



Different perspectives on forests in the context of addressing climate change

beyond wood – the multiple services provided by Europe's forests

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Dr. Till Pistorius



1. introduction

- theory of change of ecosystem services concept
- knowledge brokerage at the science-policy interface

2. the role of forests in mitigating climate change

- persisting challenges of carbon balances for forests
- example: forests in the TEEB.DE study

3. conclusion & outlook

1. Introduction

■ **transboundary environmental problems**

inert, interdependent, partly irreversible, massive negative socio-economic impacts

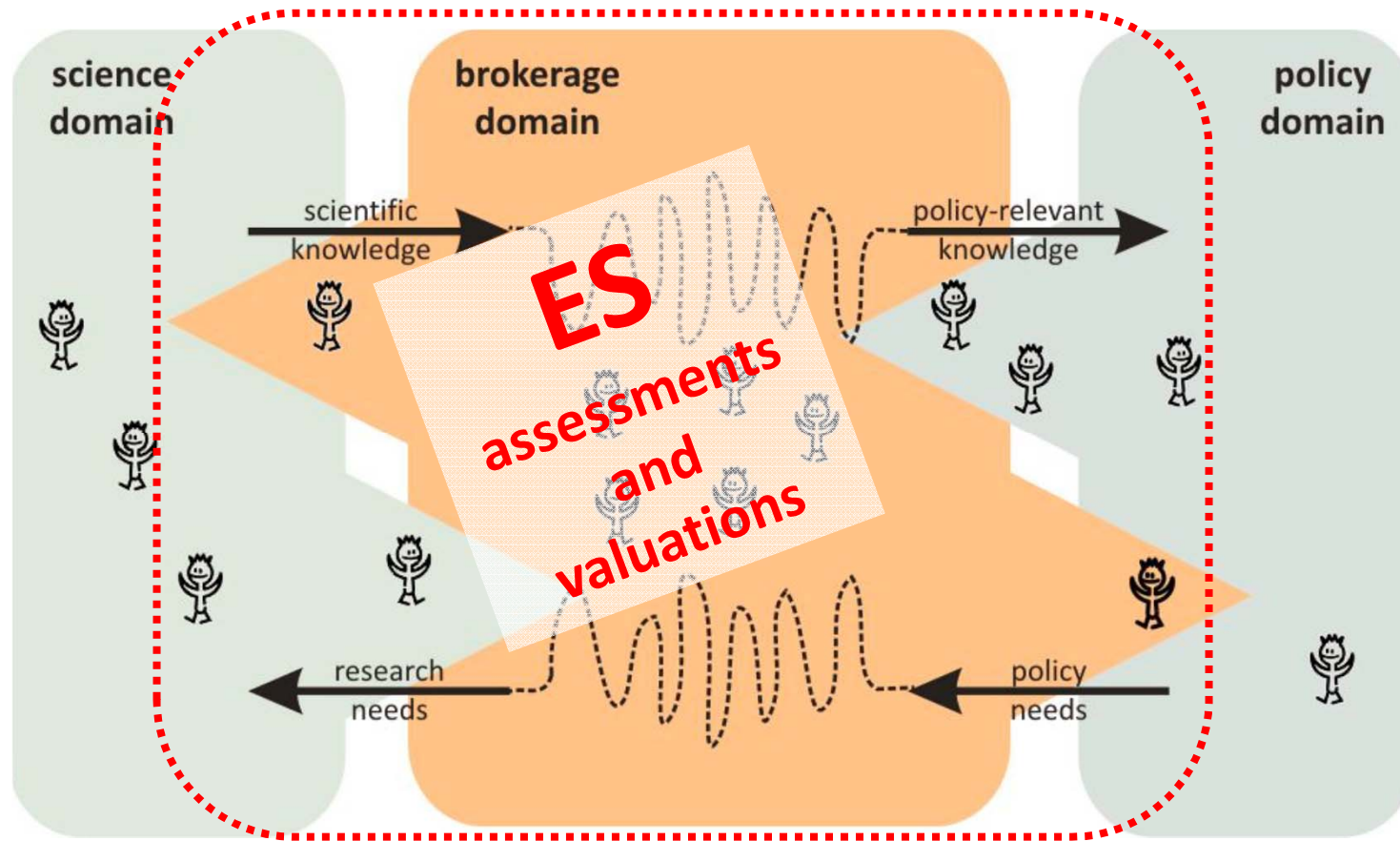
- **perceived as most urgent: climate change**
 - high awareness, pressure for response measures, climate finance
 - so far no effective addressing of key drivers
 - UNFCCC – much hope after Paris, but implementation is pending
- in the „shadow“ of climate policy: loss of biodiversity, desertification ...
linked problems → “band-waggoning“ on the climate discourse

