

Implementing the 2025 SNA Treatment of Renewable Energy Resources: Evidence from Costa Rica

*Colibri chispita volador
(Selasphorus flammula)*

Presented at 32nd Meeting of the London Group on Environmental-Economic Accounting

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Guatemala City
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Recognizing Renewable Energy Resources as Assets

Renewable energy resources generate future economic benefits and therefore qualify as economic assets

- Hydropower, wind, geothermal and solar resources support electricity production and generate resource rents.
- These benefits can be attributed to specific economic units.

Before the 2025 SNA

- Renewable energy resources were not explicitly recognized as environmental assets.
- Part of the nation's wealth remained unaccounted for in balance sheets.

With the 2025 SNA

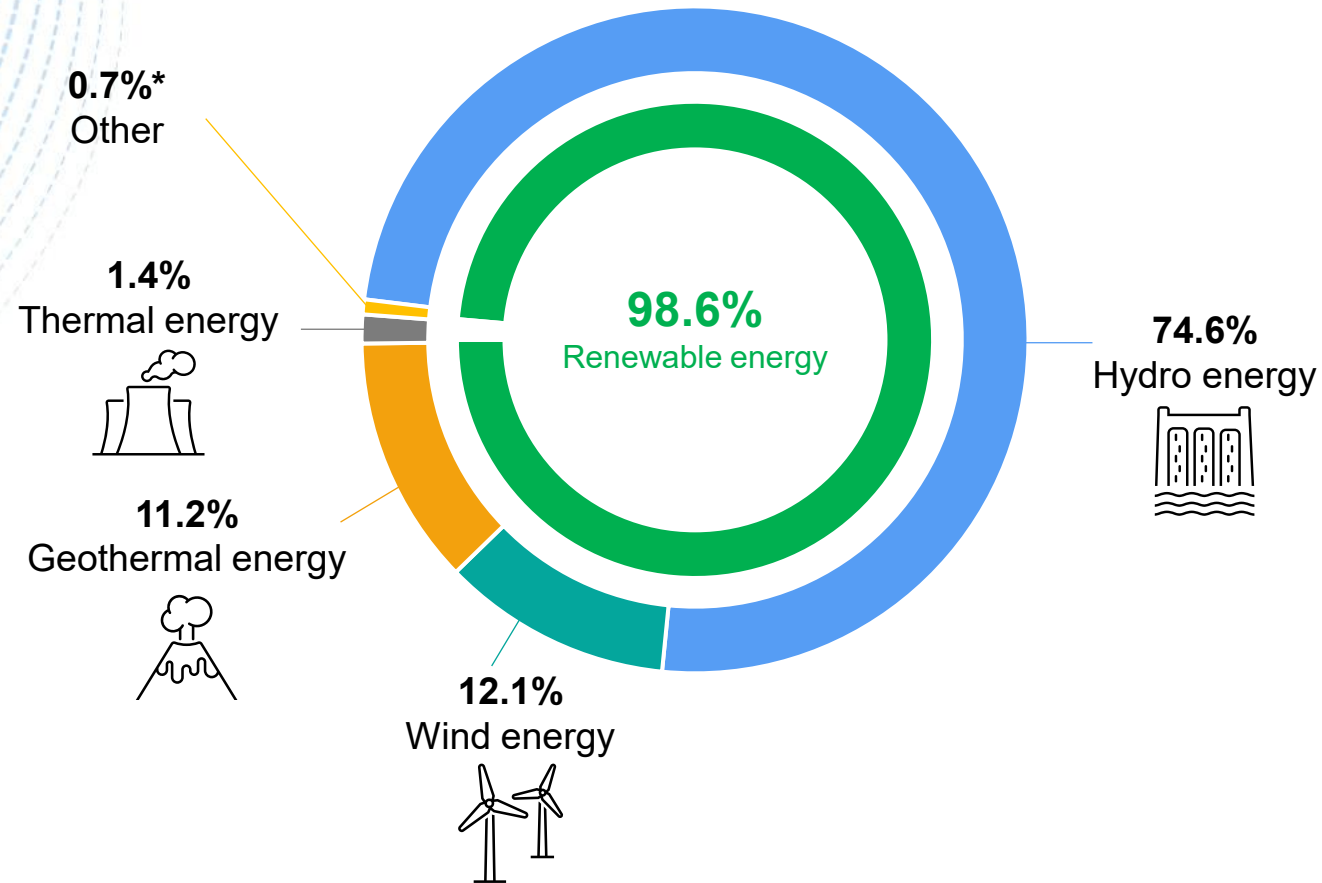
- Renewable energy resources are recognized as assets.
- National wealth is measured more comprehensively.

Costa Rica's Electricity System Runs Almost Entirely on Renewable Energy

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98.6% of electricity generation came from renewable sources in 2025

Figure 1. Costa Rica: National electricity generation mix, 2025



Source: Costa Rican Electricity Institute (ICE).

