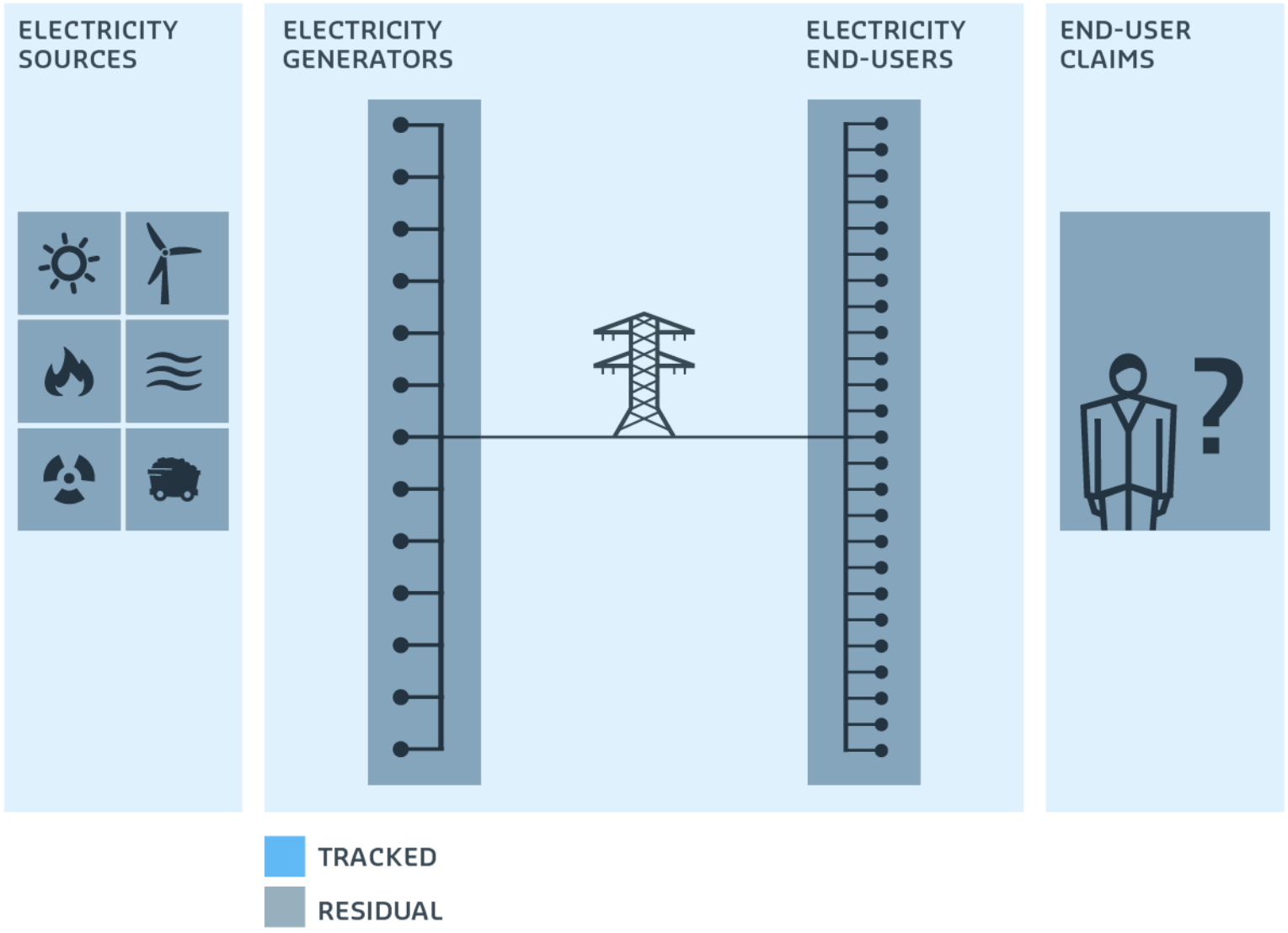
THE INTERNATIONAL REC STANDARD

11-8-2020

Introduction and overview to renewable markets in Turkey and around the world

Jared Braslawsky
The International REC Standard Foundation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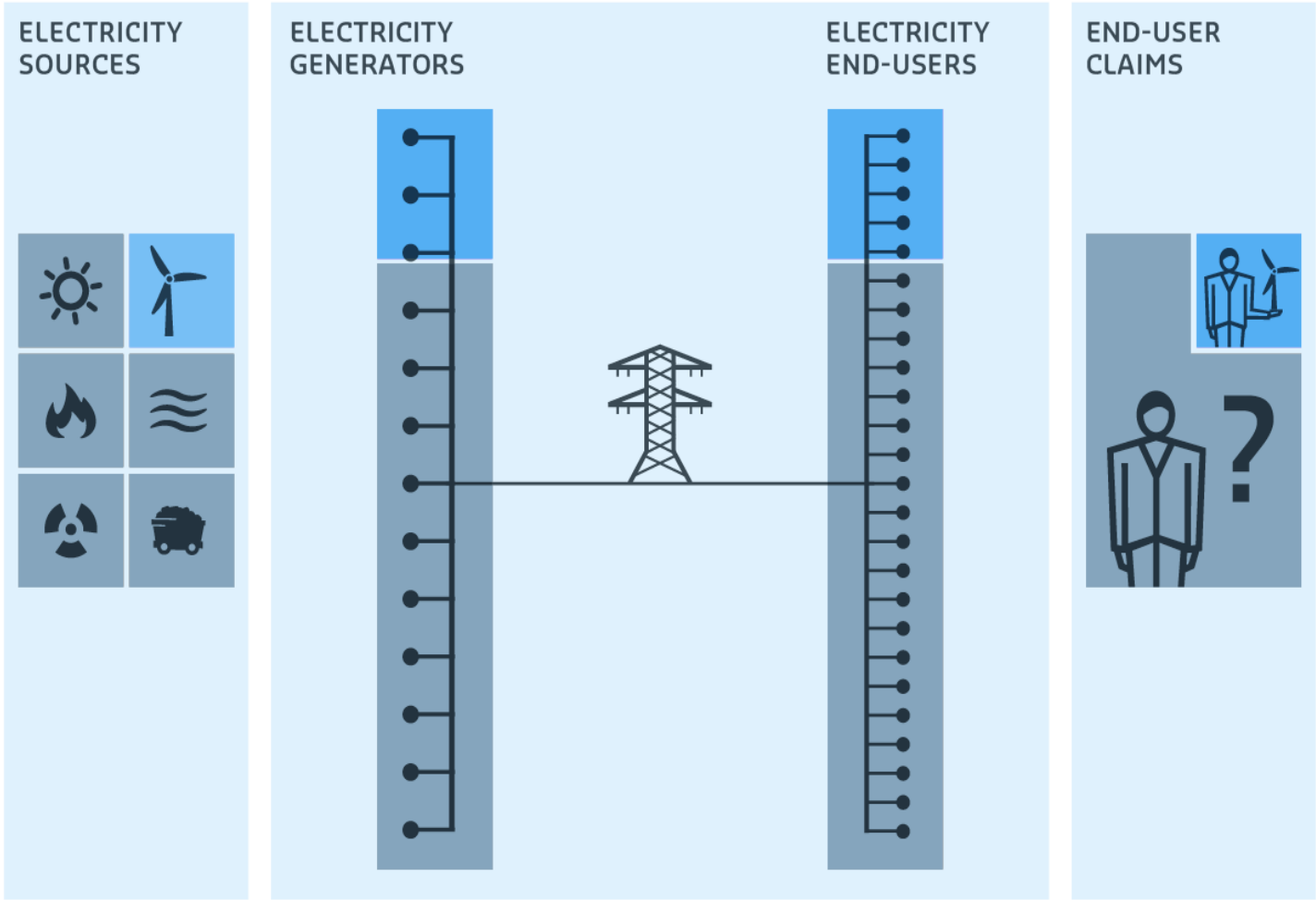
