T-RECs .ai

A Trusted Renewable Energy Credits Marketplace

The first cross-border RECs Trading platform that is enabled by Blockchain and A.I.

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Company Introduction

What do we do?

T-RECs.ai aims to provide a end-to-end turnkey solution to corporations and individuals who has commitment to be 100% renewable. We offer the following essential services to achieve that goal in our platform

A marketplace for buyers and sellers of renewable energy (RECs)

- Sellers post their available RECs for sale

- Buyers shops for their desired RECs and make their purchase

A transactional platform to process the entire RECs transaction

- Registration – Verification and Registration of RECs certificates

- Tracking – Energy generation tracking to ensure transparency

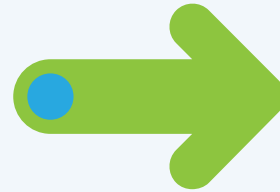- Retirement – The eventual claims to be 100% renewable

Climate change is a big issue- but how can we do our part?

Before
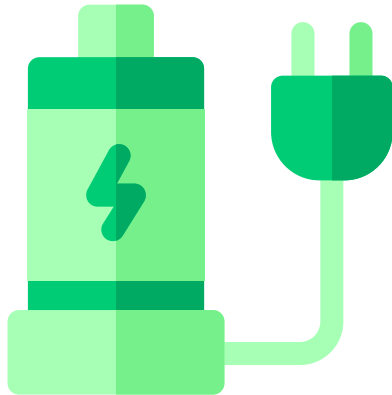
After

CO2 Generator

100% Green

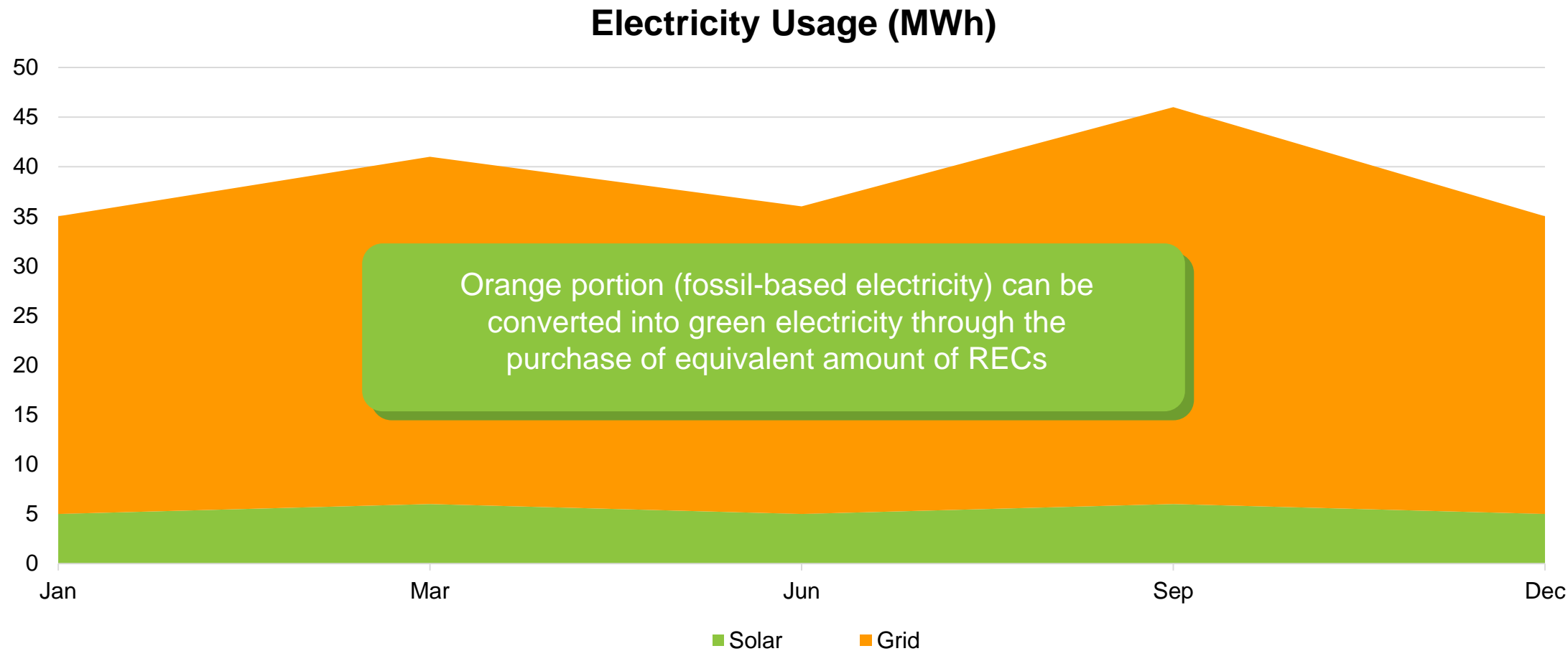Purchase brown electricity from the National Power Grid which is powered by fossil-based power plants

