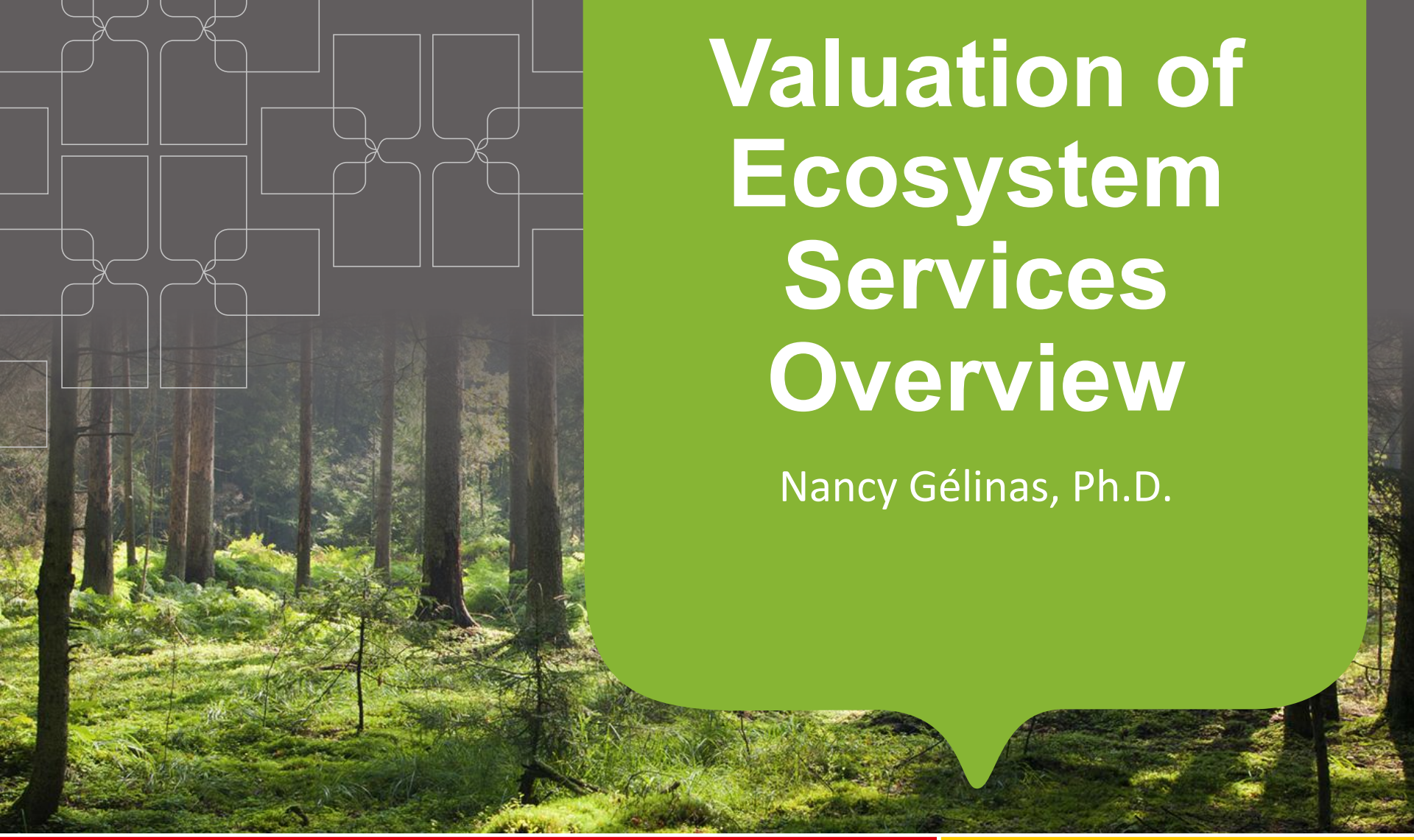

Valuation of Ecosystem Services Overview

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Why ES are so important?

- Because they are the roots of multiple socio-economic activities
- Activities that respond to human needs

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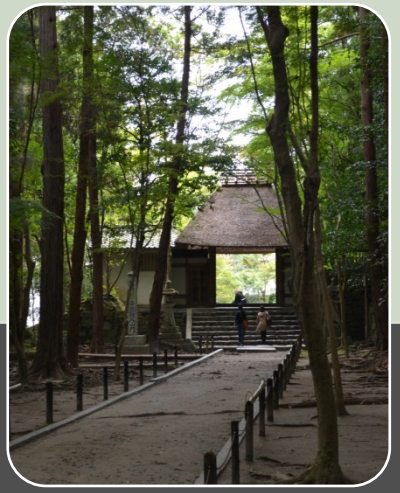
Why ES are so important?

