Nicholas Institute for Environmental Policy Solutions
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The Economics of Blue Carbon

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Acknowledgments

- Nicholas Institute Blue Carbon Economics Team: Linwood Pendleton, Brian Murray, David Gordon*, Aaron Jenkins*
- International Blue Carbon Working Group
- Linden Trust for Conservation

Agenda

- What does a blue carbon project look like?
- Can it work economically?
- If so, where does the money come from?

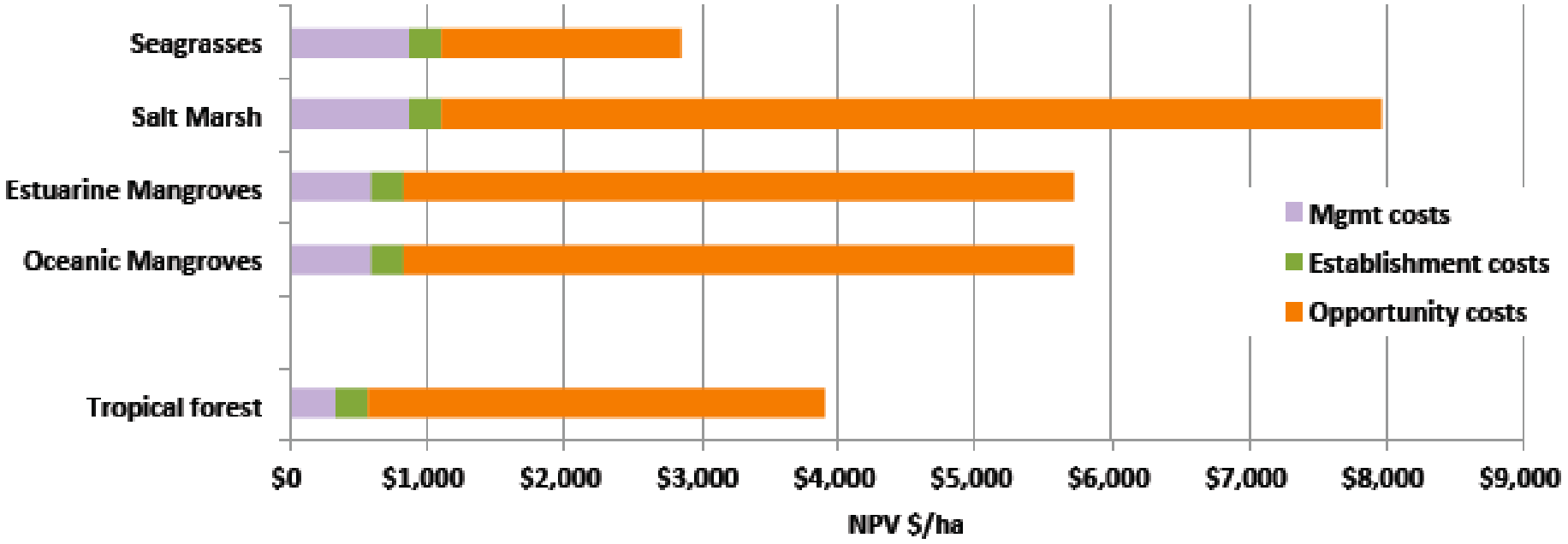
What does a blue carbon project look like?

