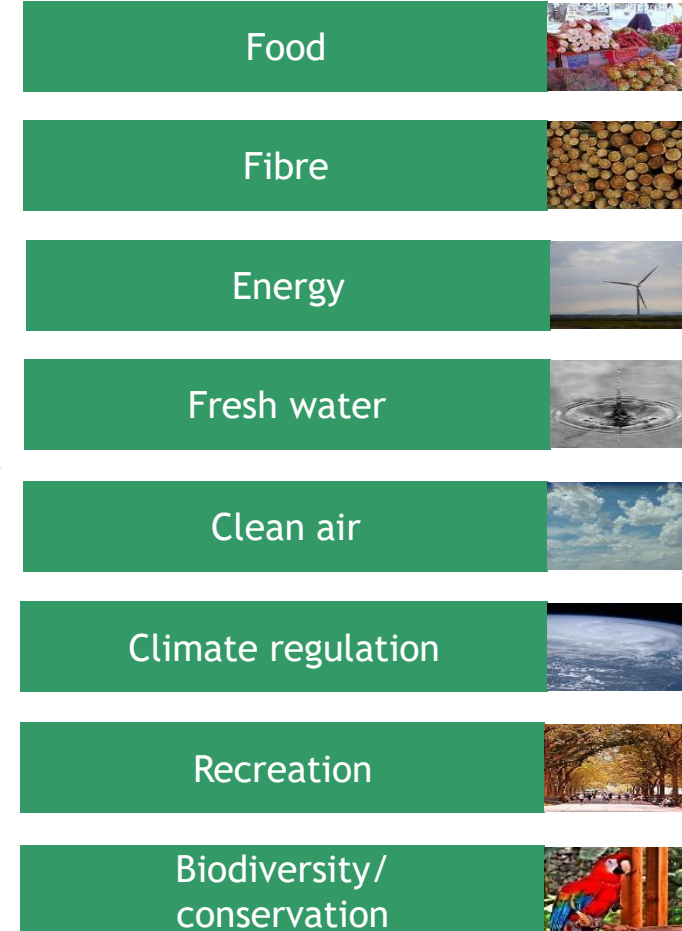


NATURAL CAPITAL

Natural capital assets