ELECTRICITY GENERATORS
ELECTRICITY END-USERS
END-USER CLAIMS
?
TRACKED
RESIDUAL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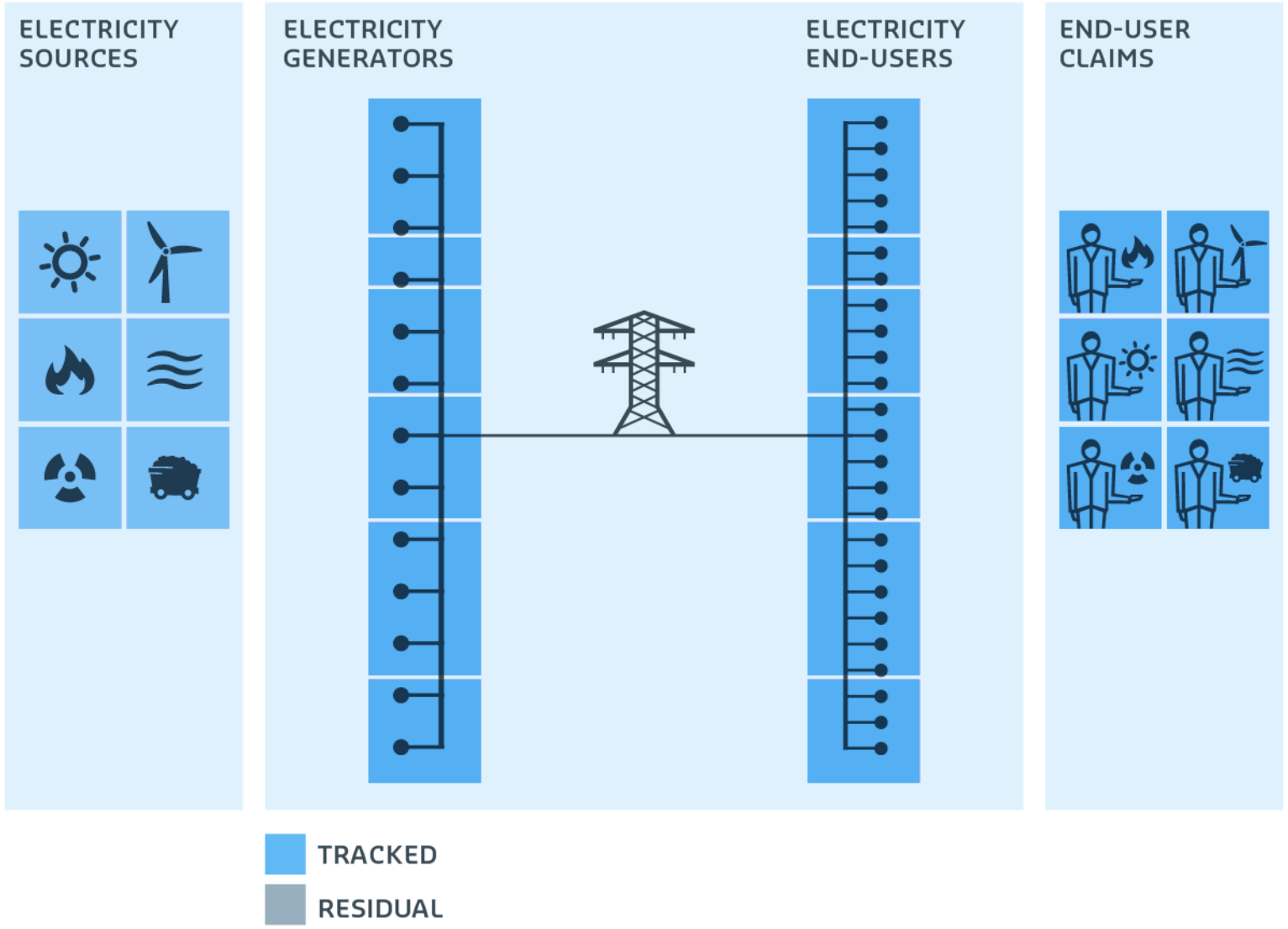
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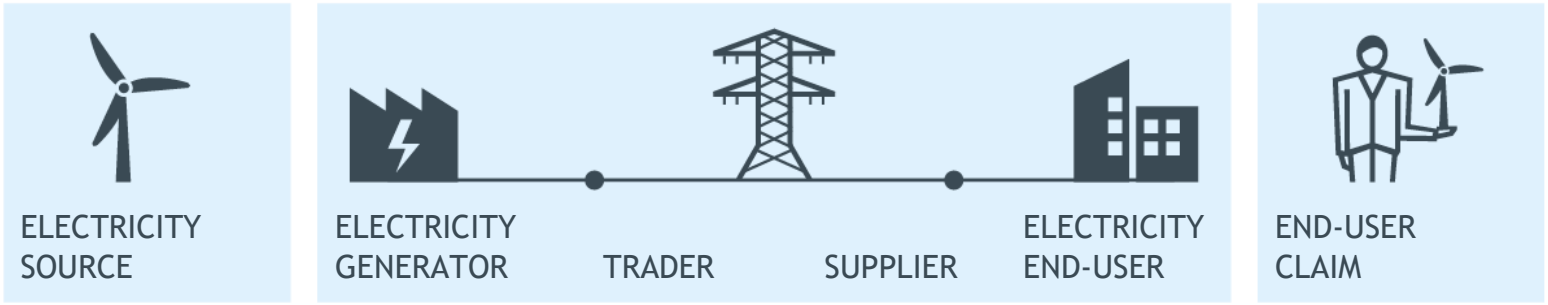
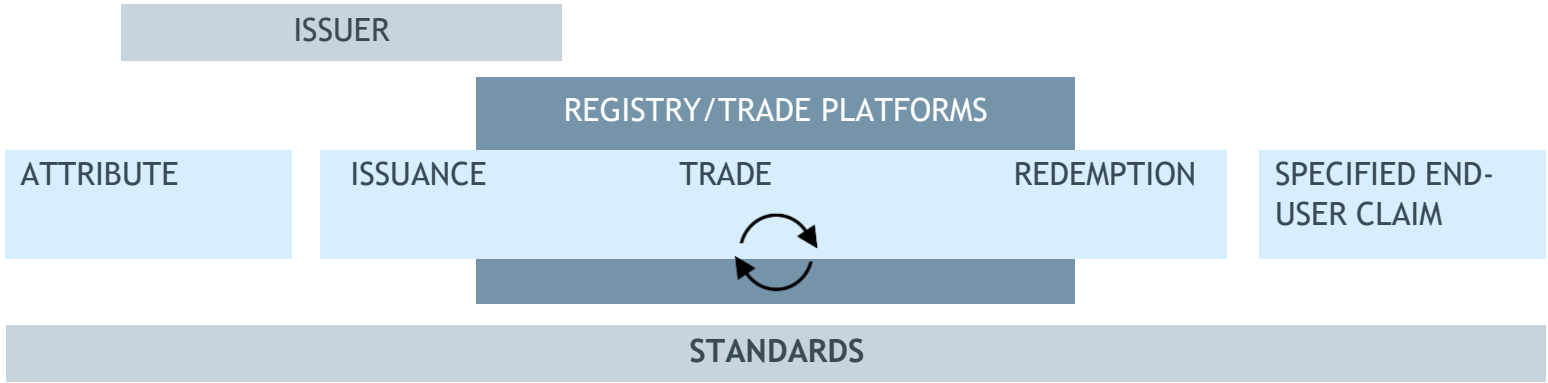


