

# D-RECs: data driven value creation for DRE.

How smart grid technologies can unlock value for energy generators of all sizes.

Asia Clean Energy Forum  
June 14, 2023



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To achieve net-zero, clean energy investments in emerging market and developing economies need to reach **\$1 trillion** per year by 2030.

IEA (2021), Financing clean energy transitions in emerging and developing economies



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“To achieve net-zero, clean energy investments in emerging market and developing economies need to reach **\$1 trillion** per year by 2030.”



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Global corporate demand for renewable energy certificates from RE100 members is estimated to be ~**58 TWh** in 2023.<sup>1</sup>

”

**\$1.9B** in the United States alone.<sup>2</sup>

CPPAs in the Asia Pacific region grew **300%** in 2022.<sup>3</sup>

[BNEF \(2023\)<sup>1</sup>](#); [S&P Global \(2023a\)<sup>2</sup>](#); [S&P Global \(2023b\)<sup>3</sup>](#)



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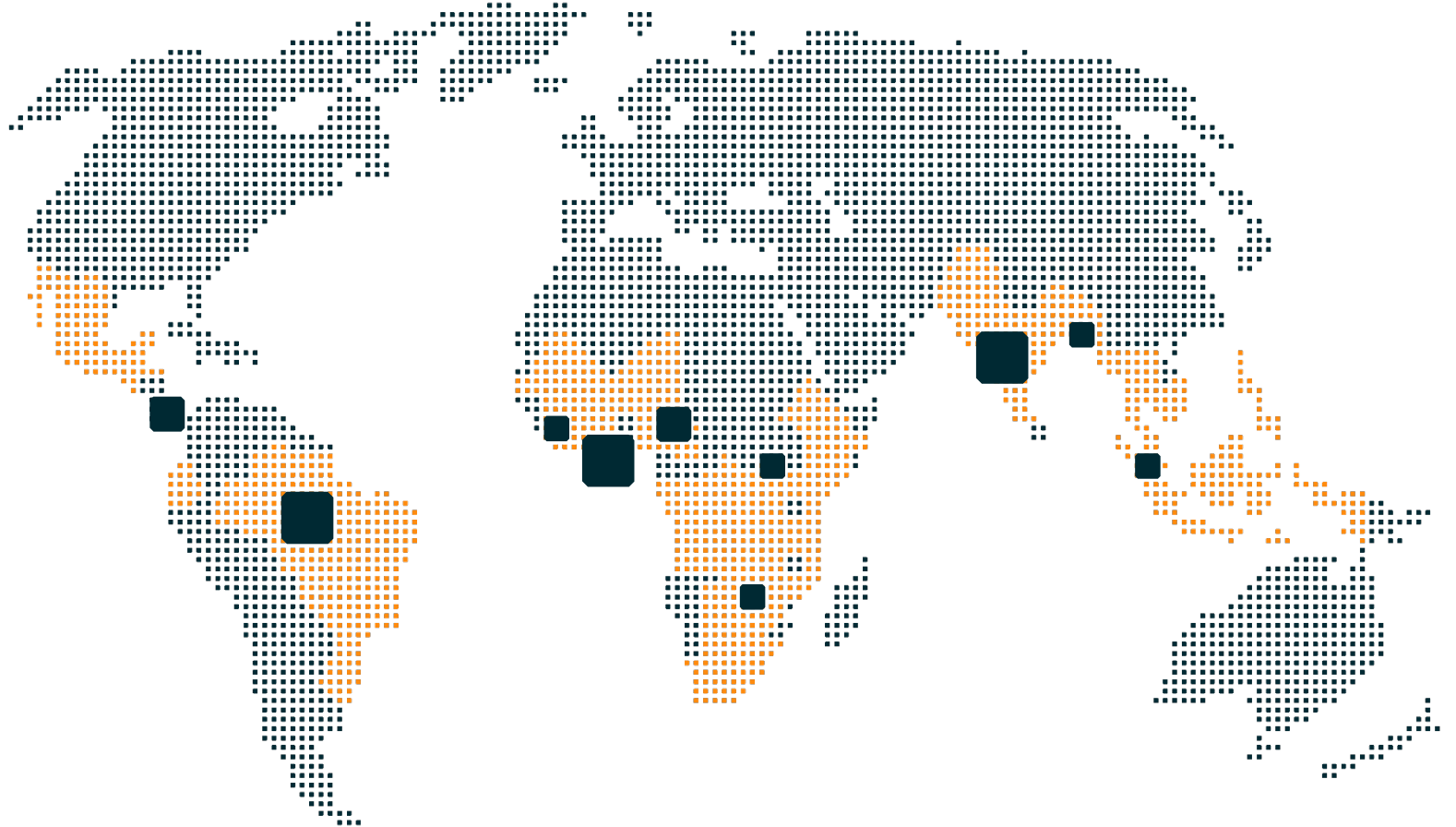