Install solar system on your own roof-top use and start using your self-generated green electricity

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What if my usage way exceeds my solar generation ?

Electricity Usage (MWh)

Orange portion (fossil-based electricity) can be converted into green electricity through the purchase of equivalent amount of RECs

■ Solar   ■ Grid

Purchase RECs as an alternative against physically consuming renewable electricity

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What is a Renewable Energy Credit (REC)?

Fossil fuel generator

Power

Power

Without REC Purchase

Power

Power

With REC Purchase
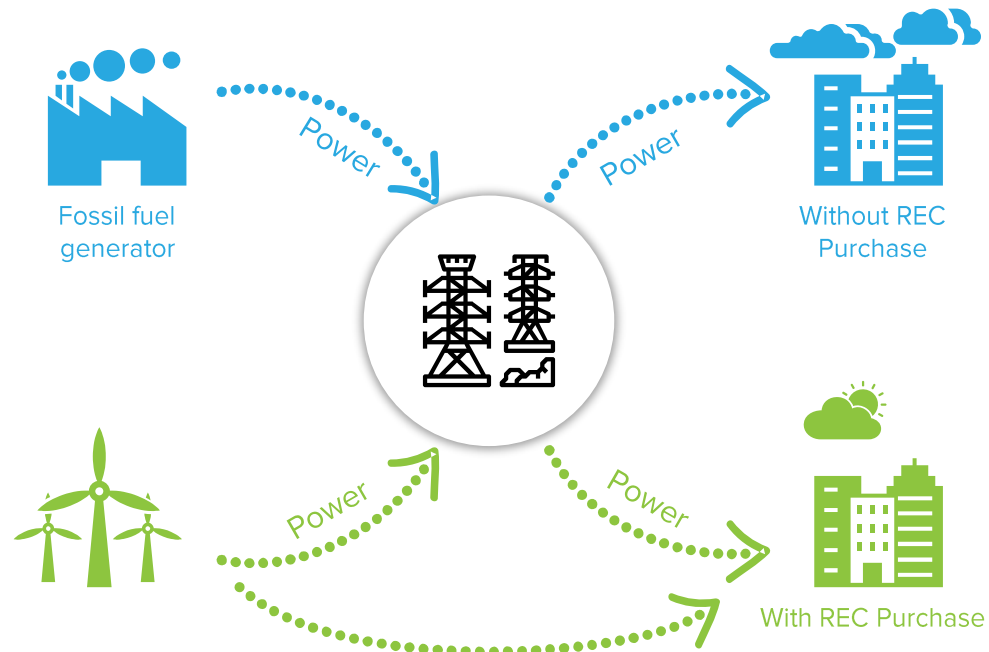
Owning RECs achieves the same result as being on carbon-neutral without having to physically consume renewable electricity

Like traditional coal and gas-fired power plants, renewable power plants (Solar, Wind, Hydro) send their power to the same electric grid