Certificate market



Terminology:

- REC, I-REC, Guarantee of Origin system (GO)
- Energy Attribute Certificate (EAC) systems as electricity accounting mechanisms
- Book-and-Claim systems based upon industry standards and best practices

History of the International REC Standard

Lessons learned from other robust REC markets

- Voluntary market development leads to robust and reliable markets
- Voluntary markets involve the whole chain from producers to consumers
- Voluntary markets show national governments a reasonable development path

*Its all about **not** reinventing the wheel!*

Providing a standard simplifies the development of a EAC tracking and the associated RE markets for all parties

–

Generators, suppliers, market players and consumers

What did we learn from these markets?

Standards for tracking instruments….

(a) …increase the use of the attribute tracking system system by end-users which can increase demand-driven growth and possible foreign investment

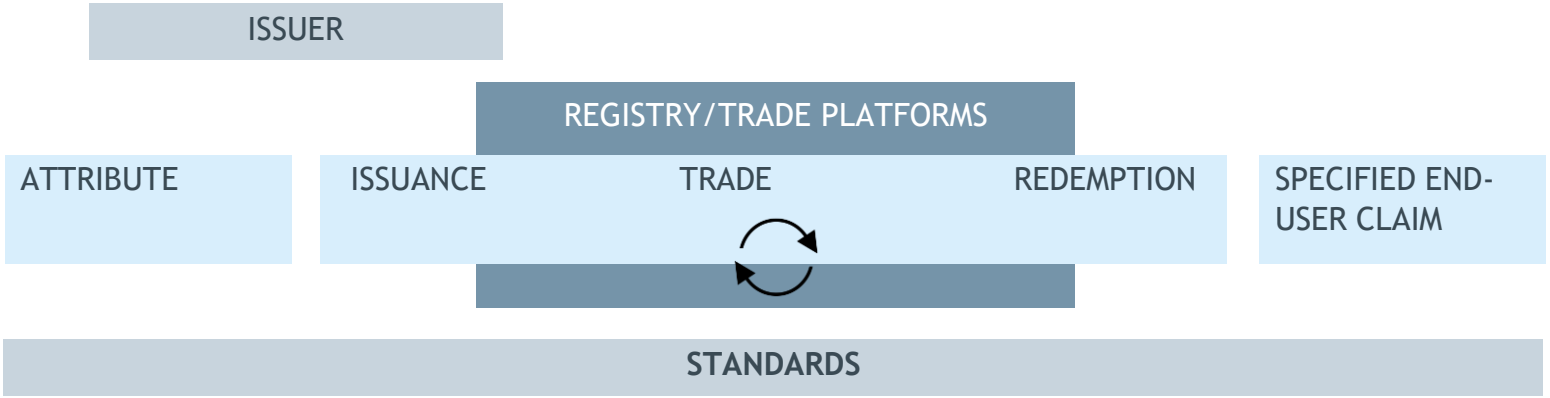
(b) …simplify the choice and trust consumers have when choosing renewables