Carbon benefit = Avoided emissions +
ongoing sequestration –
methane emissions

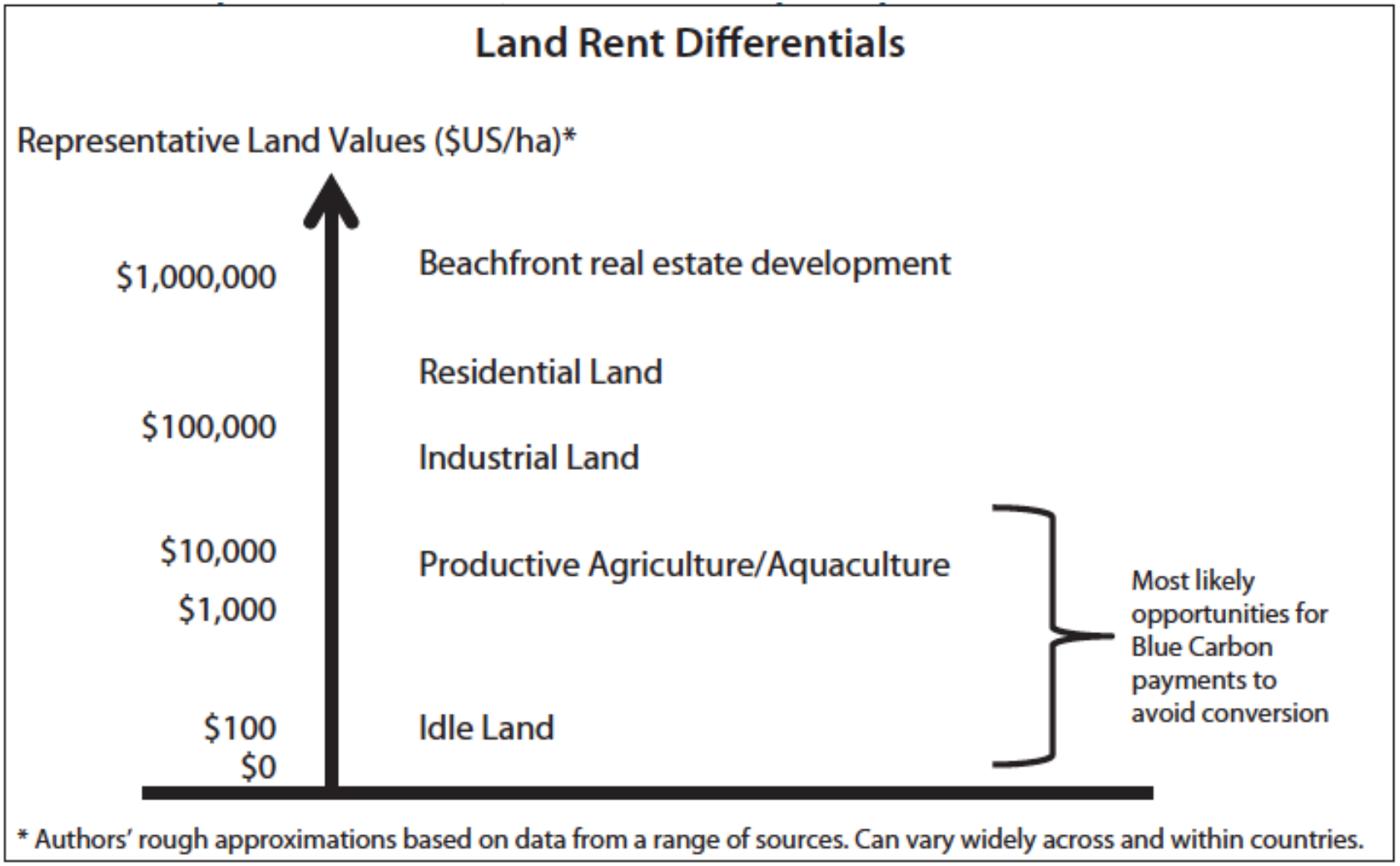
Does it work economically?