When you buy power from the grid, you are buying mixed power (green and brown)
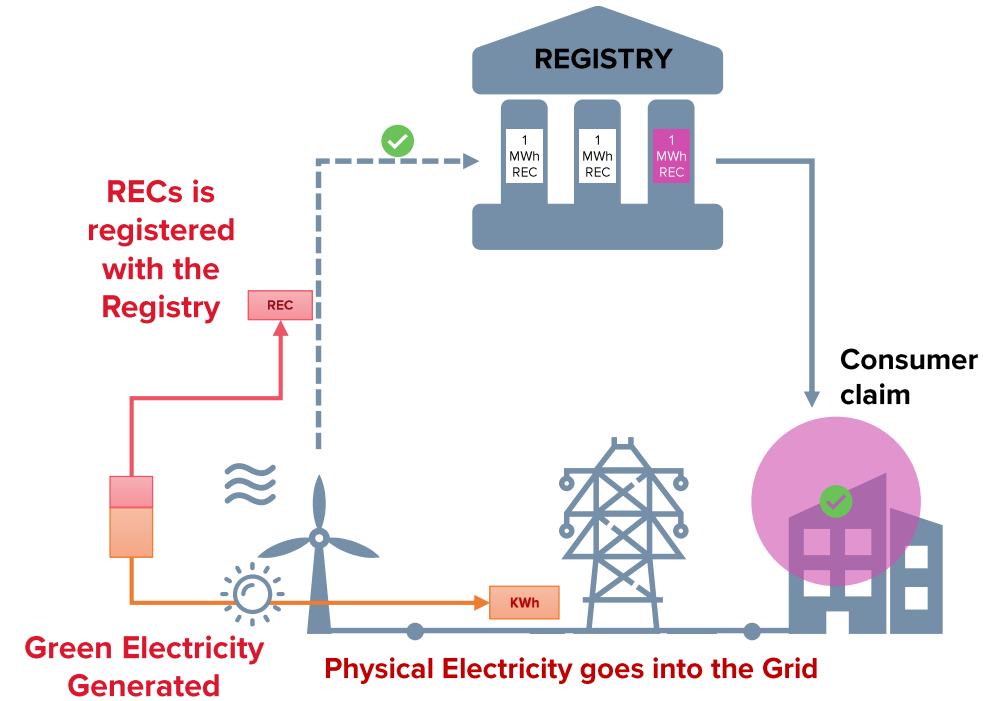
Buying RECs allows you to notionally segregate that power, such that you are buying green power
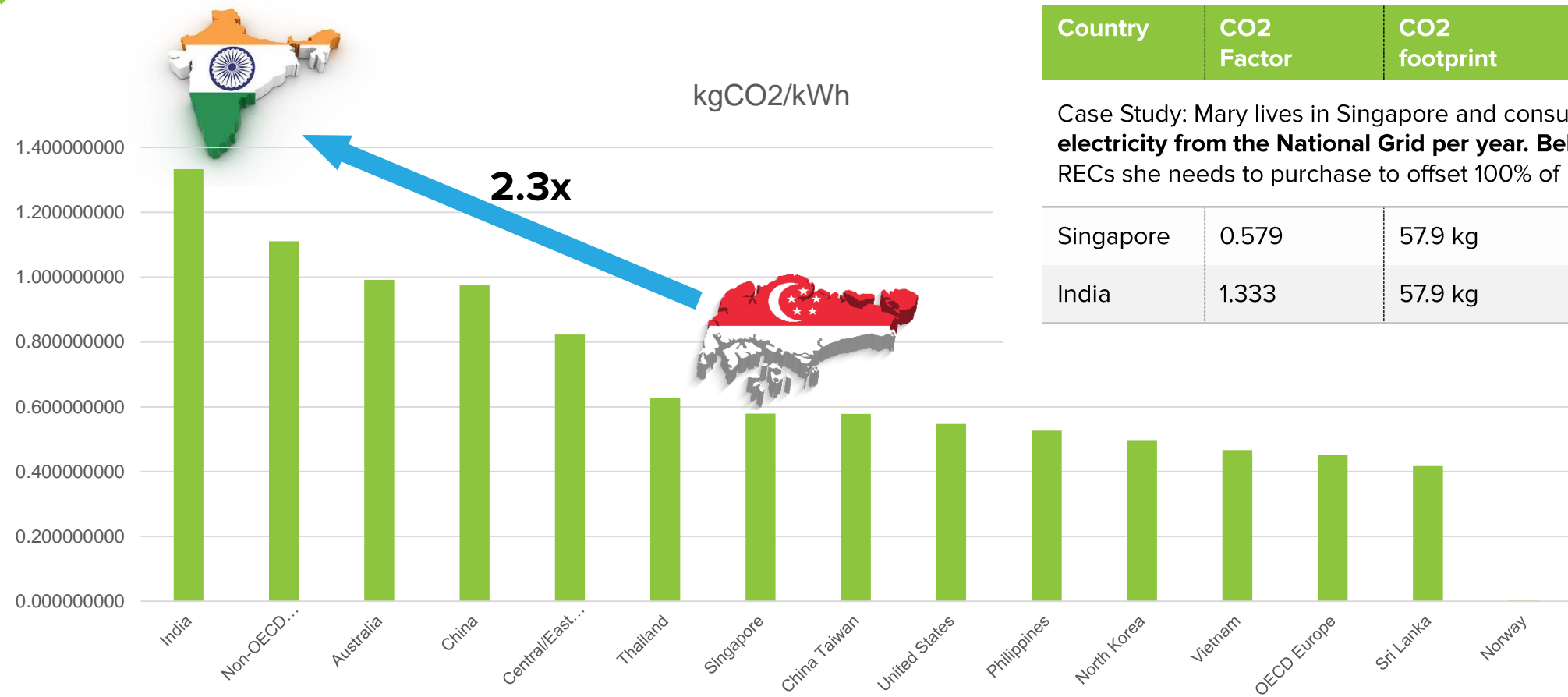
Each REC is independently tracked and verified