■ **anthropocentric concept of ecosystem services (ES)**

- ecosystems provide many valuable ES (have value but often no price)
- nature is destroyed because values are not internalized in cost-benefit calculations & management decisions → “**market failures**”
- **theory of change: quantify ES & values, and attribute a price (e.g. TEEB)**

1.2 knowledge brokerage @ the science-policy interface

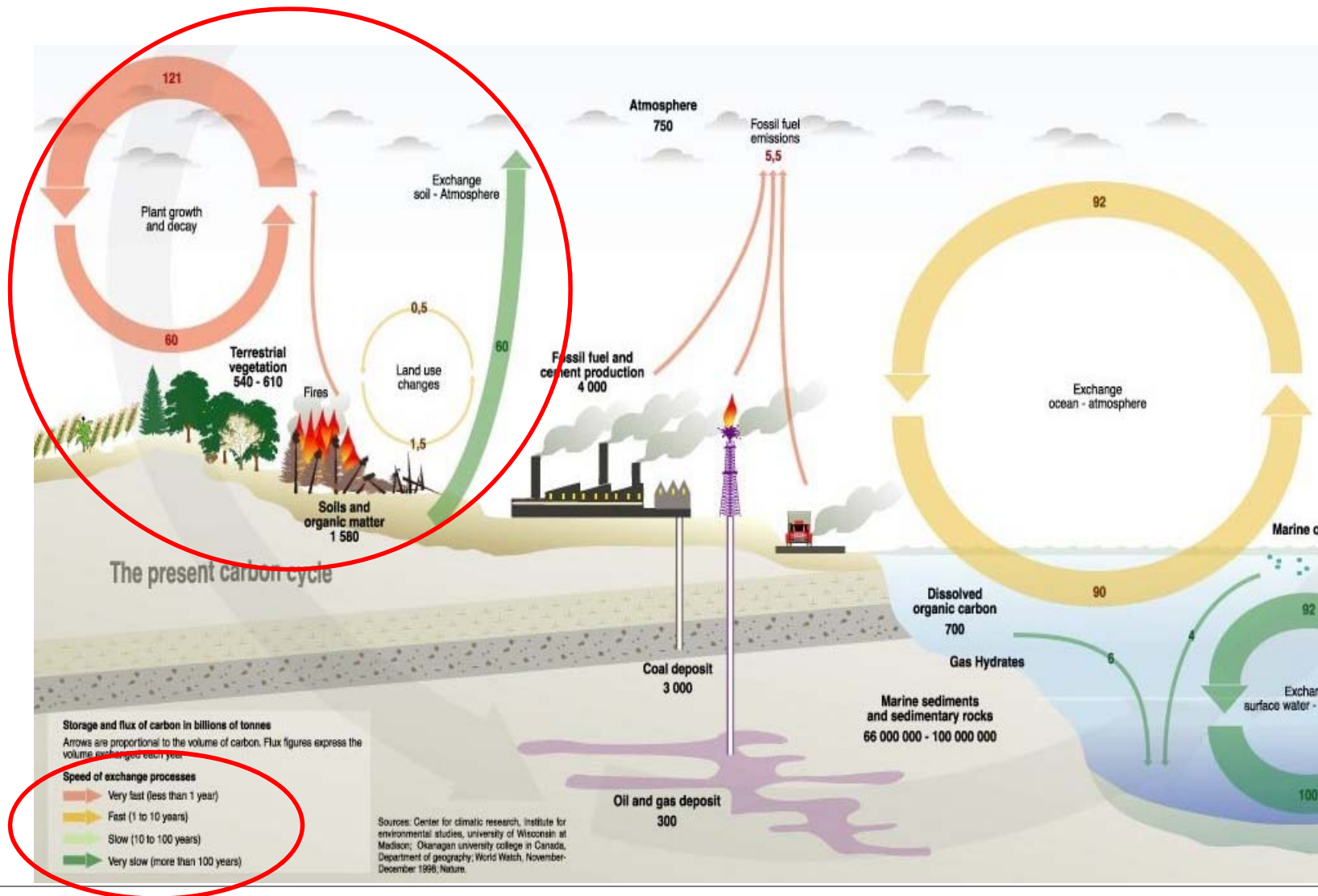
Source: ReSciPi project / Reinecke et al. (2013)