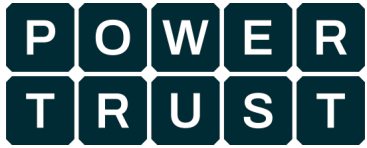
Paul Birkelo

Powertrust | Head of Operations



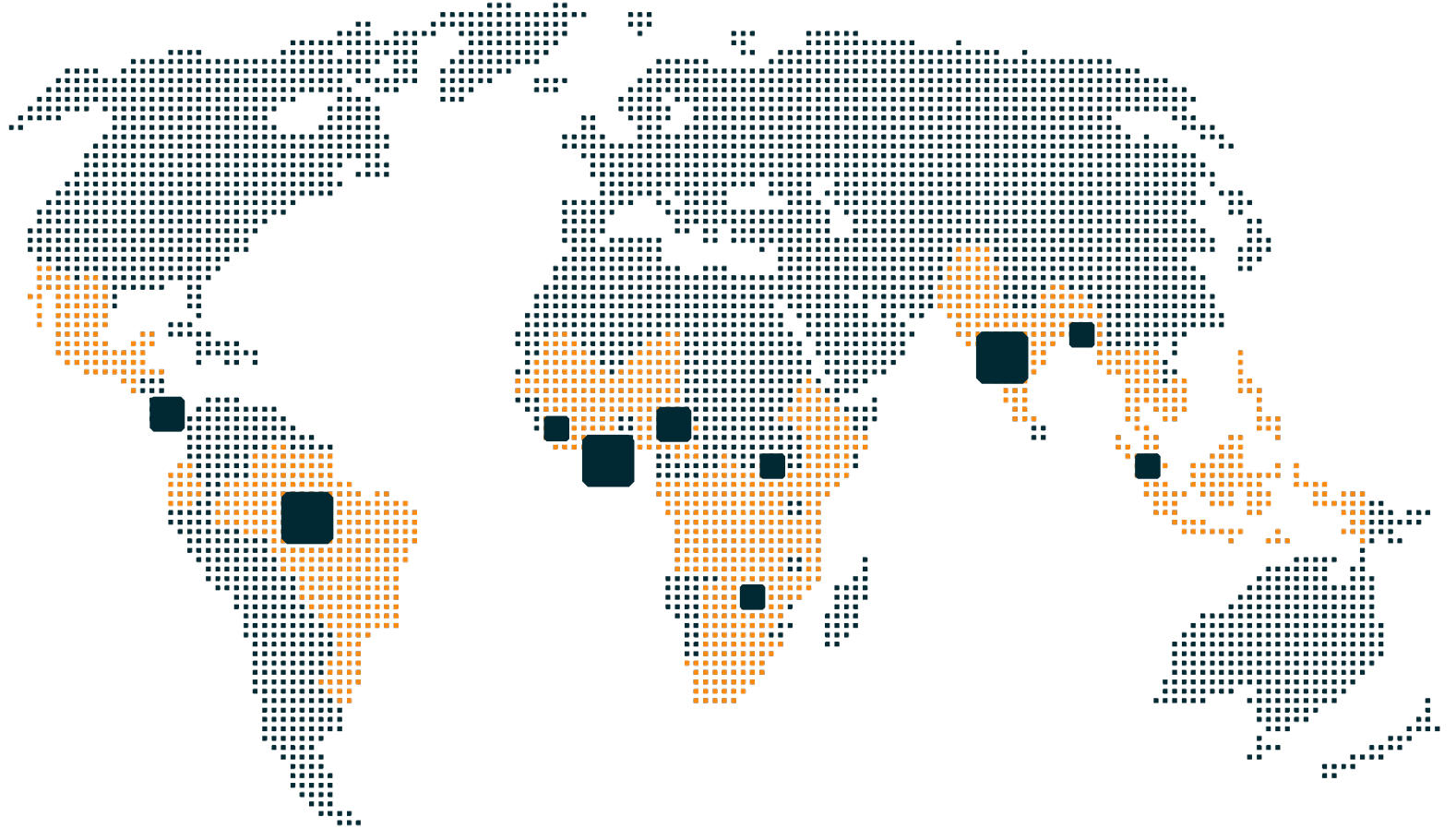
Small is Powerful | D-RECs: data-driven value creation for DRE.