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How does RECs work ?

Purchasing each unit of REC is as if you have offset a similar unit of dirty (non-renewable) energy that you have consumed

REGISTRY

1 MWh REC   1 MWh REC   1 MWh REC

RECs is registered with the Registry

REC

Consumer claim

Green Electricity Generated

KWh

Physical Electricity goes into the Grid

Local RECs vs Cross Border RECs

kgCO2/kWh

2.3x

Country	CO2 Factor	CO2 footprint	RECs to buy
Case Study: Mary lives in Singapore and consumes 10MWh of **electricity from the National Grid per year. Below shows the** RECs she needs to purchase to offset 100% of her CO2 footprint			
Singapore	0.579	57.9 kg	10.00
India	1.333	57.9 kg	4.34

Chart values (kgCO2/kWh):
- India: ~1.333
- Non-OECD…: ~1.11
- Australia: ~0.99
- China: ~0.97
- Central/East…: ~0.82
- Thailand: ~0.63
- Singapore: ~0.579
- China Taiwan: ~0.578
- United States: ~0.55
- Philippines: ~0.53
- North Korea: ~0.50
- Vietnam: ~0.47
- OECD Europe: ~0.45
- Sri Lanka: ~0.42
- Norway: ~0

Y-axis: 0.000000000, 0.200000000, 0.400000000, 0.600000000, 0.800000000, 1.000000000, 1.200000000, 1.400000000
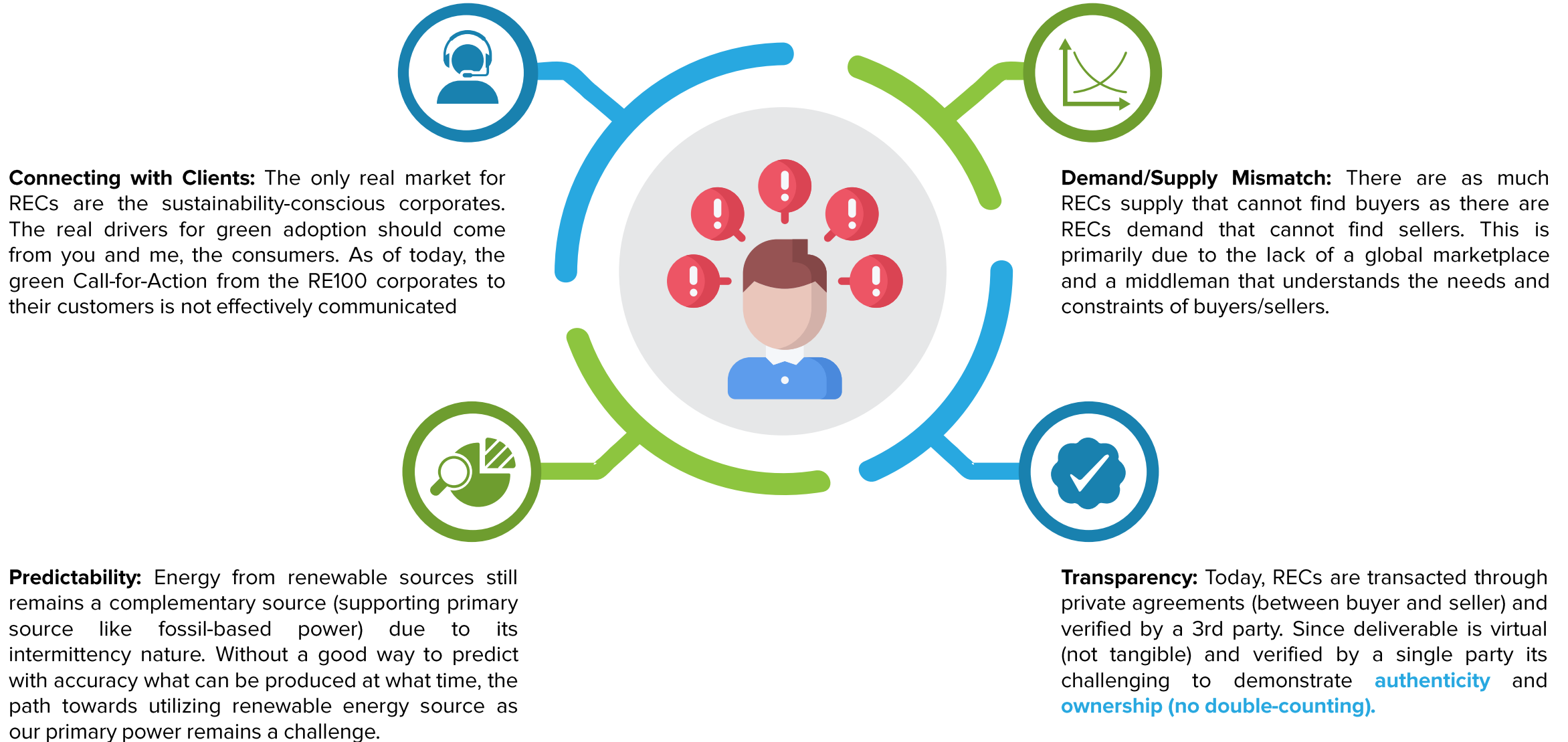
T-RECs.ai platform enables buyers and sellers from different countries to execute the RECs transactions seamlessly