(c) …eliminate implementation problems when starting a new system

(d) …reduce or even completely eliminate costs around implementing a REC system

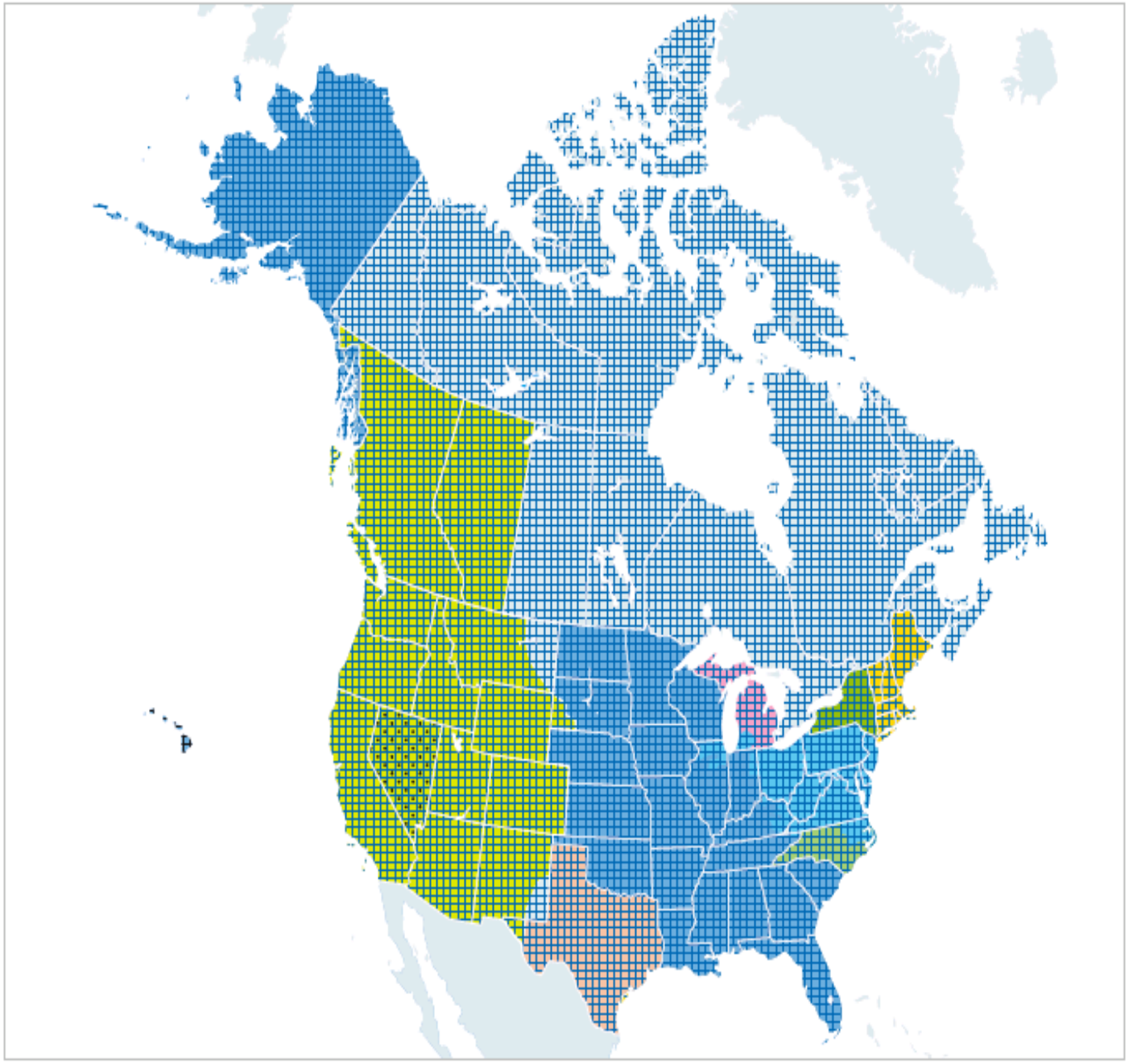
(e) …allow a simplified development path for all stakeholders to join the developments, including NGO stakeholders such as labels

Certificate market



The system is governed by locally by issuer adherent to standards:

- The issuer, inline with standards, sets the rules and fees for participation of producers
- The issuer controls access to the market and therefore must be independent
- The issuer operates within a market boundary and can be appointed by market payers, stakeholders, standards or the national government