4 categories of ES



Supporting	Provisioning	Regulating	Cultural

What is the problem?

- Failure to measure the ES values
  - Default value of zero in forest management decision

http://www.wwf.be/fr/multimedia/galeries-photos/le-bassin-du-congo/127_77

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Is there a solution?

- Economic valuation of ES
  - Process of assigning the monetary values to ES
- Benefit-cost analysis
  - Requires a common unit of measurement

For what ES valuation could be helpful?

- Establish national policies or budget
- Develop economic and fiscal incentives
- Improve management decision-making
- Assess cost-effectiveness of investments

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For what ES valuation could be helpful?

- Highlight economic contribution of ES to human needs and society development
- Support alternative financing mechanisms to enhance ES preservation
- Identify and evaluate trade-offs

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What are the challenges?

- Use the right substitute or the good question
- Getting the right prices for ES
- Providing sufficient incentives
- Address equity effects
  - Intergenerational
  - Intragenerational

Source: investimmo-autrement.fr

Example: Payments for environmental services (PES)

A voluntary transaction where …

A well-defined ES

Is being bought by a ES buyer

From a ES provider

If and only if the ES provider secures ES provision

PES

Example : REED+ in Panama

- Showing benefits Panama embraci sustaina forestry

Service	Minimum value	Average value	Maximum value
Timber provision without SFM ** (not per year)	266	419	572
Timber provision with SFM *	162	255	348
Fuelwood provision *	-	111	-
NTFP provision *	6	16	42
Pharmaceuticals provision *	0,1	5	16
Water regulation in the Canal watershed *	-972	-25	2462
Water regulation outside of the Canal watershed *	-269	-41	682
Soil fertility *	-	490	-
Sedimentation control in the Canal watershed *	46	76	106
Sedimentation control outside of the Canal watershed *	40	70	100
Pollination *	0	0,3	151
Carbon Storage ** (not per year)	1,068	3,224	7,784
Ecotourism in protected areas *	15	-	16

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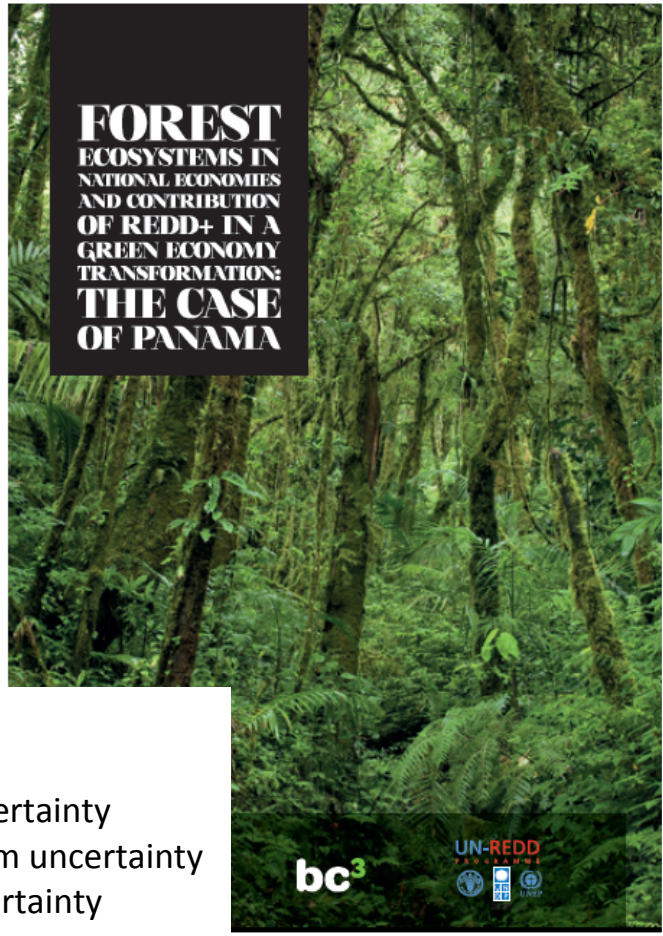
also provide environmental services. the non-marketed services valued, reg- ones, and in particular carbon storage (which contribute to climate change on) and water regulation services, are the most valuable.

tation between 1992 and 2012 gen- net economic losses of 3,700 US$ on the whole period. Forest conser- and sustainable forest management ave prevented such losses.