A client in Singapore can opt to purchase a REC that is produced in India since the same REC offsets more CO2 (2.3x) in India than in Singapore

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Problems of the current RECs marketplace

Connecting with Clients: The only real market for RECs are the sustainability-conscious corporates. The real drivers for green adoption should come from you and me, the consumers. As of today, the green Call-for-Action from the RE100 corporates to their customers is not effectively communicated

Demand/Supply Mismatch: There are as much RECs supply that cannot find buyers as there are RECs demand that cannot find sellers. This is primarily due to the lack of a global marketplace and a middleman that understands the needs and constraints of buyers/sellers.

Predictability: Energy from renewable sources still remains a complementary source (supporting primary source like fossil-based power) due to its intermittency nature. Without a good way to predict with accuracy what can be produced at what time, the path towards utilizing renewable energy source as our primary power remains a challenge.

Transparency: Today, RECs are transacted through private agreements (between buyer and seller) and verified by a 3rd party. Since deliverable is virtual (not tangible) and verified by a single party its challenging to demonstrate **authenticity** and **ownership (no double-counting).**

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Our Differentiators

Addressing RECs market mismatch – T-RECs.ai creates a global marketplace for RECs

New Projects

- T-RECs.ai is a marketplace that hosts global renewables generators with available RECs for sale

Additionality

- We also enable Developers/IPPs to source for potential RECs buyers so that they can get their projects off the ground (RECs revenue streams helps boost IRR)

Operating Projects

- RECs buyers can source for projects to suit their additionality requirements

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RECs Certification with Green-E – Meeting the RE100 standard

1. RECs certification is critical towards fulfilling the requirements of RE100
2. Our Platform utilizes the **_Green-E certification program_**
3. However, to further enhance the authenticity of the RECs and to ensure the elimination of double-counting, we have incorporated the BlockChain and A.I. Technology to our tracking system

Green-e is the global leading independent consumer protection program for the sale of renewable energy and greenhouse gas reductions in the retail market. **Green-e** offers certification and verification of renewable energy and greenhouse gas mitigation products.