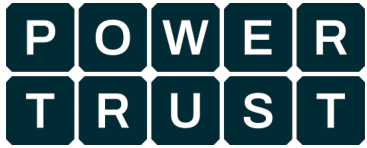




# Unlocking corporate energy procurement for the greatest impact.

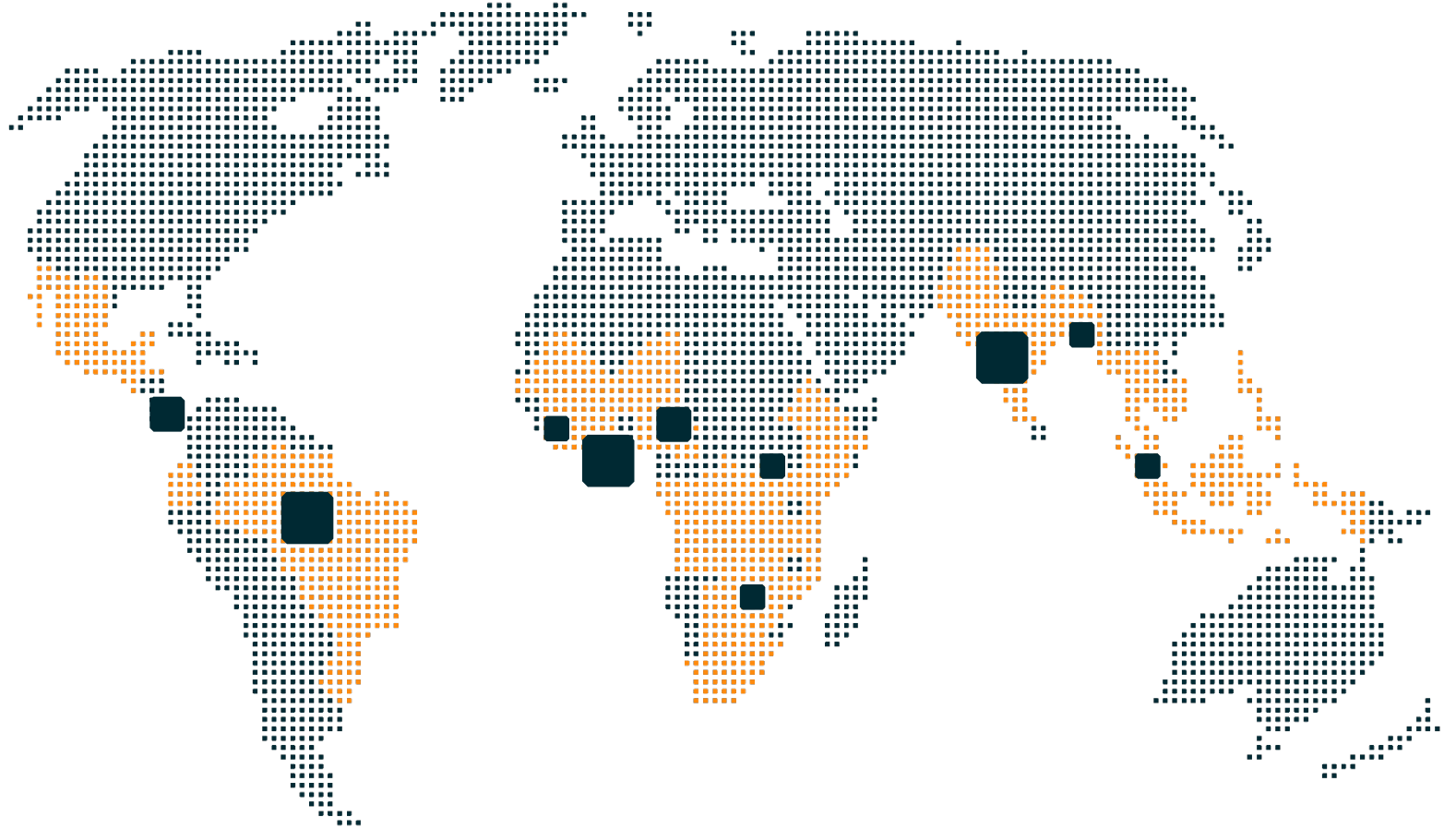
Small is powerful.