REDD+ gram to nce forests servation

national program to reduce deforesta- leveloping countries (REDD+) is current- development. It is an initiative aimed

ing emissions from deforestation and egradation in developing countries, oting forest conservation and sustain- nagement of forests and ncing carbon stock through reforesta-



*US$/ha/yr
** US$/ha
Green= Low incertainty
Yellow = Medium uncertainty
Red = High uncertainty

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Example: REDD+ in Zambia

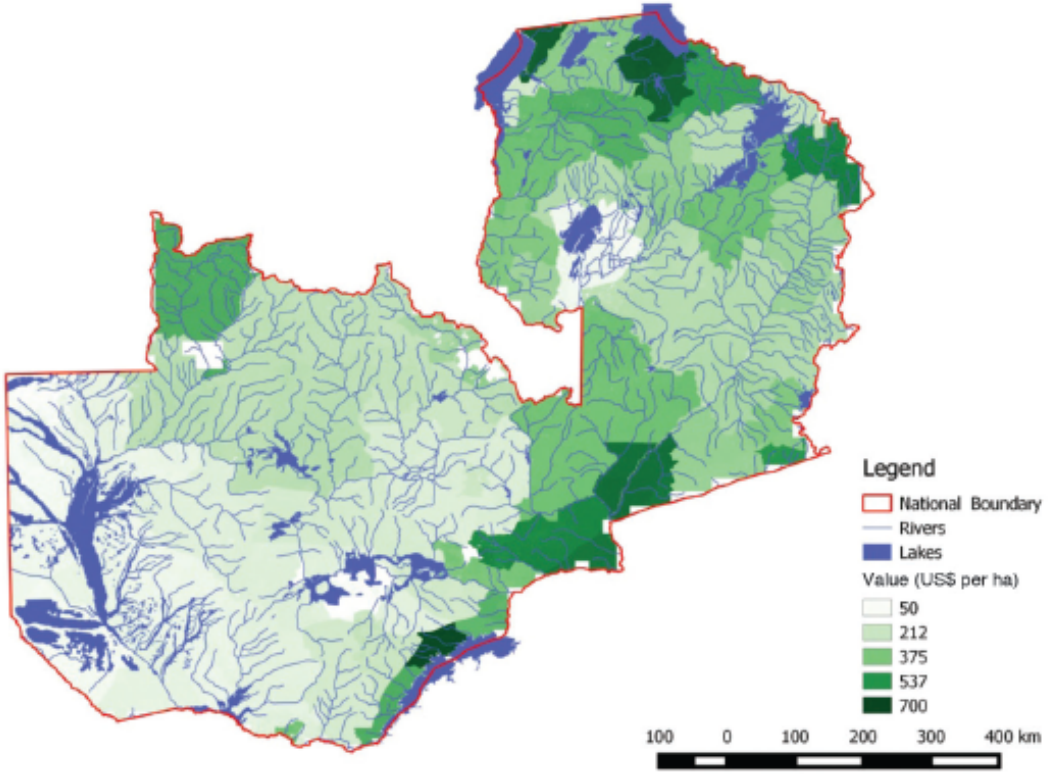

Figure 1: Spatial distribution of the aggregate value of forest ecosystem services (US$ per ha per year)

UNEP

Benefits of forest ecosystems in Zambia and the role of REDD+ in a green economy transformation