Carbon benefit ($) > protection costs +
opportunity costs

Blue Carbon Costs

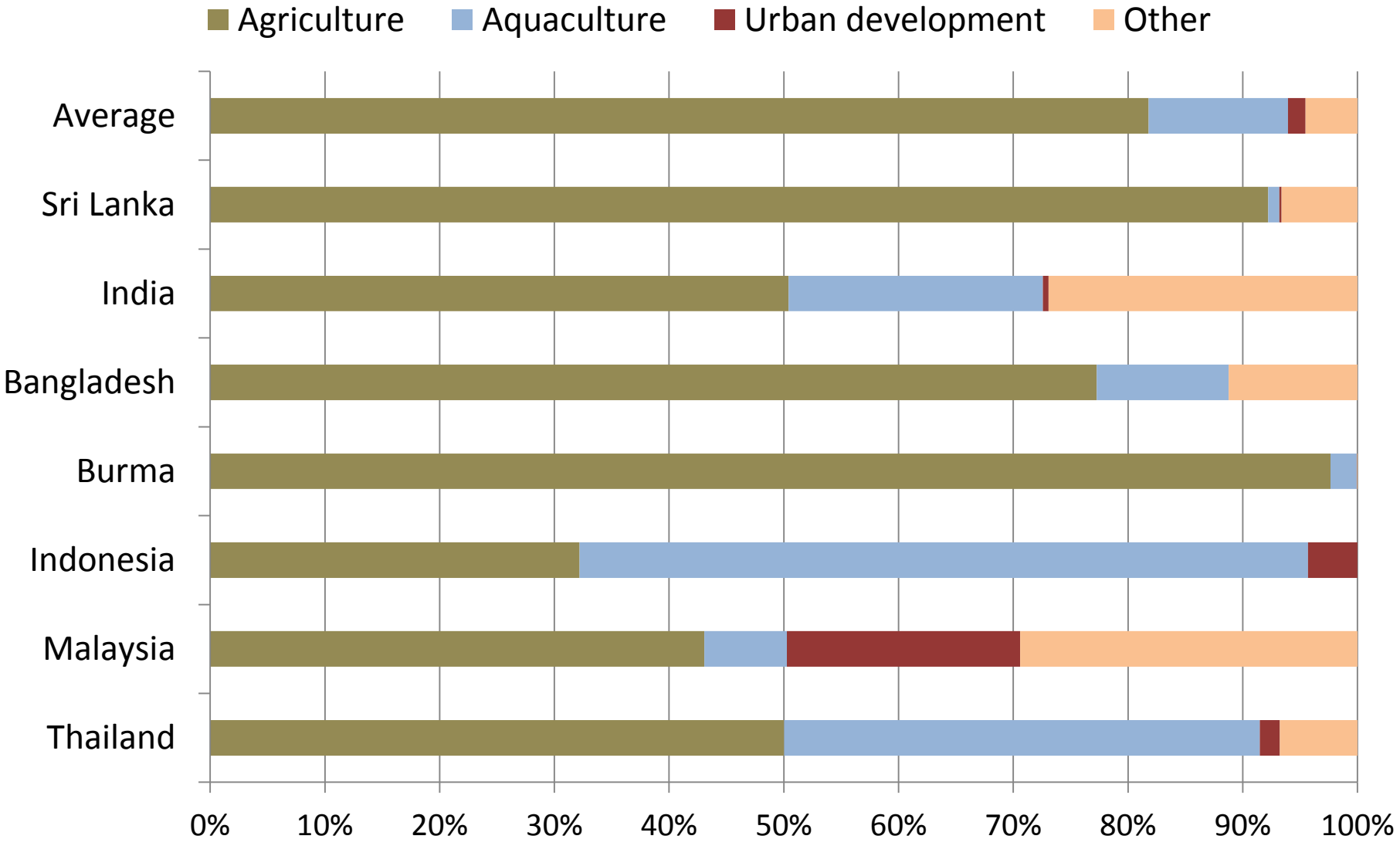


Opportunity Cost



Source: Authors.