## Small DRE projects:

- 3-6x the climate impact
- Multiple SDG co-benefits  
(energy access + health, education, poverty, & gender equality outcomes)
- Resilient, affordable, fast
- Scalable when aggregated



# REC





REC | I-REC



REC

I-REC

D-REC



# Market Size

- ~1400 TWh in 2020 in US/EU<sup>1</sup>
- \$11.5B total in US in 2021<sup>2</sup>
- \$1.9B in US voluntary RECs in 2023 (~5% of total)<sup>2</sup>

Voluntary corporate purchases of RE drove more than 30% of new wind and solar capacity built in the US since 2014.<sup>3</sup>

[BNEF \(2023\)<sup>1</sup>; S&P Global \(2023a\)<sup>2</sup>; CEBA \(2022\)<sup>3</sup>](#)



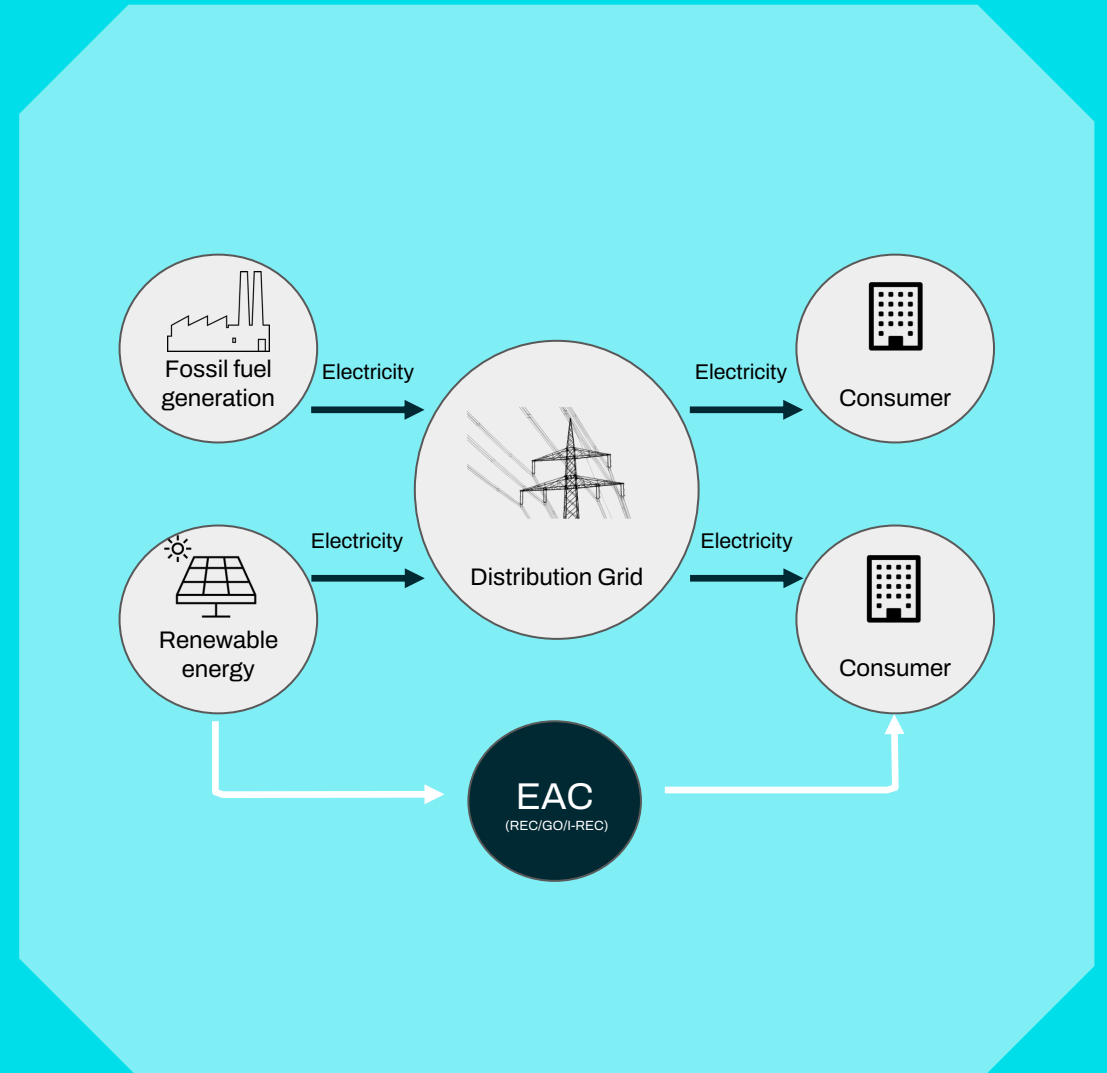