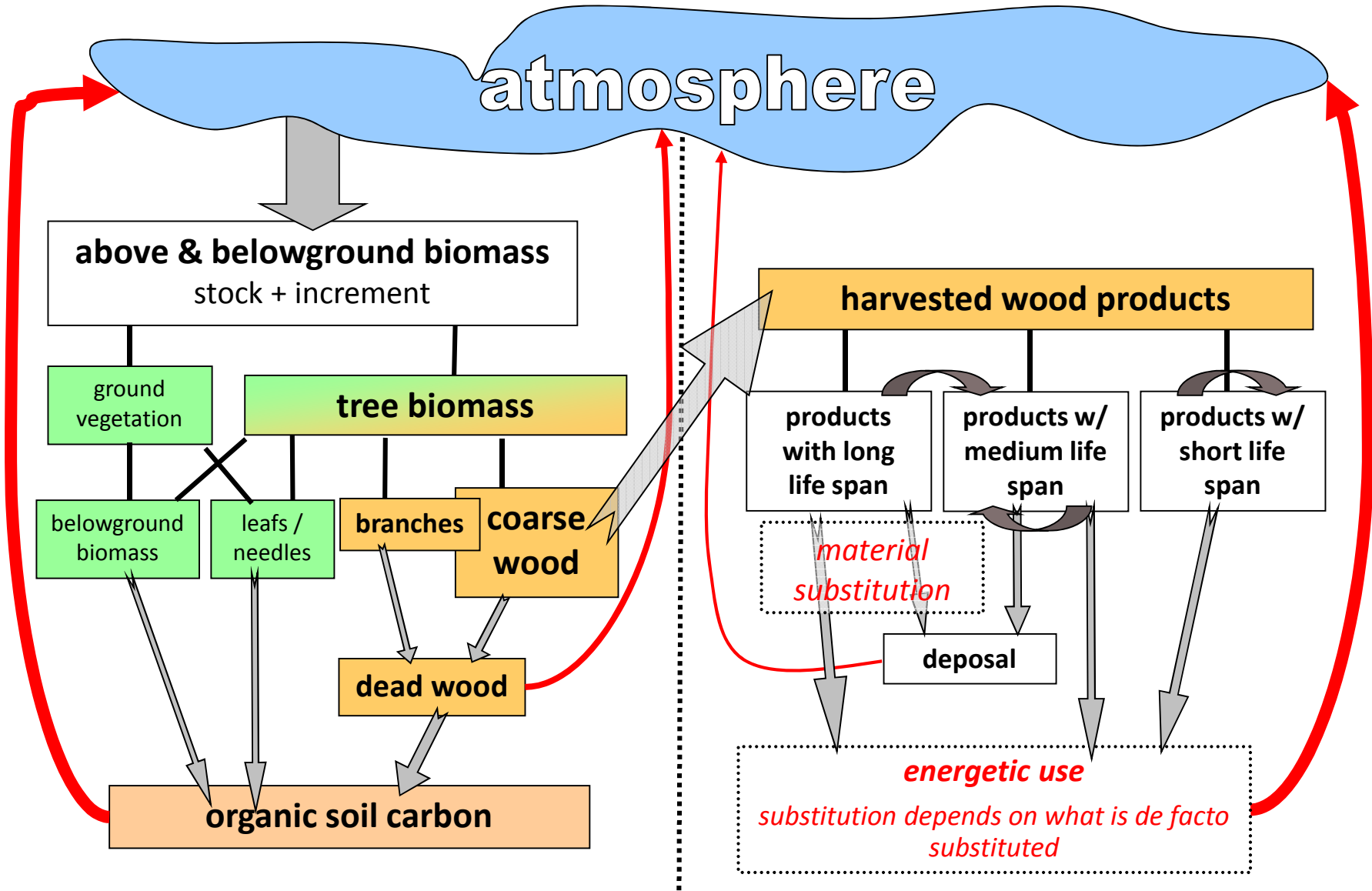
→ “politicization of science” & “scientification of politics”
(e.g. Jasanoff 1998, Weingart 1999, Sarewitz 2004)

