

# Socioeconomical analysis of methods to prioritize between energy production and environmental flows

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# Socio-economic valuation

## Cost

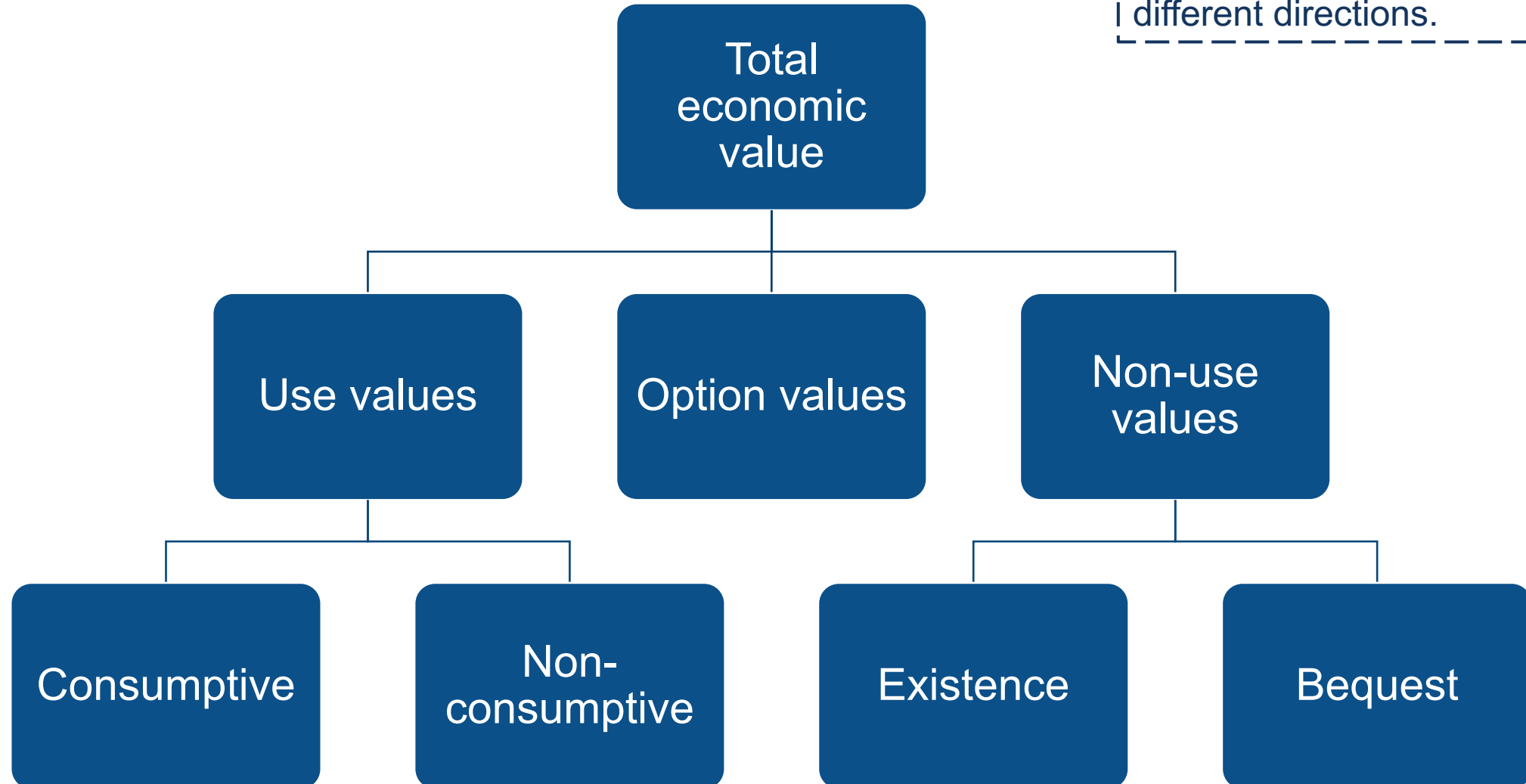
- When we consume/lose something that we were willing to pay to use.

## Benefit

- When we create something that someone would be willing to pay to use.

# Different values of natural resources

An action can affect several values at the same time and in different directions.



# Example. Fish passage at hydropower plant

## Costs

- Construction
- Maintenance
- Electricity production loss

## Benefits

- Improved fish habitat
  - Increased fish stock (non-use)
  - Improved fishing (use)

## Example. Mörrum river (2014)

1

Fish passages at plants 5 & 6 and continuous flow at plant 7

NPV over 25 years:

Between -27msek and -74msek

2

Larger continuous flow at plant 7

NPV over 25 years:

Between -87msek and -184msek

3

Fish passages at plants 5,6 & 7

NPV over 25 years:

Between -93msek and -189msek

4

Demolish plant 1

NPV over 25 years:

Between 189msek and 485msek

## Example. Ljungan (2021)

Water authority's proposal:

- Fish passages at (almost) all plants in the main river channel. (14)
- Continuous flow in these between may and october.
- Socio-economic cost over 40 years: 1260msek
- Socio-economic benefit over 40 years: 15msek
- Cost/benefit quota: 81

# Our project

Almost finished  
In progress  
Planned

## Three fishing use-value studies

- Storsjö-kapell
- Luleälven
- Byskeälven & Mörrumsån

## Three studies of landscape change values

- Ljungan
- Suggestions of hydroplants with cultural values?

## Three non-use value studies for individual species

- Eel
- Salmon and otter
- Gullspång salmon

## Meta-models for fishing, other use values, non-use values

- Fishing
- Landscape
- Non-use for salmon

## Update cost estimation of loses in power production

- Update Kriström and Johansson

## Conceptual studies

- Threshold values

# Contact

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