# How it Works

Solar power generates 2 commodities:

- Electricity
- Environmental Attributes

Environmental Attribute Certificates (EACs) in the form of RECs/GOs/I-RECs/etc. represent the quantifiable climate benefit of renewable energy.

To make claims that a company is “powered by renewable energy”, it must match the MWh of electricity consumed with an equal number of EACs.



## I-RECs



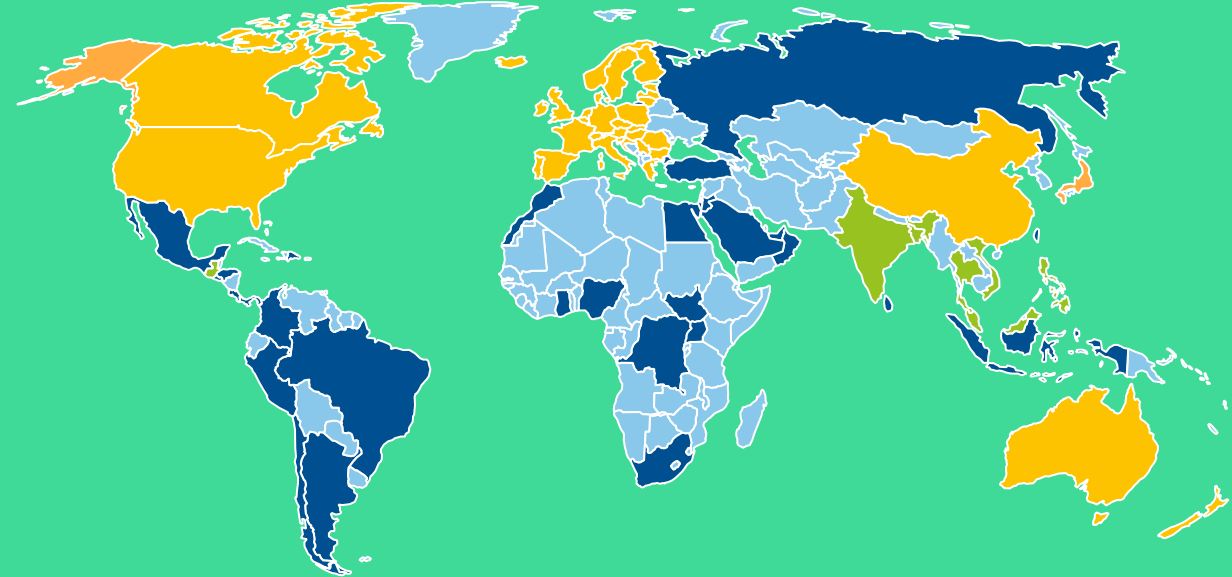
# THE INTERNATIONAL REC STANDARD

The I-REC Standard extends robust attribute tracking systems to 53 countries.

It aligns voluntary corporate procurement with local/national regulations to facilitate consistent reporting, transparency, and trust in effective EAC markets.

~200 TWh issued in 2022.