*Other: 0.4% Biomass; 0.3% Solar

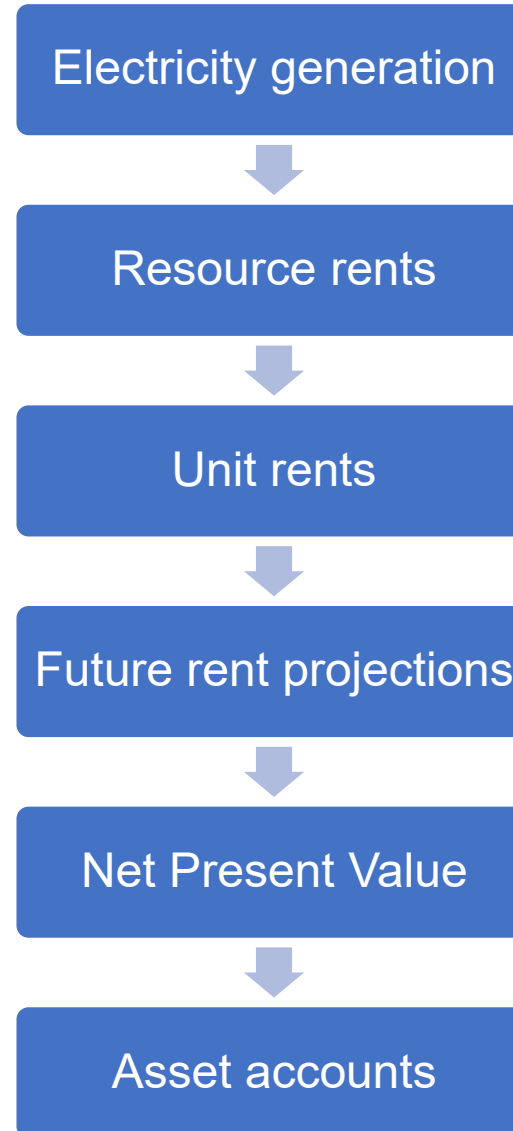
Asset Valuation Followed the OECD Compilation Guide (Study period: 2017-2024)

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Application of the OECD (2025) Compilation Guide for implementing the 2025 SNA treatment of renewable energy resources.

We are not valuing the electricity infrastructure itself. We are estimating the value of the natural resource that generates the economic surplus.

Dams, turbines, and other infrastructure are produced assets, while water, solar, and geothermal resources are natural assets.



Implementing the OECD Guidance Required National Adaptations

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International recommendations were adapted to Costa Rica's data availability and electricity market characteristics.

Component	OECD Guidance	Costa Rica
Data	Technology-specific information	Allocation procedures
Asset life	Generic	Technology-specific by ARESEP and ICE
Return to capital	6%	Technology-specific estimates
Price deflator	General guide	Electricity prices
Discount rate	2%	3%

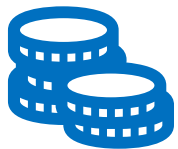
Renewable Energy Assets Increase Costa Rica's Net Worth

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Including renewable energy resources expands Costa Rica's national balance sheet

Main results

₡8.7 - 12.0 trillion



Estimated value of renewable energy assets (2017-2024)