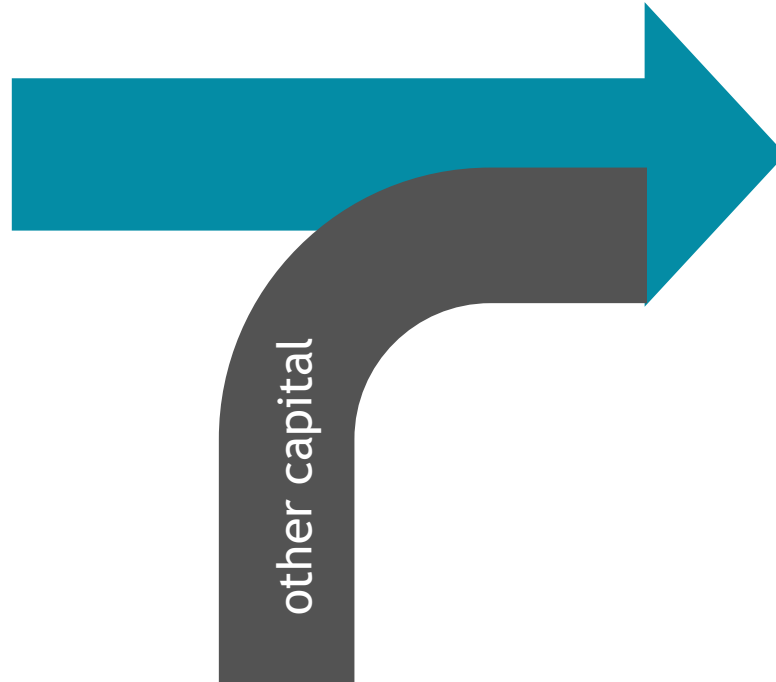
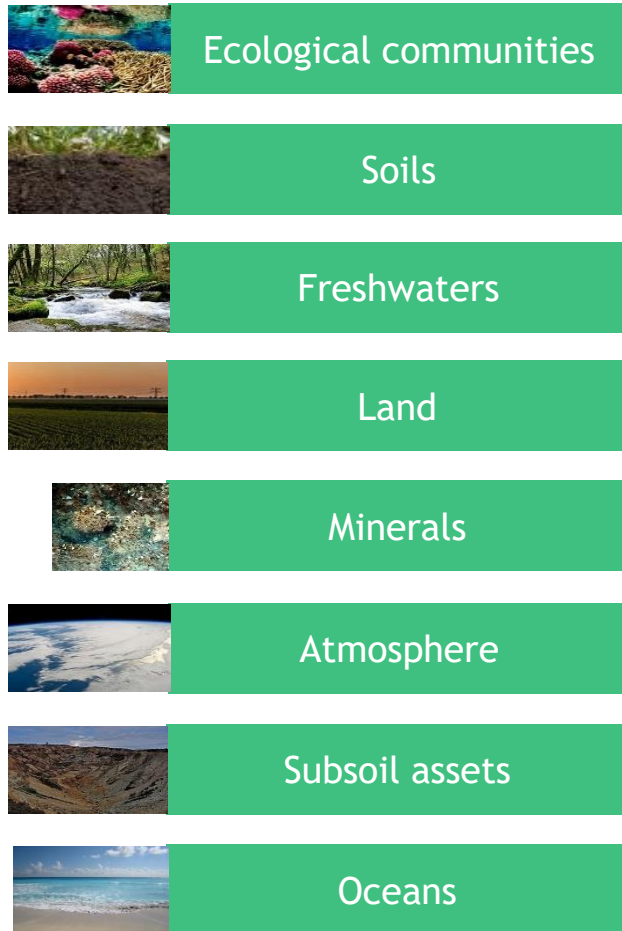
Natural capital benefits