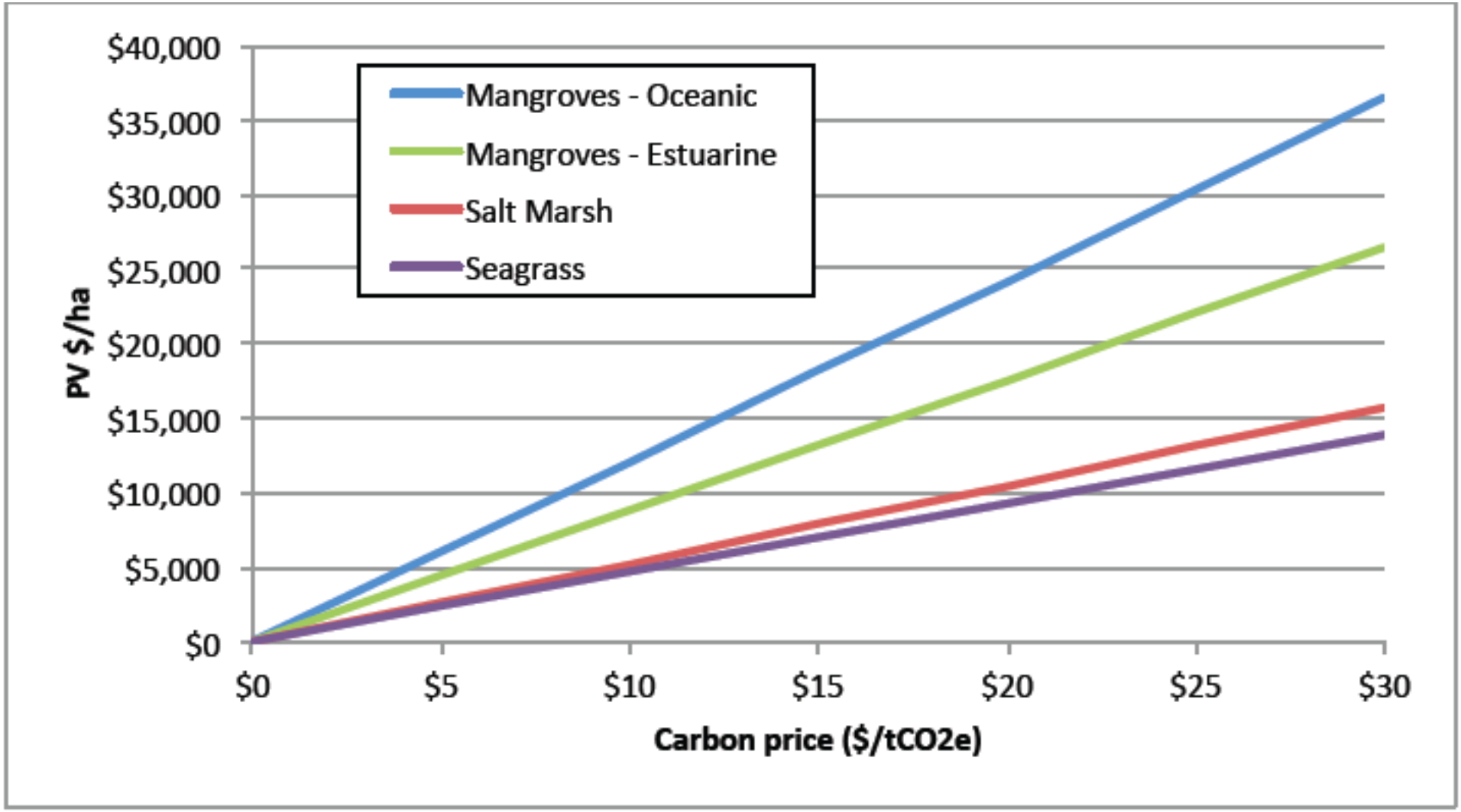
Mangrove loss (%) in the 2005 Tsunami Region (1975 – 2005)