BlockChain and A.I. offers transparency for RECs transactions

Blockchain and T-RECs.ai temper-proof smart meters ensures authentic production

AI crawls across media platforms to identify clear ownership & no double claims
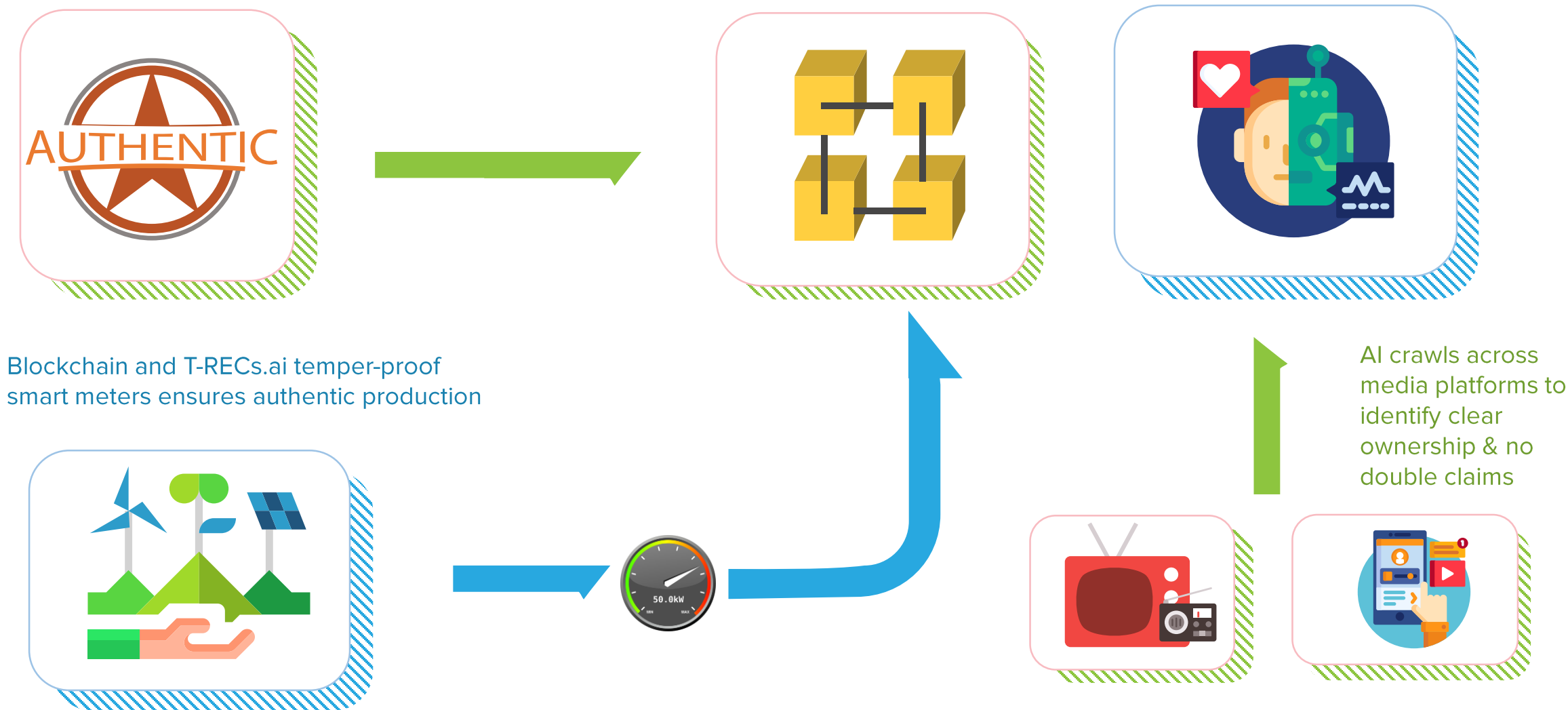
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Building a community of green believers – The Green Pledge
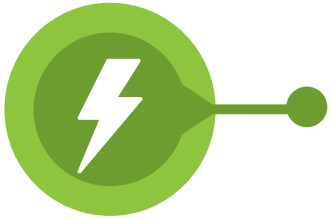
T-RECs.ai believes in engaging beyond the big electricity user corporations to reach out to the consumers

A strong community of green individual believers to be built on T-RECs.ai platform, and the clear impact of the pledge can be seen through the realization of new renewable projects (through the purchase of RECs)
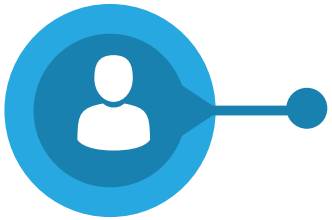
We want individuals to pledge to be green – T-RECs.ai will encourage and reward all green ambassadors