2. WHAT NATURAL CAPITAL ASSETS WOULD A PAPER AND PULP COMPANY OWN / MANAGE?

NATURAL CAPITAL

Natural capital assets



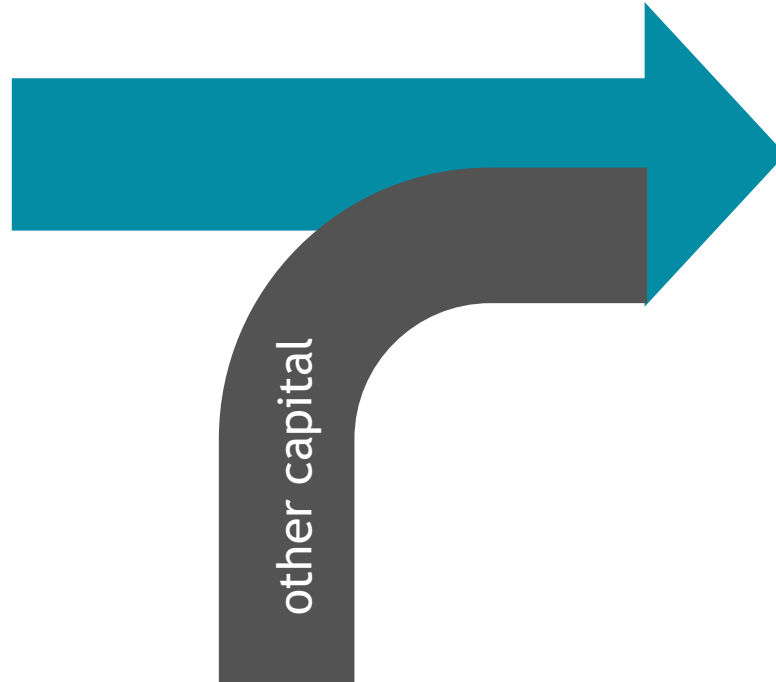
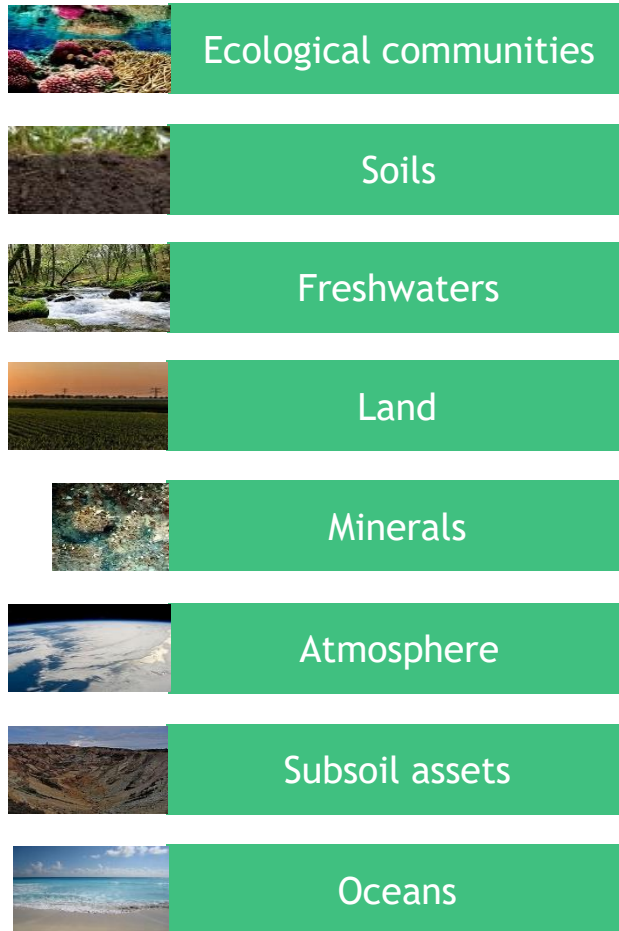
Natural capital benefits