Carbon prices

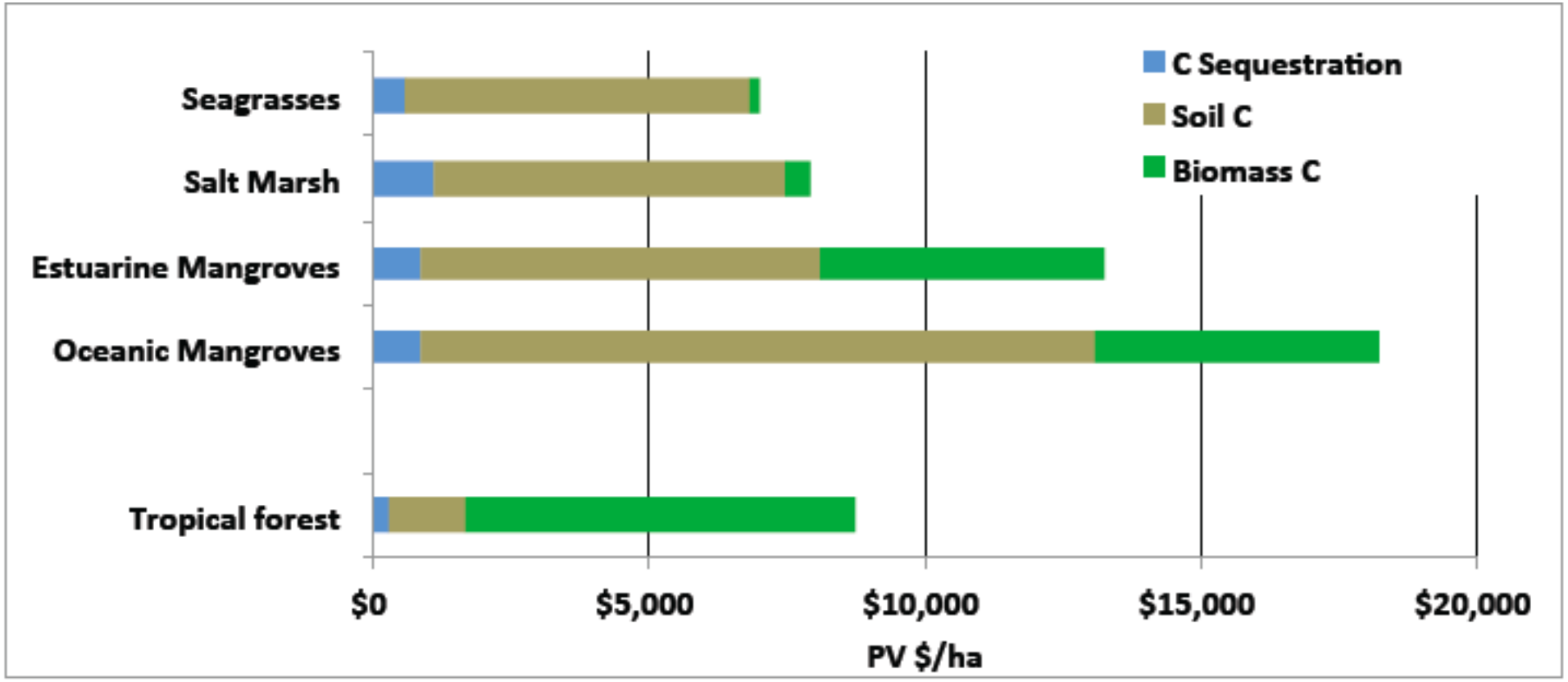
- EU ETS: ~$8/ton CO_2e
- California: $10-15/ton CO_2e
- Voluntary: ~$6/ton CO_2e