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Example: REDD+ in Cameroon

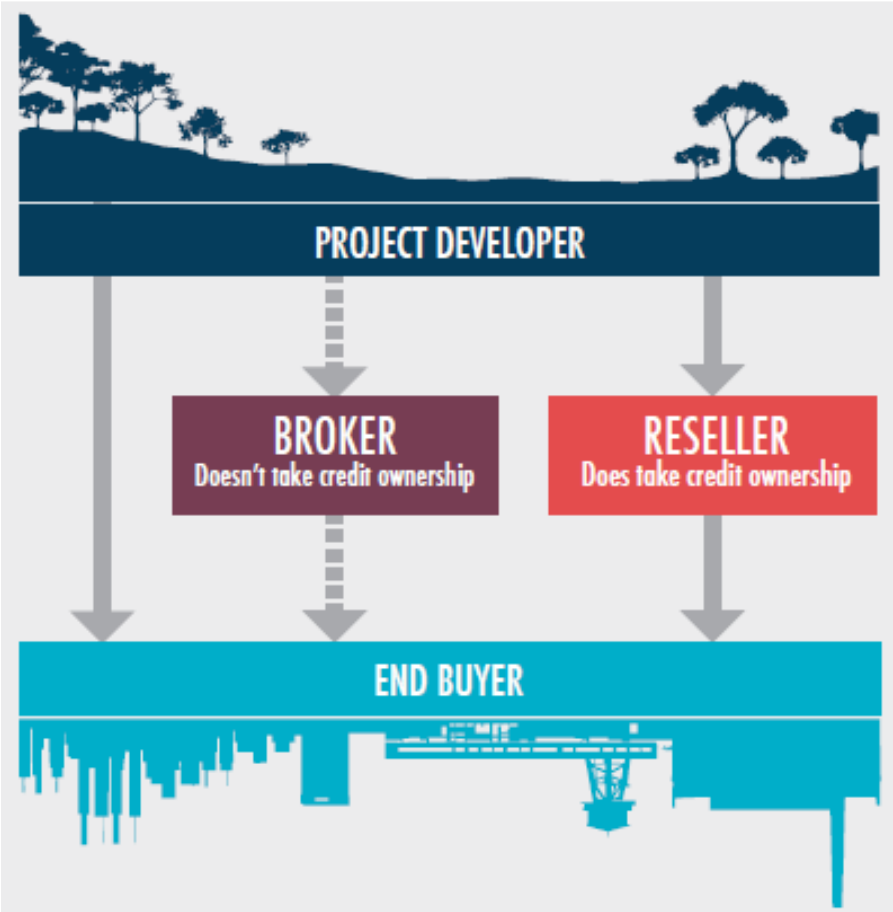
- Around Mount Cameroon
- Initiative aims:
  - To reduce forest loss and increase forest carbon stock
  - By offering support for people who depend on forest
  - To leverage alternative economic opportunities

(Sills and al. 2014)

(www.africavolontour.com)

Example: Voluntary Carbon Markets

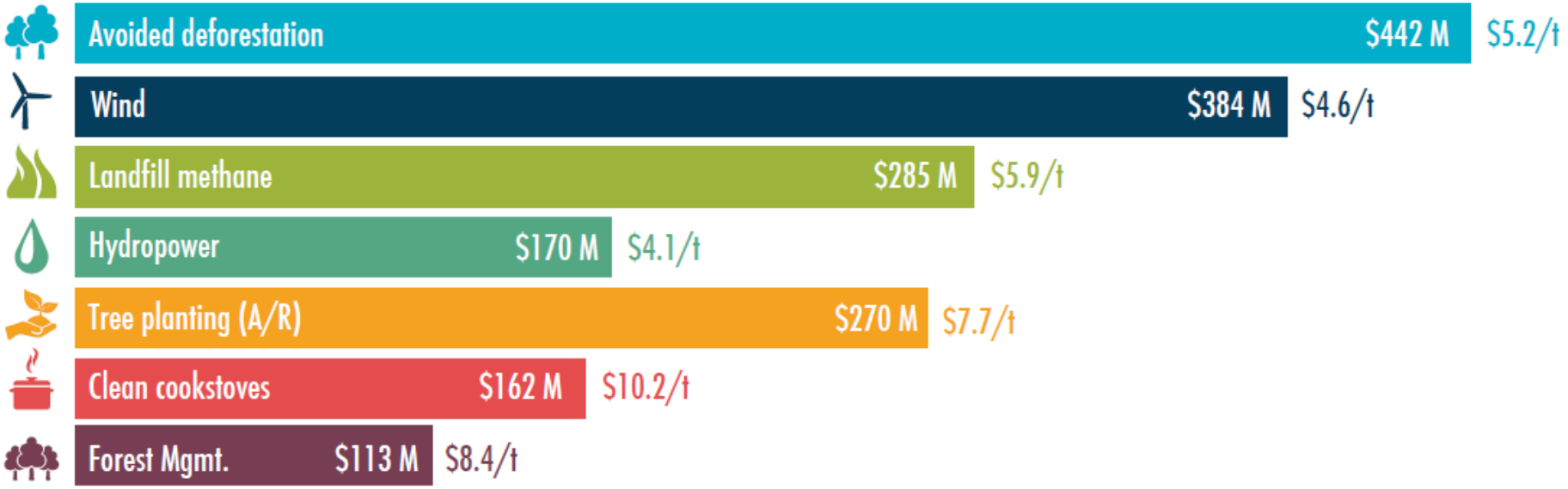
- In Africa, voluntary buyers have shown interest in supporting:
  - Avoided deforestation
  - Cookstoves
  - Pro-poor projects



(Hamrick and Goldstein, 2015)