[I-REC Standard](#)



National and/or regional scheme

THE INTERNATIONAL REC STANDARD

EACs currently not available

THE INTERNATIONAL REC STANDARD & TIGRs™  
Tradable Instruments for Global Renewables

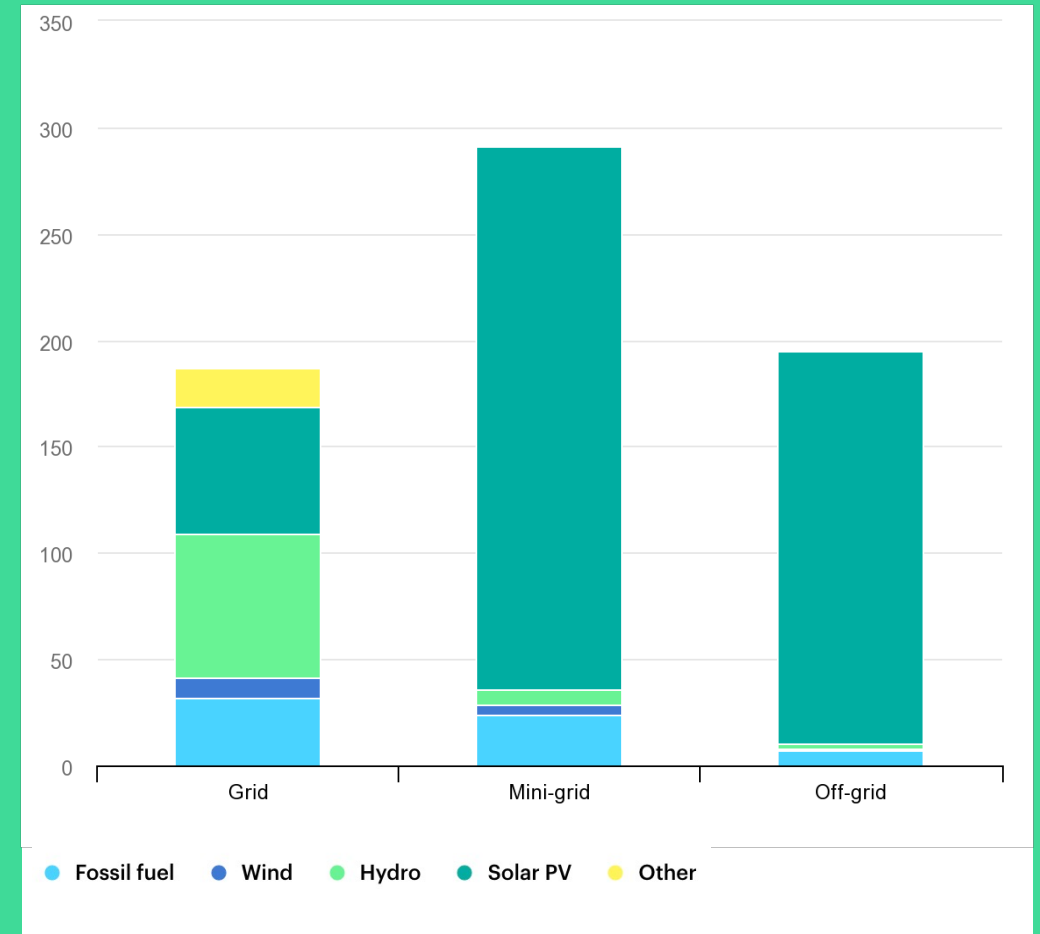
# Challenges

- Designed for grid-connected, utility-scale
- Low certificate prices
- Complex data validation process
- High transaction costs

At least 70% of the nearly 1 billion people with low or no access to energy are best-served by small-scale DRE.