25% of GDP



Average value relative to annual economic output

+ 5% National balance sheet

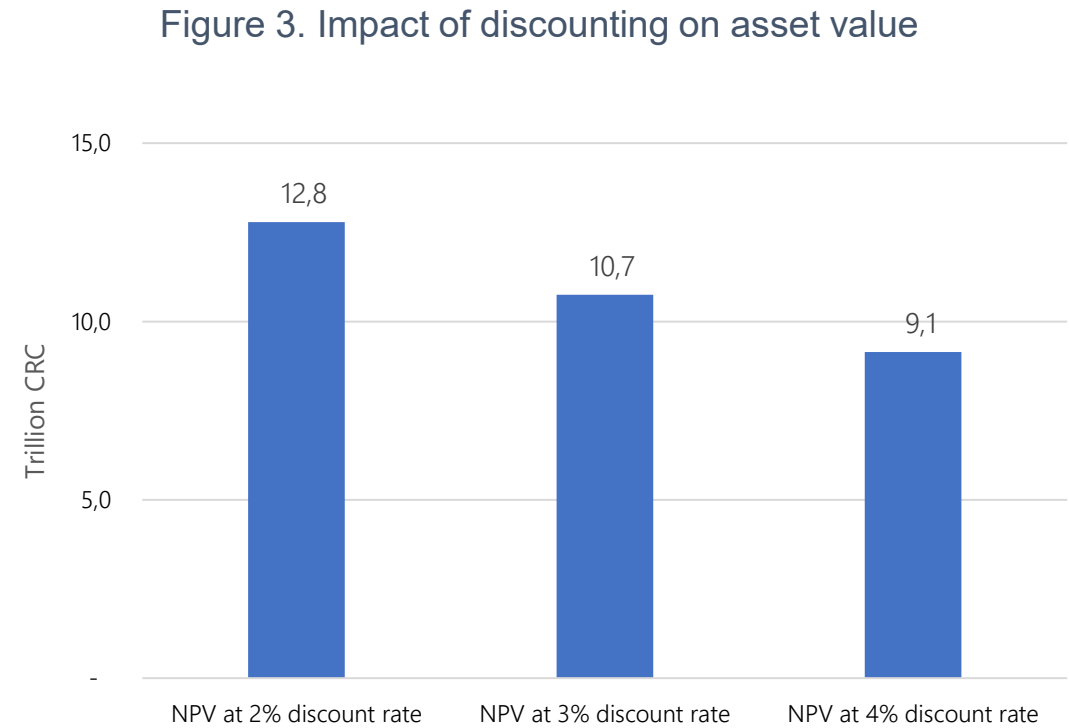
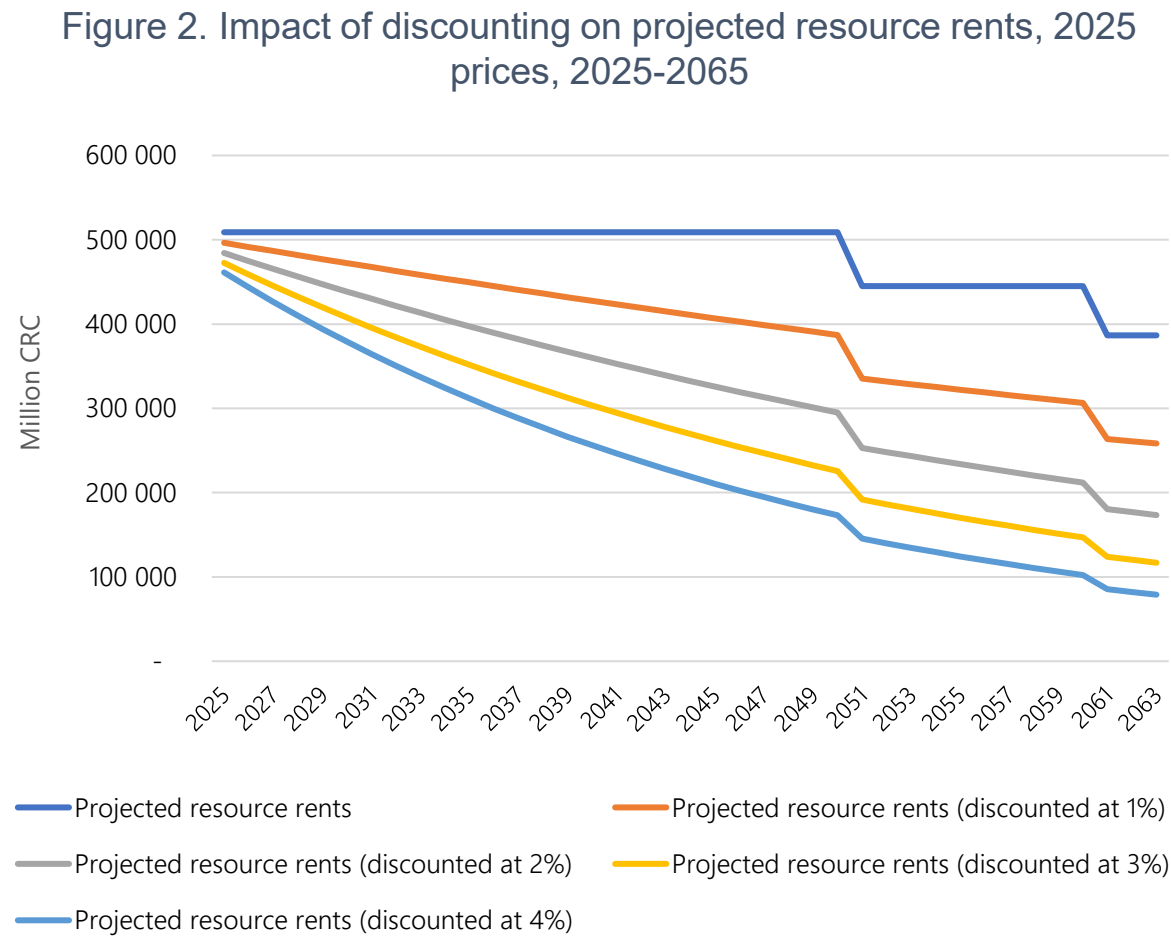


Increase in non-financial assets

Asset Values Are Highly Sensitive to the Discount Rate

A change from 3% to 2% increases estimated asset values by nearly ₡2 trillion.

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Key Lessons from Costa Rica's Implementation



Renewable energy resources are part of national wealth

- Hydroelectric, geothermal, wind and solar resources generate economic benefits and can be valued as assets.
- Their inclusion provides a more complete representation of natural capital.



The impact on balance sheets is significant

- Renewable energy assets would increase non-financial assets by approximately 5%.



Implementation challenges remain

- Limited data by generation technology.
- Strong sensitivity to the discount rate.
- Climate dependence, especially for hydropower.
- Allocation of assets across institutional sectors.



Implications for the 2025 SNA

- No depletion is identified in the traditional sense.
- No direct impact on GDP or NDP through depletion.
- Significant impact on national balance sheets.

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