NVTREC

M-RETS *

WECC

MIRECS

NEPOOL

nyserda

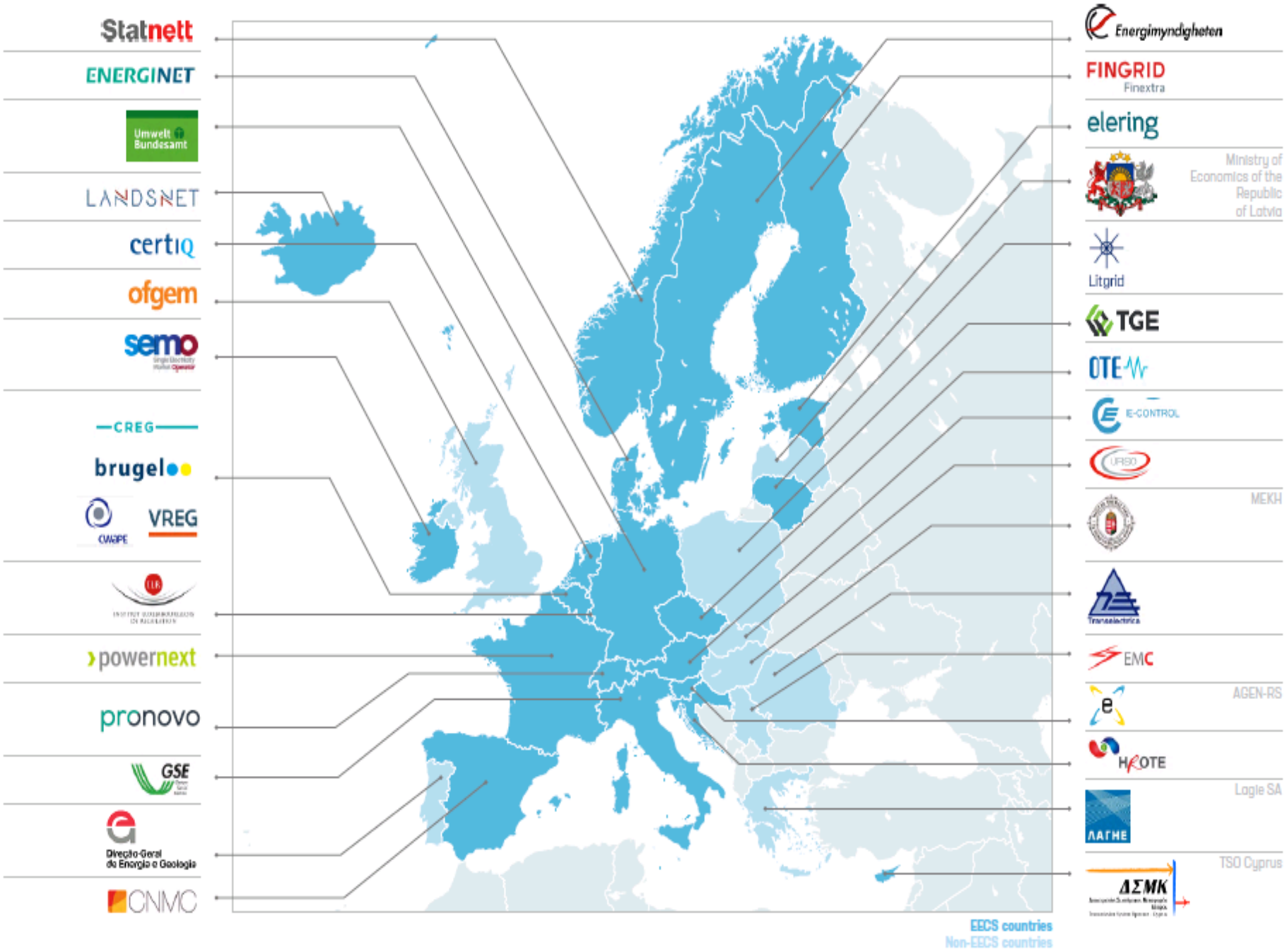
pjm EIS

NC-RETS

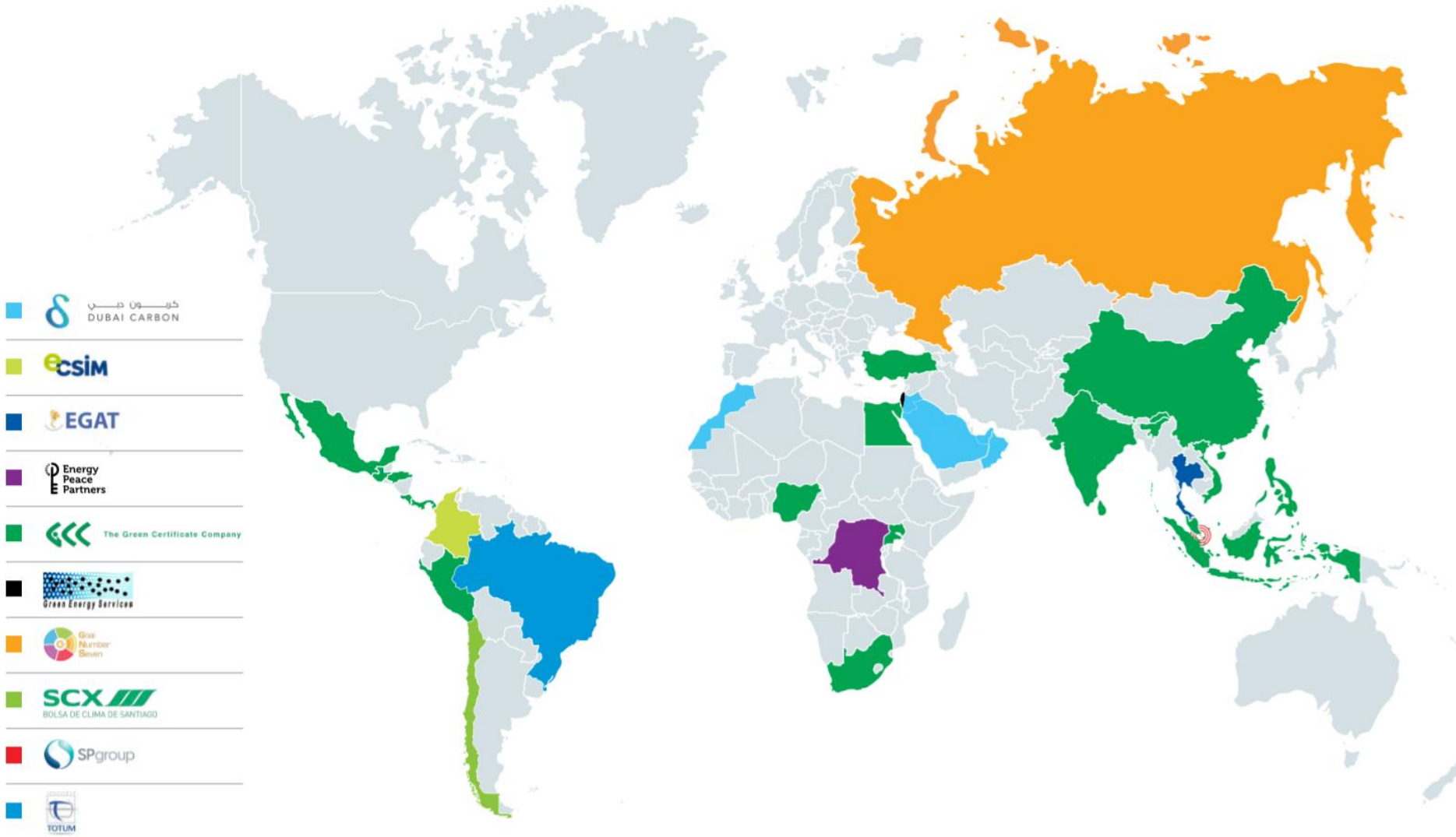
Renewables Registry

ercot

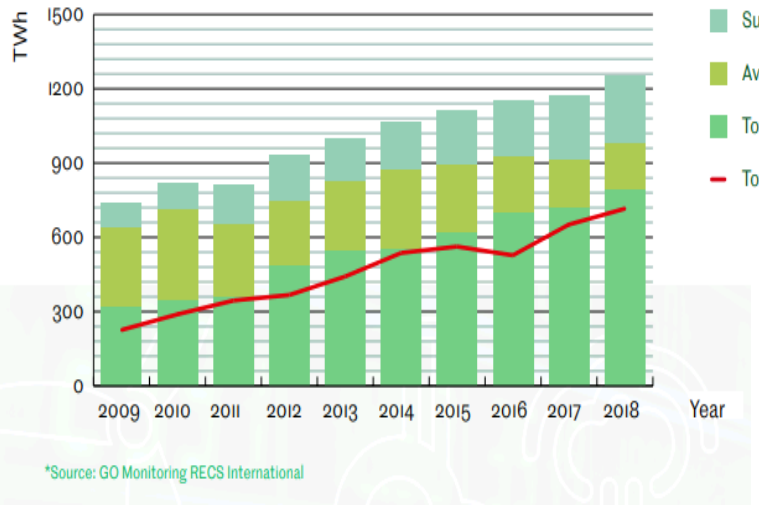
* M-RETS is on a voluntary basis active in all states and provinces


Statnett
ENERGINET
Umwelt Bundesamt
LANDSNET
certiQ
ofgem
semo
CREG
brugel
CWaPE
VREG
powernext
pronovo
GSE
Direção-Geral de Energia e Geologia