Gross Financial Returns



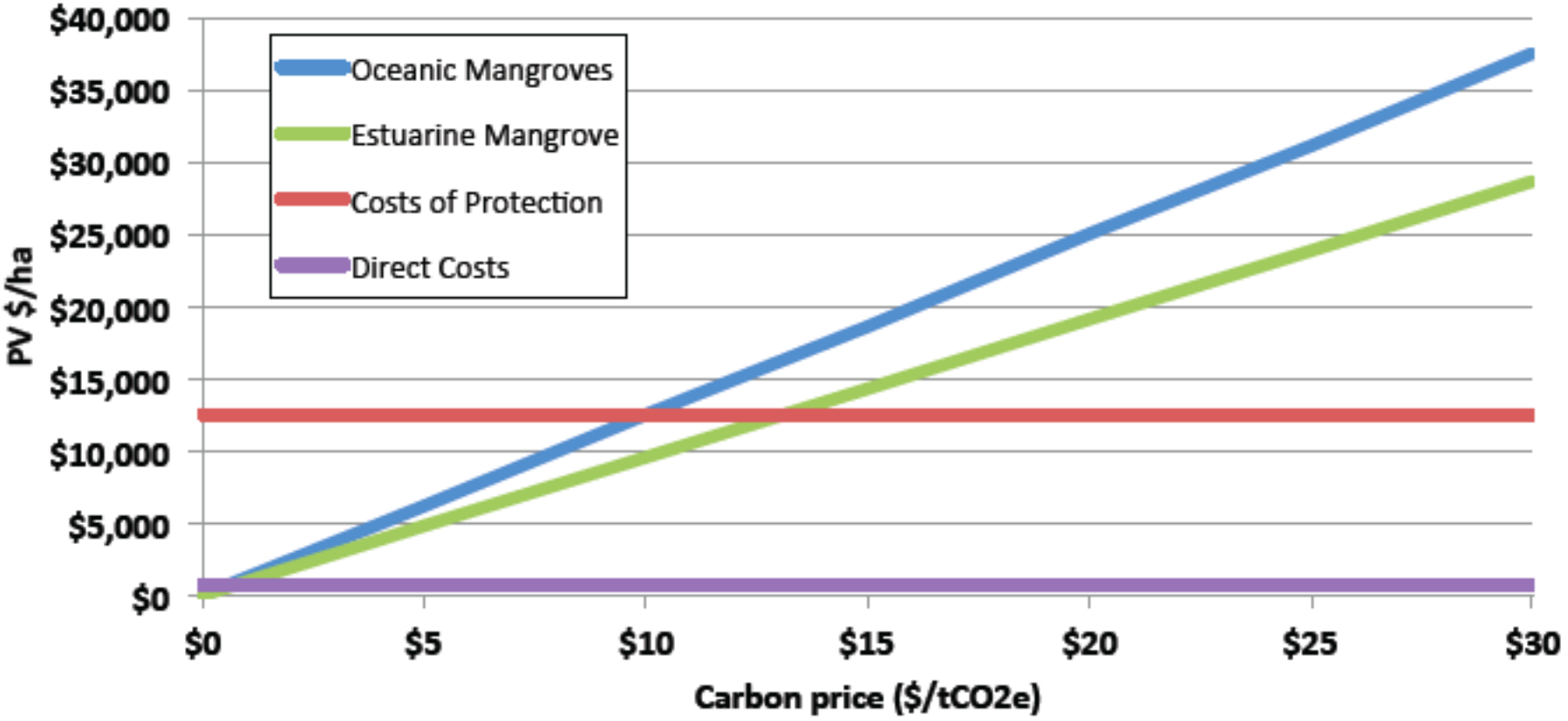
Source: Authors.

Potential Carbon-Credit Values



Source: Authors:

Net Benefits of Blue Carbon: mangroves



Where does the money come from?