3. WHAT IMPACTS / BENEFITS WOULD RESULT FROM THE OPERATION OF THE PAPER AND PULP COMPANY?

NATURAL CAPITAL

Natural capital assets



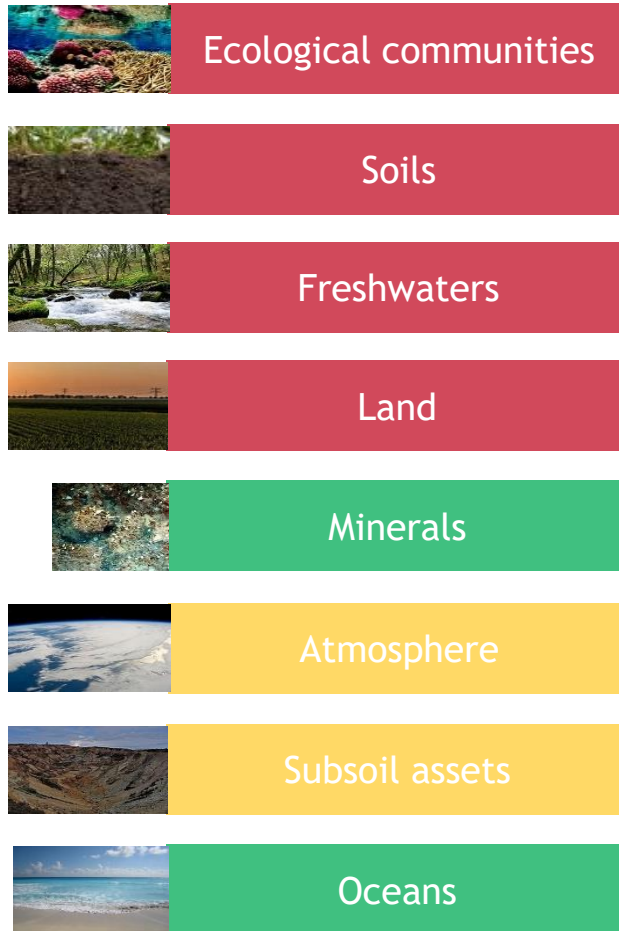
Natural capital benefits



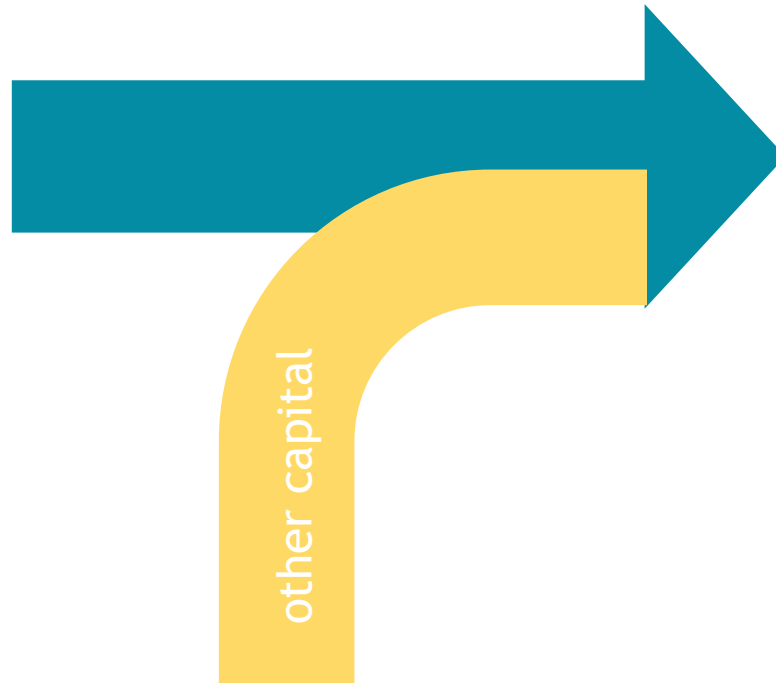
4. WHAT IS IN FINANCIAL AND (STANDARD) ESG REPORTING? AND WHAT IS NOT?

PAPER AND PULP BUSINESS: NATURAL CAPITAL

Natural capital assets



Natural capital benefits



5. HOW DO YOU MEASURE NATURAL CAPITAL IMPACTS/BENEFITS?

WHAT DO I NEED?

Climate regulation benefits



- | | | | |
|----|----------------------|-------------------------------------|------------------------------------------------------|
| 1. | Current level | <input checked="" type="checkbox"/> | Company reporting |
| 2. | Projected levels | <input checked="" type="checkbox"/> | Company planning, modelling (company/sectoral) |
| 3. | Conversion to impact | <input checked="" type="checkbox"/> | Emission/sequestration, academic literature |
| 4. | Conversion to value | <input checked="" type="checkbox"/> | Market prices, non-market values academic literature |

CARBON SEQUESTRATION

How many additional tonnes of carbon is sequestered?

- Estimate: 1.05 mil tonnes per year (2016)
- *Based on SCA Sustainability report 2016 and IPCC 2006 Guidelines*

What's the value of carbon sequestered?