CNMC
Energimyndigheten
FINGRID
Finextra
elering
Ministry of Economics of the Republic of Latvia
Litgrid
TGE
OTE
E-CONTROL
URSO
MEKH
Transelectrica
EMC
AGEN-RS
HEOTE
Lagie SA
ΛΑΓΗΕ
TSO Cyprus
ΔΣΜΚ
EECS countries
Non-EECS countries

International EAC Market Issuers

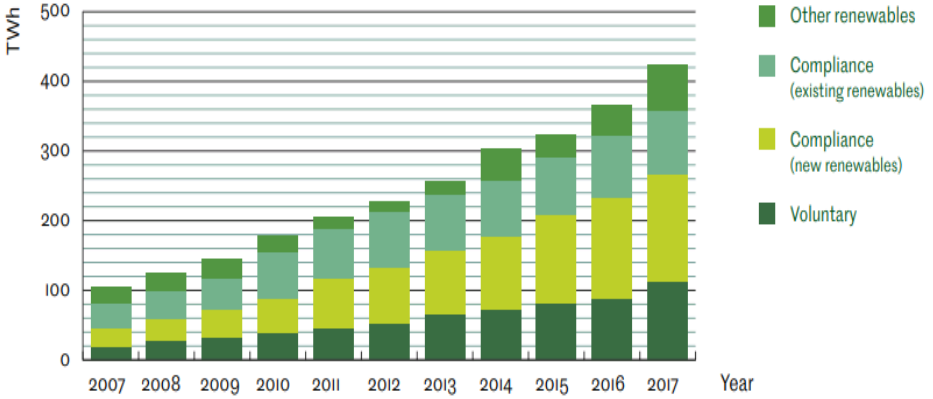


RES consumption Europe*



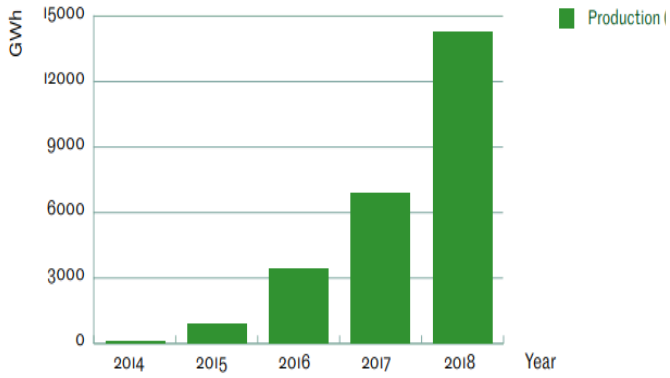
*Source: GO Monitoring RECS International