Cumulative population gaining access to electricity in the Energy for All Case, 2017-2030 (millions)



## D-RECs



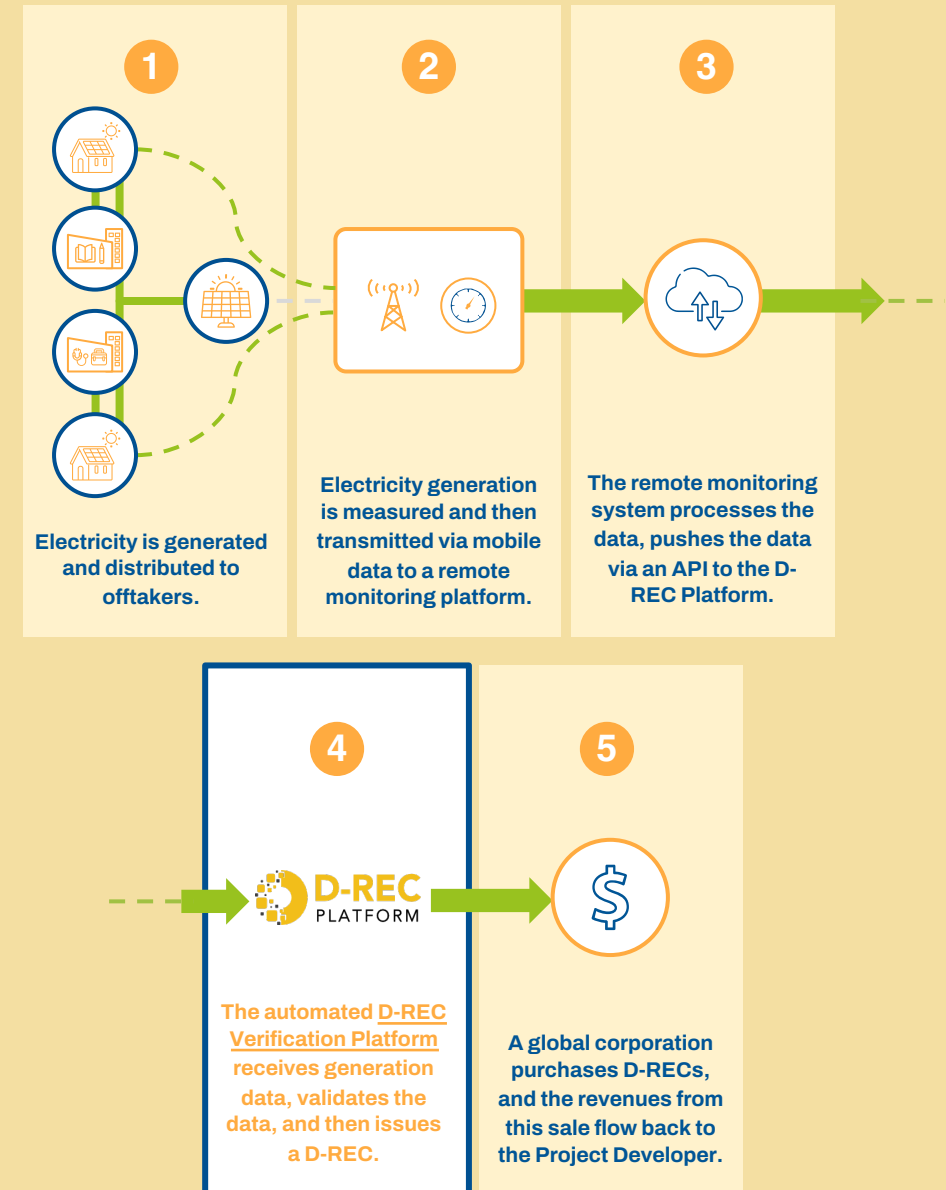
- Not a new standard
- Onramp to the I-REC ecosystem for DRE
- Designed to solve for the challenges of connecting small-scale DRE to existing EAC registries:
  - Aggregation for thousands of devices
  - 3rd party automated data validation
  - Lower transaction costs



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[D-RECs.org](https://D-RECs.org)