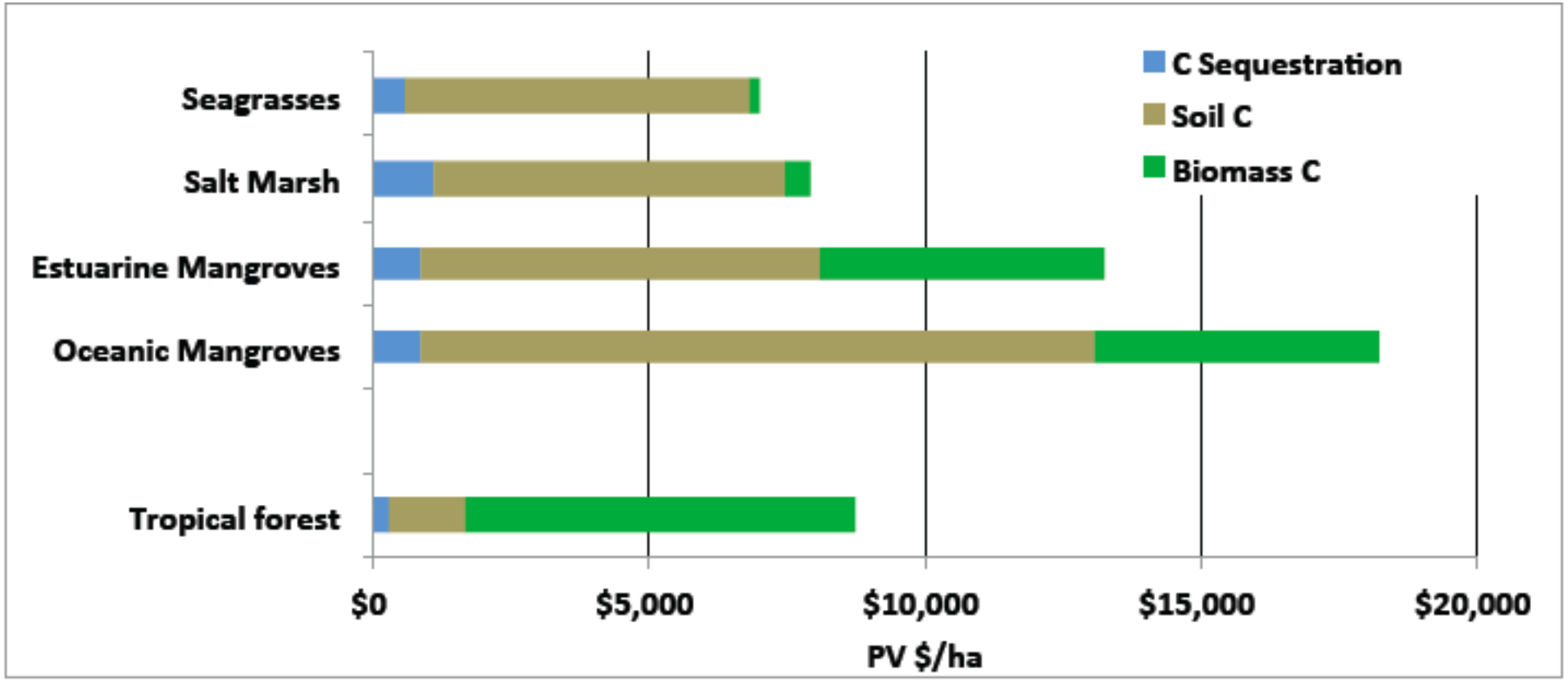
Sources of funding for blue carbon

- Carbon markets
  - UNFCCC
    - CDM/JI
    - REDD+
  - California
  - Voluntary market

Sources of funding for blue carbon

- Funds for planning, capacity building, and demonstration
  - UN-REDD Programme
  - World Bank Forest Carbon Partnership Facility
  - Green Climate Fund
  - Global Environment Facility

Potential Carbon-Credit Values



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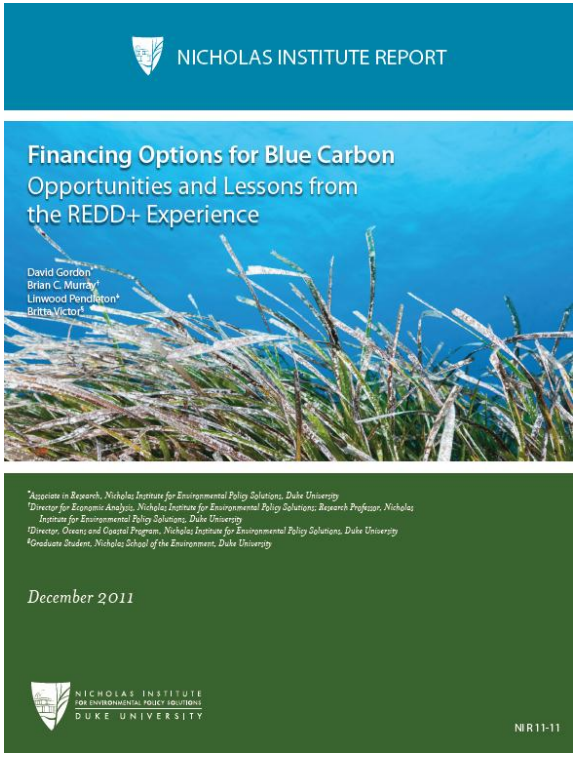
Keep Up With Blue Carbon Policy



http://nicholasinstitute.duke.edu/oceans/bluecarbon

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ADDITIONAL SLIDES

$$(1) \quad GHG\ Benefit\ Flux_{it} = CS_{it} + AvCO2_{it} - M_{it}$$

$$(2) \quad Blue\ Carbon\ value_i = \sum_{t=0}^{n} \frac{GHG\ Benefit\ Flux_{it} * Price(tCO2eq)_t}{(1+d)^t}$$

$$(3) \quad Blue\ Carbon\ value_i > Protection\ costs_i + Opportunity\ costs_i$$