RES consumption USA*



*Source: NREL

Global I-REC issuance*



*Source: International REC Standard Foundation

More than +5600 companies report to CDP worldwide …

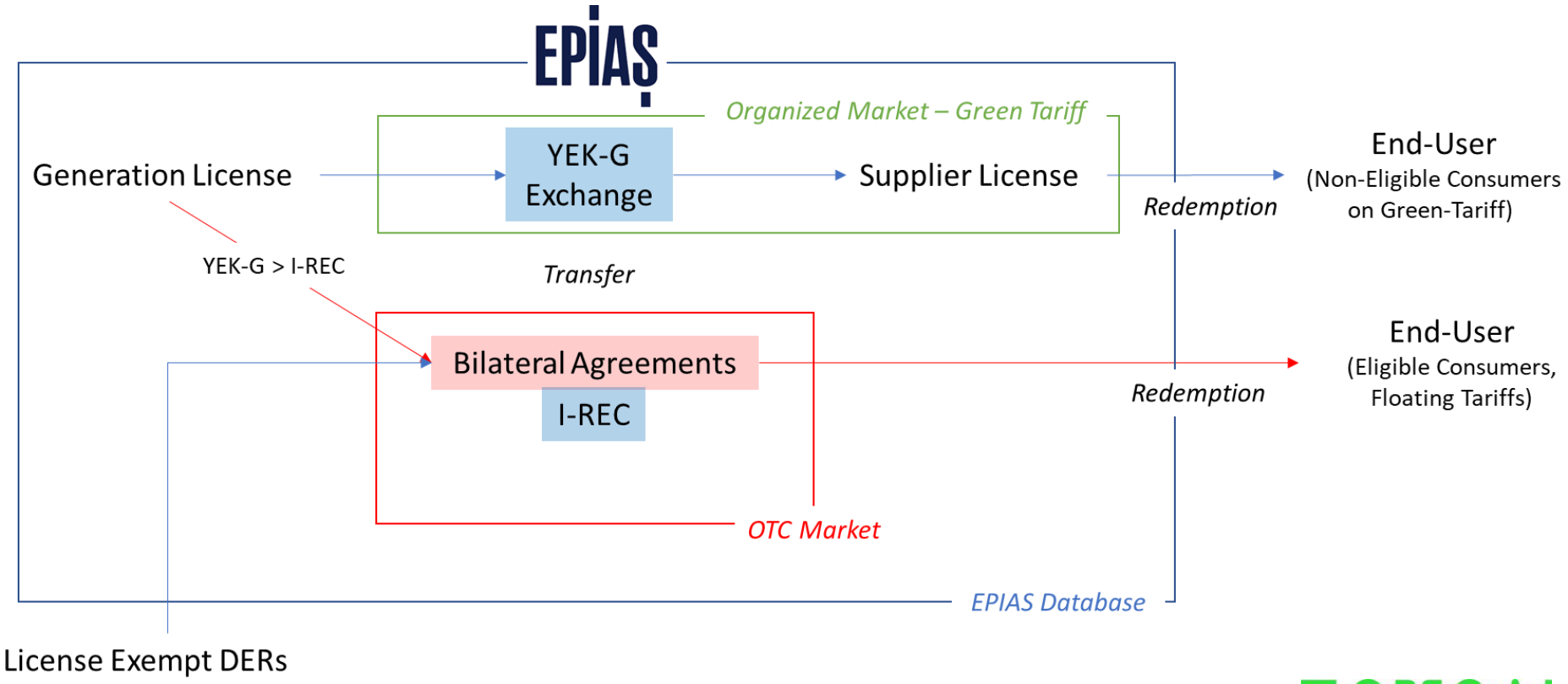
…their energy usage, using the GHG Protocol Scope 2 reporting criteria…

…and documenting this with GOs adherent to the EECS Standard, RECs adherent with US law or I-RECs adherent to the International REC Standards.

CDP
DRIVING SUSTAINABLE ECONOMIES

GREENHOUSE GAS PROTOCOL

Swiss Re
BIMBO
HSBC
Kingspan
AstraZeneca
rackspace
the #1 managed cloud company
TD
salesforce
DECATHLON
AUTODESK
EQUINIX
DSM
RELX Group
ASKUL
helvetia
VOYA
JPMORGAN CHASE & CO.
GM
LA POSTE
Carlsberg Group
Goldman Sachs
M&S
workdc
Life is On
Schneider Electric
Bloomberg
PRUDENTIAL
British Land
Infosys
sky
proximus
Nordea
PHILIPS
IRON MOUNTAIN
TESCO
CLIF
ORGANIC VALLEY
THE CROWN ESTATE
IKEA
hp
AkzoNobel
CapitalOne
Walmart
YOOX NET-A-PORTER GROUP
Google
YOUR LONDON AIRPORT Gatwick
Royal Bank of Scotland
RICOH
DBS
facebook
Unilever
FIFTH THIRD BANK
SWISS POST
P&G
Interface
UBS
BMW GROUP
Danske Bank
McKinsey&Company
SEKISUI HOUSE
FUJITSU
citi
SAP
GROUPE L'OCCITANE
VAILRESORTS
ELION 亿利资源
PVH
Microsoft
LEGO
RE 100
SONY
FUYO LEASE
mace
MARS
ABInBev
Vestas
OIOI MARUI GROUP
AEON
VISA
signify
WELLS FARGO
ESTÉE LAUDER COMPANIES
vodafone
HAP
vf
CALIFIA FARMS
watami
Steelcase
H&M
HEALTH · HYGIENE · HOME
Morgan Stanley
DANONE
Kellogg's
IFF
Nestlé
ebay
IHS Markit
PEARSON
Coca-Cola Enterprises
Biogen
Schroders
BT
AXA
3dL
ELOPAK
kpn
Bank of America
wework
Telefónica
COLRUYT GROUP
CaixaBank
Dalmia Bharat Cement
Etsy
Adobe
BURBERRY
COMMERZBANK
CANARY WHARF GROUP PLC
Landsec
novo nordisk
JOHNAN SHINKIN BANK
Johnson & Johnson
CRÉDIT AGRICOLE
Givaudan
Corbion
BROAD GROUP 匹大集团
dentsu AEGIS network
DIAGEO
BBVA
DNB
ENVIPRO
Bankia
vmware
ING
Heathrow
amalgamated bank
VAISALA
JUPITER Asset Management
Hewlett Packard Enterprise
SGS
alstria
TATA MOTORS
AVIVA