- A forum page for members to post their own and share others sustainability acts
- Deploy our AI bots to crawl members social media postings to identify sustainability acts
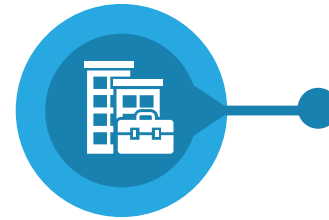
Green corporations (Apple, Google, Facebook etc) who are T-RECs.ai corporate buyers can tap on this community to drive the green message. We encourage big corporations to leverage on our platform to influence the public to sign up the T-RECs.ai Green Pledge

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Addressing intermittency of Renewables

Renewables has an intrinsic problem of intermittency. You can never have certainty on when you can have your desired amount of electricity at any point in time

With renewable generators from different parts of the world, the platform will be able to offer a RECs portfolio that matches the buyer's load profile

One of our AI bots will also be able to provide predictive analysis on the RECs generation and thereby adjusting the allocation to meet the buyers needs

What is RE100 ?

1. RE100 is a collaborative, global initiative uniting more than 100 influential businesses committed to 100% renewable electricity, working to massively increase demand for - and delivery of - renewable energy.

2. RE100 is brought to you by The Climate Group in partnership with CDP. Both organizations are part of the We Mean Business coalition, working with leading businesses around the world.

3. RE100 shares the compelling business case for renewables, such as greater control over energy costs, increased competitiveness, and delivery on emissions goals. We also showcase business action on renewables and encourage supplier engagement, while working to address barriers that will enable many more companies to reap the benefits of going 100% renewable.

4. Companies joining RE100 set a public goal to source 100% of their global electricity consumption from renewable sources by a specified year. They disclose their electricity data annually, and RE100 reports on their progress.

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Requirements of RE100 companies

Companies joining RE100 make a global, public commitment to **100% renewable electricity.**

To achieve this goal, they must match 100% of the electricity used across their global operations with electricity produced from renewable sources – biomass (including biogas), geothermal, solar, water and wind – either sourced from the market or self-produced.

RE100 companies can achieve 100% renewable electricity through:

- **Production of renewable electricity** from their own facilities. These can be grid-connected and onsite or offsite, or entirely off the grid. A company may consume its own renewable electricity or decide to make production-only claims.

- **Purchased renewable electricity** sourced from generators and suppliers in the market. This includes direct purchases from specific generators (e.g. power purchase agreements), which can be located onsite or offsite. It also includes retail purchases from suppliers and utilities, and the purchase of stand-alone ("unbundled") energy attribute certificates (also commonly known as RECs).

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RE100 Companies

Global companies are making strides in their commitment towards renewables

154 RE100 companies have made a commitment to go '100% renewable'

Most of them adopted the strategy of purchasing RECs to meet their 100% renewable goal

The IKEA Group is a home furnishing company with 336 stores in 28 countries. The company has committed to produce as much renewable energy as the total energy it consumes in its buildings by 2020. Alongside Swiss Re. IKEA Group is a founding partner of the RE100 campaign.

Apple leads the world In innovation with Phone. 'Pad. Mac. Apple Watch and Apple N. In April 2018. Apple achieved 100% renewable electricity powering its global facilities across 43 countries. Apple is also helping its manufacturing partners lower their carbon footprint. working with them to Install more than 4 glgawatts of new clean energy worldwide by 2020.

Coca.Cola European Partners manufactures. markets and distributes CocaCola products in Western Europe. The company has committed to power all of its operations with 100% renewable electricity by 2020