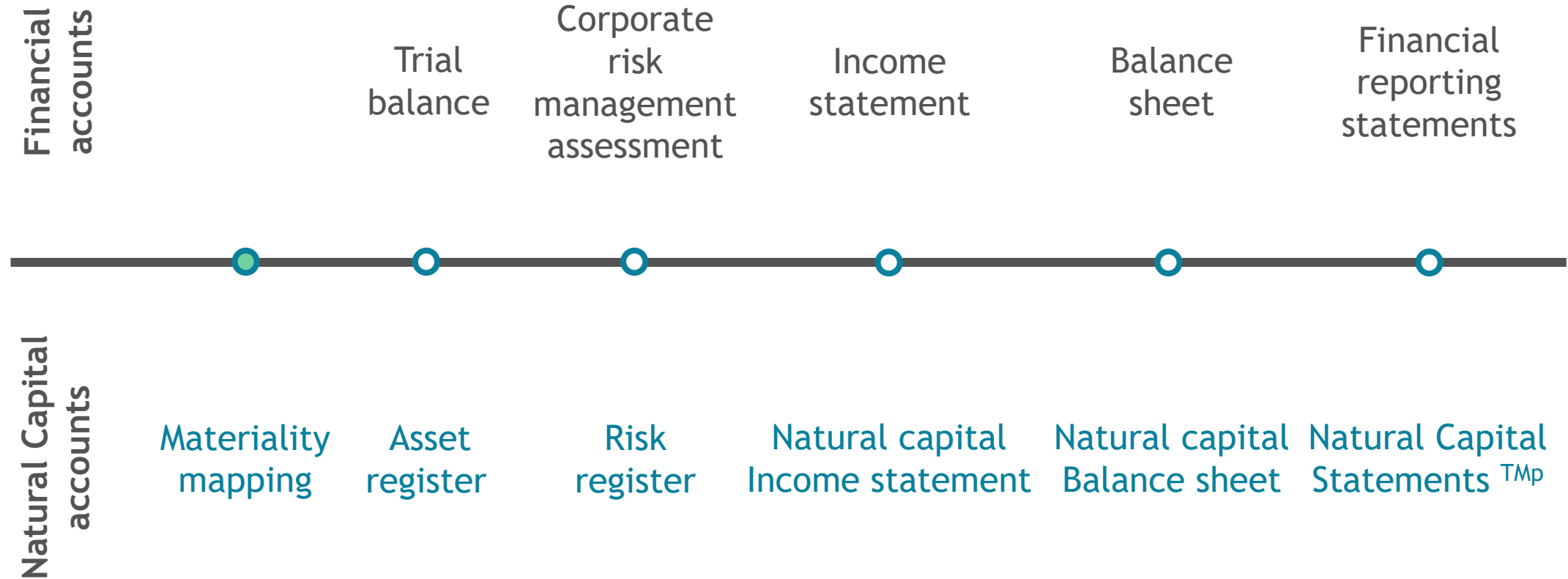
- Estimate: €41.4 per tonne
- *Based on social cost of carbon US EPA 2017*

Entry into Income Statement: **€23 mil**

- **1.05 mil tonne x €41.5/tonne x 52% (of sales from forest and wood)**

6. HOW DO YOU APPLY THIS?

NATURAL CAPITAL ACCOUNTING



NATURAL CAPITAL INCOME STATEMENT

Natural Capital Income Statement – case study: SCA forest business only (% of impact attributable to business segment)

Flow of activity for the year 2016.

		Upstream	Forest	Wood	Biofuel pellet	Pulp	Paper
Sources of enhancement to natural capital							
Net carbon sequestration of productive forestland*	€23m		100%				
Reduced environmental impact from biofuels usage	<€1m			100%			
Total enhancement	€23m						
Sources of deterioration to natural capital							
Air pollution – Nitrogen oxide	€7m			6%		46%	48%
Air pollution – Sulphur dioxide	€1m			3%		51%	46%
Climate change – Fossil fuel	€4m			5%	<1%	32%	62%
Climate change – Grid electricity	€1m			6%	1%	8%	85%
Climate change – Biogenic	€114m			7%	2%	41%	50%
Emissions to water – Phosphorous	<€1m					32%	68%
Water abstraction and use	<€1m			100%			
Loss of wider social benefits from productive forestland**	€55m		100%				
Deterioration from raw materials sourcing	€30m	100%					
Total deterioration	(€213m)						
Net contribution to natural capital	(€190m)						

*The numbers are rounded to the nearest million * : sequestration provided by planted forest (net of what would have been sequestered through natural boreal forestland)*

*** : a very rough approximation of conservation value of productive forestland using Chiabai et al 2009 on the value from natural forestland.*

NATURAL CAPITAL BALANCE SHEET

Natural Capital Balance Sheet – case study: SCA forest business only

Reporting year: 2016, asset and liabilities over 100 years. WACC: 5.25%.