EPİAŞ
Organized Market – Green Tariff
Generation License
YEK-G Exchange
Supplier License
Redemption
End-User
(Non-Eligible Consumers on Green-Tariff)
YEK-G > I-REC
Transfer
Bilateral Agreements
I-REC
Redemption
End-User
(Eligible Consumers, Floating Tariffs)
OTC Market
EPIAS Database
License Exempt DERs

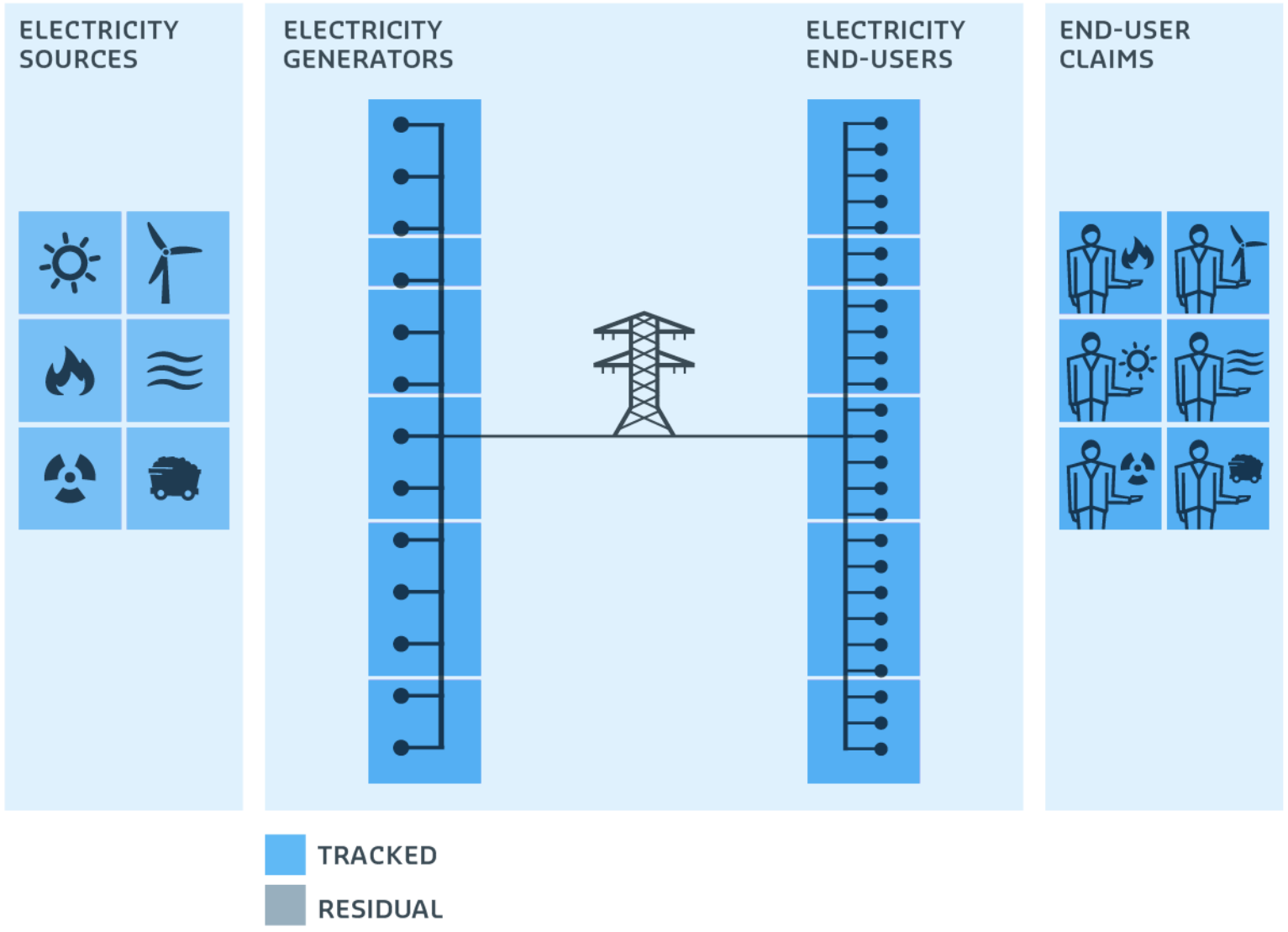
FOTON

Issues for Turkey

- *Complexity and standardization*
  - Allowing for a governmentally supporting and internationally *standardized* system will have a significant effect on the use of attribute tracking certificates.
    - YEK-G would be an instrument primarily for local entities whereas an internationally standardized mechanism, via I-REC, would be available for all international users. This fits within the designations of eligible/non-eligible consumers.

- *Avoidance double counting*
  - Issues specific to Turkey are specific to the rest of the world. Avoidance of double counting with tracking systems and following up-to-date.
    - This is solved by the solution provided. All the relevant systems are under the guidance of EPIAS but still internationally recognized. EPIAS can ensure that a single MWh is only redeemed a single time, whether via the YEK-G or bilateral trades.

- Ensuring reliable solution for DERs
  - Allowing a reliable solution for DERs also support broader standardization ensuring each generation source is accounted for.
    - Supporting to make sure there are no gaps in legislation.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Thank you

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secretariat@irecstandard.org