Example: Voluntary Carbon Markets

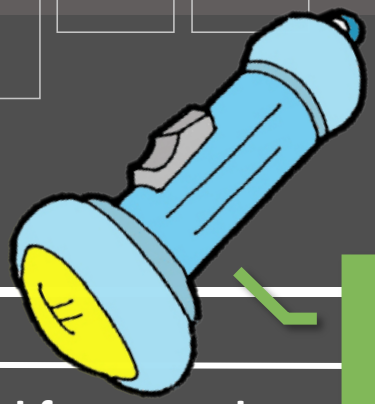
Figure 7: Cumulative Value and Average Price of Top 7 Project Types, 2007-2014



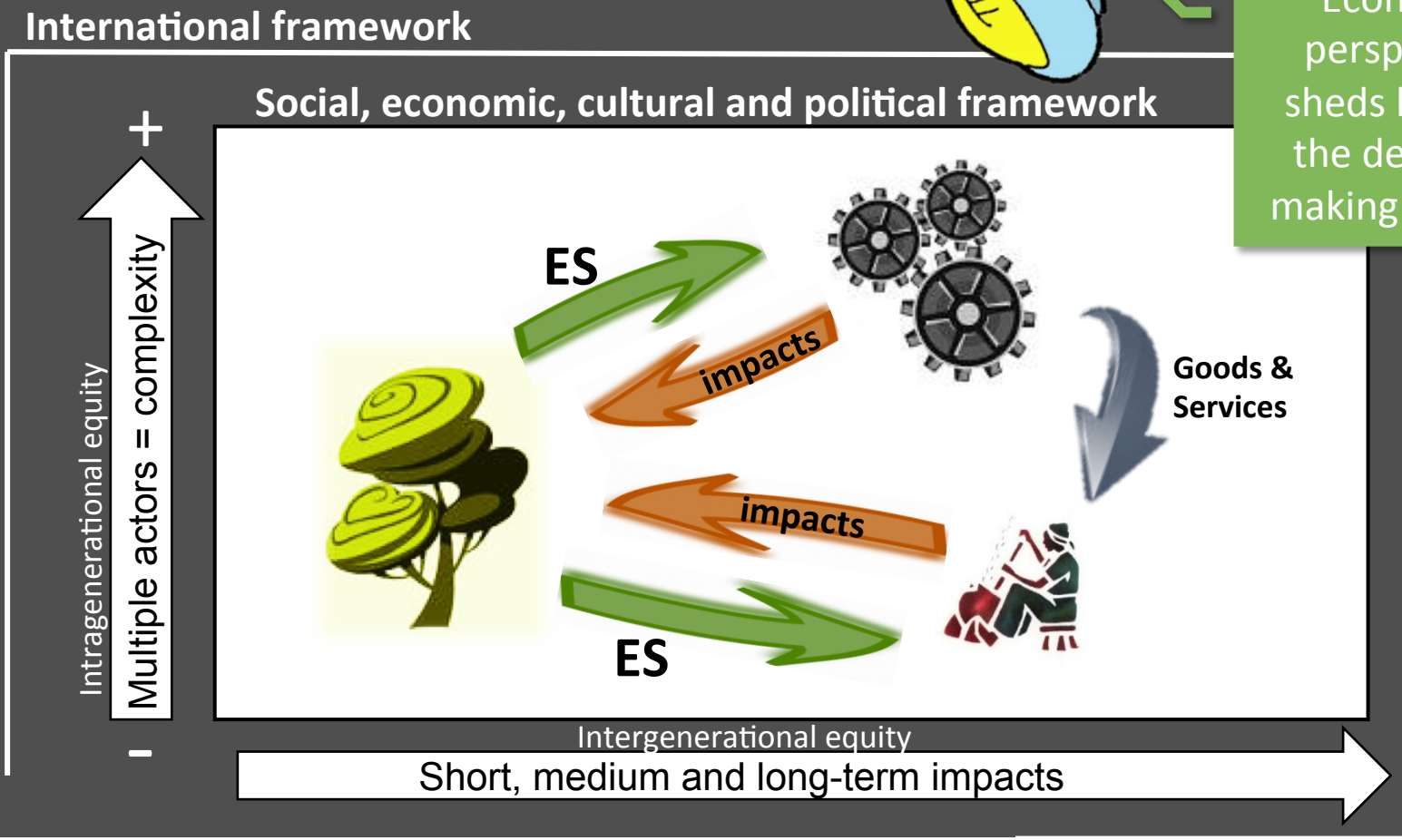
Notes: Based on 412 $MtCO_2e$ of transacted offsets associated with a project type, 2007-2014.

Source: Forest Trends' Ecosystem Marketplace. *State of the Voluntary Carbon Markets 2015*.

Conclusion



Economic perspective sheds light on the decision-making process



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