	Value to business	Value to society	Total value	Of which reported in financial accounts
	€'m	€'m	€'m	€'m
Assets				
1 Timber	3,250		3,250	3,250
2 Biofuels	1,516		1,516	
3 Seedlings	257		257	-
4 Carbon sequestration		2,728	2,728	-
5 Recreational benefits		<1	<1	
6 Wider social benefits		4,617	4,617	-
Gross asset value	5,023	7,346	12,369	3,250
Liabilities				
7 Maintenance provisions	(3,161)		(3,161)	-
8 Resource provisions		0	0	-
Total liabilities	(3,161)	0	(3,161)	-
9 Retained earnings to stakeholders		(190)	(190)	
Total Net Natural Capital	1,862	7,156	9,018	3,250

FIVE QUESTIONS

- What natural capital assets do we depend on or impact on?
- What benefits they provide for us?
- What are the monetary value of those benefits?
- How much are we spending to maintain the assets and the benefits?
- Is that enough?

7. WHERE DOES THIS FIT INTO MY JOB?

INTEGRATING NATURAL CAPITAL ACCOUNTING

BOTTOM-UP:

1. Stock picking / due diligence
2. Monitoring
3. Engagement
4. Communications

TOP-DOWN:

1. Scoring and ratings
2. Informing investment strategies
3. Engagement

8. SO WHAT'S NEXT?

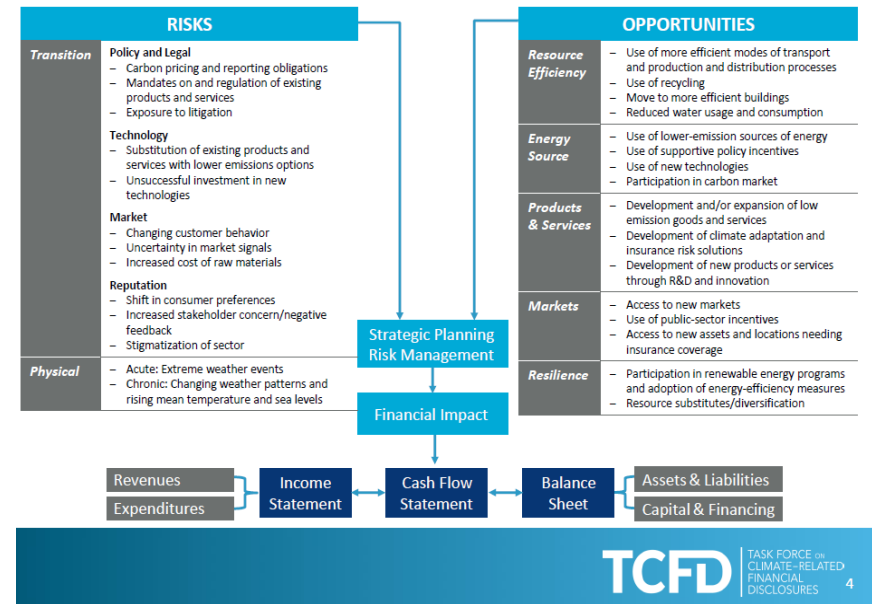


European Commission Action Plan: Financing Sustainable Growth

- **Action point 9:** Strengthening sustainability disclosure and accounting rule-making
- **Action point 10:** Fostering sustainable corporate governance and attenuating short-termism in capital markets



FOCUS ON FINANCIAL IMPACT



THANK YOU!

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