2. The role of forests for **mitigating** climate change

The global carbon cycle:



2.1 Carbon balance (forests & HWPs)



system boundary

2.2. Problems & challenges of carbon balances

- **availability and quality of data**
 - **system boundaries & time horizon of assessment**
 - which pools, which effects?
 - time horizon
 - only historic perspective (with measured data)?
 - extrapolation / modelling? → assumptions? uncertainties?
 - **dynamic of changing parameters (e.g. climate change)**
 - IPCC scenarios → inevitable surprises
 - changing risks: drought, fire, storms, biotic calamities
- **results depend on decisions and assumptions.**
- **possible to „produce“ & reason every political argument.**

2.3 TEEB.de: „Natural assets and climate policy“

- **forest chapter: a large team of authors**
- **focus on mitigation (after fierce debates)**
- **key messages** (*own interpretation*)
 - avoid deforestation
 - sustainably managed forests are **neither better nor worse** in the context of mitigation → “asset swap”
 - currently Germany’s forest sector contributes to mitigation, but this ES is threatened by climate change
 - response measures / adaptation needed, but no universal recommendation possible: „best solution“ depends on local circumstances & owner priorities → lengthen / shorten rotation, tree species, increase / decrease utilization ...
 - despite the recognized importance: ES “carbon sequestration” has no price → no incentive for forest owners to change management



3. conclusion & outlook

- **broad consensus: forests are vital to address climate change**
- **knowledge about forests & mitigation has improved**
→ consensus: avoid deforestation, cascade use, soil protection
- **but ...**
 - many VALID ways for / perspectives on carbon accounting
 - selective „picking“ of climate arguments / studies in the classic forest discourses on sustainability and „protection vs. sustainable use“
 - attempts to value this ES and attach a price tag have failed
- **need to effectively integrate mitigation & adaptation in policies and strategies of forest owners → future provision of many ES**
 - rethink existing concepts on forest use AND conservation
→ **focus on risk mitigation, resilience and diversification**
 - support no-regret activities
→ **keep Carbon fixed (in biomass & HWP) & strengthen forest resilience**

KONTAKT
CONTACT
CONTACTO



UNIQUE forestry and land use GmbH

Schnewlinstr. 10

79098 Freiburg, Germany

Tel: +49 - 761 20 85 34 - 0

Fax: +49 - 761 20 85 34 - 10

unique@unique-landuse.de

www.unique-landuse.de