Citi is the leading global bank. with approximately 200 million customer accounts and business in mole than 160 countrles. and a mission to responsibly provide financial services that enable growth and economic poetess. The bank has set a target to go 100% renewable by 2020.
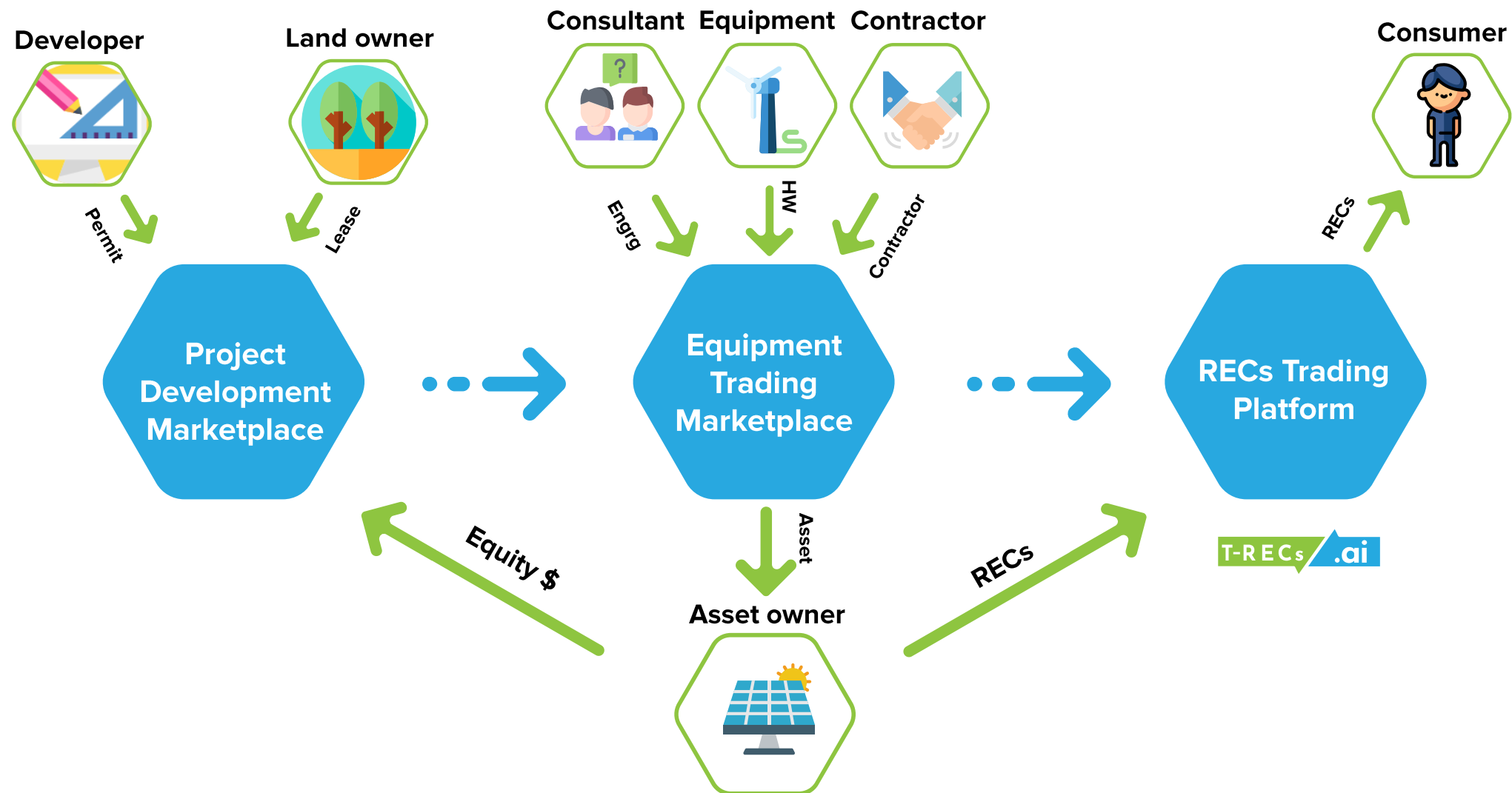
T-RECs.ai Growth Strategy – The Renewable Energy Ecosystem

- Phase 1
  - RECs Trading platform Go Live
  - Build up green community (Sellers and Buyers of renewable electricity)
- Phase 2
  - Renewable Project platform Go Live
  - Leverage on the community built up in Phase 1 to build another ecosystem
  - Project Developers, Equity Investors, Land/Roof Owners, Debt Financier
- Phase 3
  - Upstream equipment supply platform Go Live
  - Leverage on the community built up in Phase 2 to build the 3rd ecosystem for project construction
  - Equipment makers (solar panels, wind turbines, inverters, structures)
  - Contractors (M&E subcontrators, System Designers, Consultants)

Building a marketplace to cut off the middleman, bringing value to the entire renewable energy ecosystem, ensuring Best Quality at Lowest Cost

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The Renewable Energy Ecosystem

Thank You