## How it Works



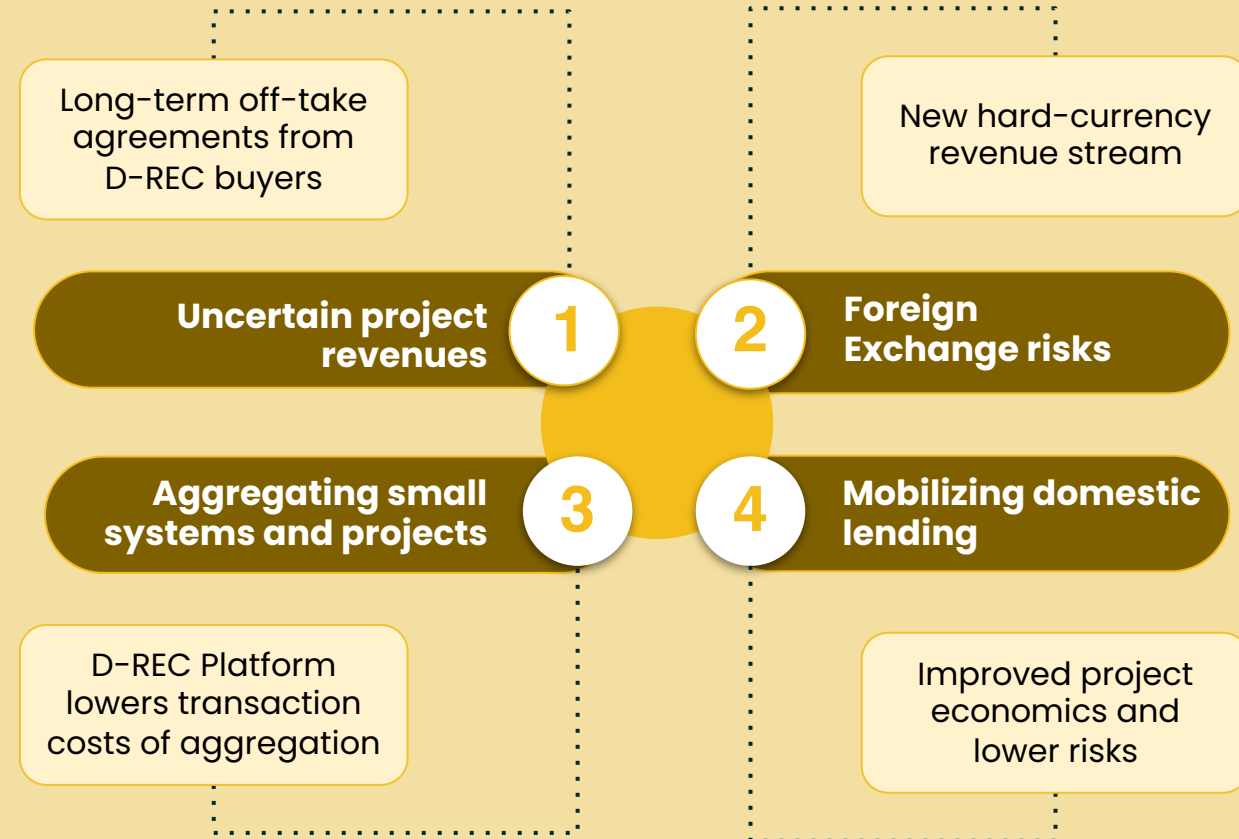
## D-RECs



- Already being generated in:
  - 8 countries
  - 13 project developers
  - 70,000 MWhs / 10.4 MW
- Contracted demand for 36,000 MWh/year
- 2024 forecast for 100+ GWh/year



## Impacts on Project Economics

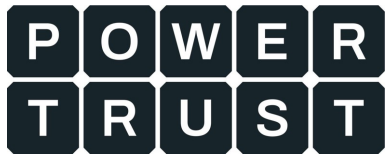




D-RECs



Co-led by:

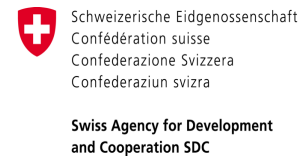


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With funding & support from:



# How to Get Involved

Learn more:

- Visit [DRECs.org](https://DRECs.org)



# How to Get Involved

For policy makers / advocates:

- Visit [DRECs.org](https://DRECs.org)
- Contact your [local I-REC issuer](#)



# How to Get Involved

## For REC buyers:

- Contact a market participant like Powertrust to learn how D-RECs fit within your decarbonization portfolio



# How to Get Involved

## For DRE investors:

- Share the D-REC opportunity with your portfolio and encourage them to contact market participants
- Get in touch directly



# How to Get Involved

For DRE project developers:

- Contact a market participant like [Powertrust](#)
- Register your projects
- Get recognized and paid for the environmental & social value you create



# Thank you.

Paul Birkelo

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