

# Renewable Energy Certificates and their importance for ESG Scores

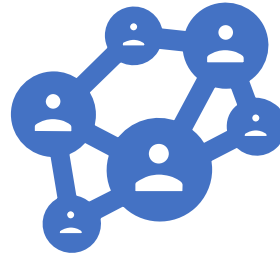
# Summary

- The importance of renewable energy certificates for **ESG scores**
- Why are price assessments needed?
- IRECs **Methodology & Prices**

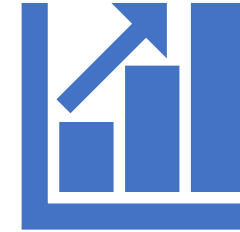
# ESG Scores: The Basics



ESG scores are a measure of how well a company addresses risks and concerns related to environmental, social, and corporate governance issues in its day-to-day operations.



These scores are important for socially responsible investors who want to invest in companies with strong ethical and sustainability practices.



ESG scores can serve as a basis for comparing companies and funds across different factors, such as a company's carbon footprint and labour practices.

**Why is that significant?** Because when companies focus on improving ESG performance, regulatory compliance will naturally fall into place.

Source: Investopedia

**Platts**<sup>®</sup>

**S&P Global**

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ESG scores evaluate companies based on various criteria, which are classified into three main categories:

## Environmental Issues

- Carbon footprint
- Energy efficiency
- Renewable energy usage
- Water usage
- Pollution
- Waste management
- Biodiversity impact

## Social Issues

- Labour practices
- Pro-diversity efforts
- Human rights
- Community relations
- Health and safety

## Governance Issues

- Board diversity and structure
- Executive compensation
- Shareholder rights
- Business ethics
- Risk management
- Supply chain management

# Energy Consumption – tracking with Certificates

Total energy consumption	Unit	FY 2019	FY 2020	FY 2021	FY 2022	What was your target for FY 2022?
Total non-renewable energy consumption	MWh					
Total renewable energy consumption	MWh					
Data coverage (as % of denominator)	Percentage of					

## Public Reporting

- Our data is publicly available. Please provide supporting evidence or web link.

## Third-Party Verification

- Our data has been third-party verified in the most recent financial year reported. Please provide supporting evidence.

## Data Consistency

- We report publicly on this information, but the data in the table above differ from our publicly reported figures. Please provide an explanation for this difference in the comment box: \_\_\_\_
- We have a temporary coverage reduction or target challenge due to corporate actions. Please briefly explain if a merger, acquisition, divestment, etc. has temporarily caused a reduction in your ability to report optimal coverage or caused your target to appear abnormal: \_\_\_\_
- We are not able to report this information in absolute terms; the information provided in the table above is normalized data. For the purpose of this question, please always provide absolute figures if available.

A company total energy consumption would therefore include self-generated energy (any emissions reflected in scope 1) and total electricity purchased from the grid (electricity). It would exclude generation sold back to the grid.

# Energy Consumption – tracking with Certificates

Total non-renewable energy consumption

Total renewable energy consumption

**Renewable energy:**  
This is energy taken from sources that are inexhaustible such as wind, solar, hydropower, geothermal, biomass and marine, as defined in the GHG Protocol.

Non-Renewable energy: This is all energy not identified as deriving from renewable sources

Self-generated non-fuel renewable energy

Excluding feedstocks

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# Scope 1, 2, 3



**Scope 1 emissions**— This one covers the Green House Gas (GHG) emissions that a company makes **directly** — for example while running its boilers and vehicles.



**Scope 2 emissions** — These are the emissions it makes **indirectly** – like when the electricity or energy it buys for **heating and cooling** buildings, is being produced on its behalf.



**Scope 3 emissions** — In this category go all the emissions associated, not with the company itself, but that the organisation is **indirectly** responsible for, up and down its value chain.

For example, **from buying products** from its suppliers, and from its products when **customers use** them. Emissions-wise, Scope 3 is nearly always the **big** one.

Scope 1, 2 and 3 is a way of categorising the different kinds of carbon emissions a company creates in its own operations.

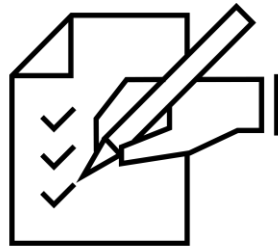
Demand for IRECs comes mainly from the voluntary commitments of corporations to 100% renewables consumption accounted for in Scope 2 emissions as provided by the GHG Protocol.

# Our assessments fulfil diverse business needs

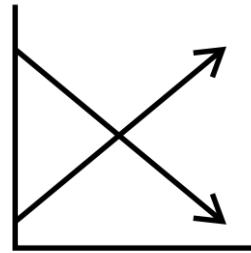
Platts price assessments are the basis for billions of dollars of transactions annually in the physical and futures markets:



**Buyer, sellers and traders** use them as a basis for pricing spot transactions and term contracts.



**Risk managers** use them to settle contracts and to place a market value on the products they hold.



**Analysts** use them to identify trends and patterns in supply and demand.



**Governments** reference them to formulate royalty payments and retail prices.



**Commodity exchanges, clearing houses and financial institutions** use them for listing, trading and clearing purposes.

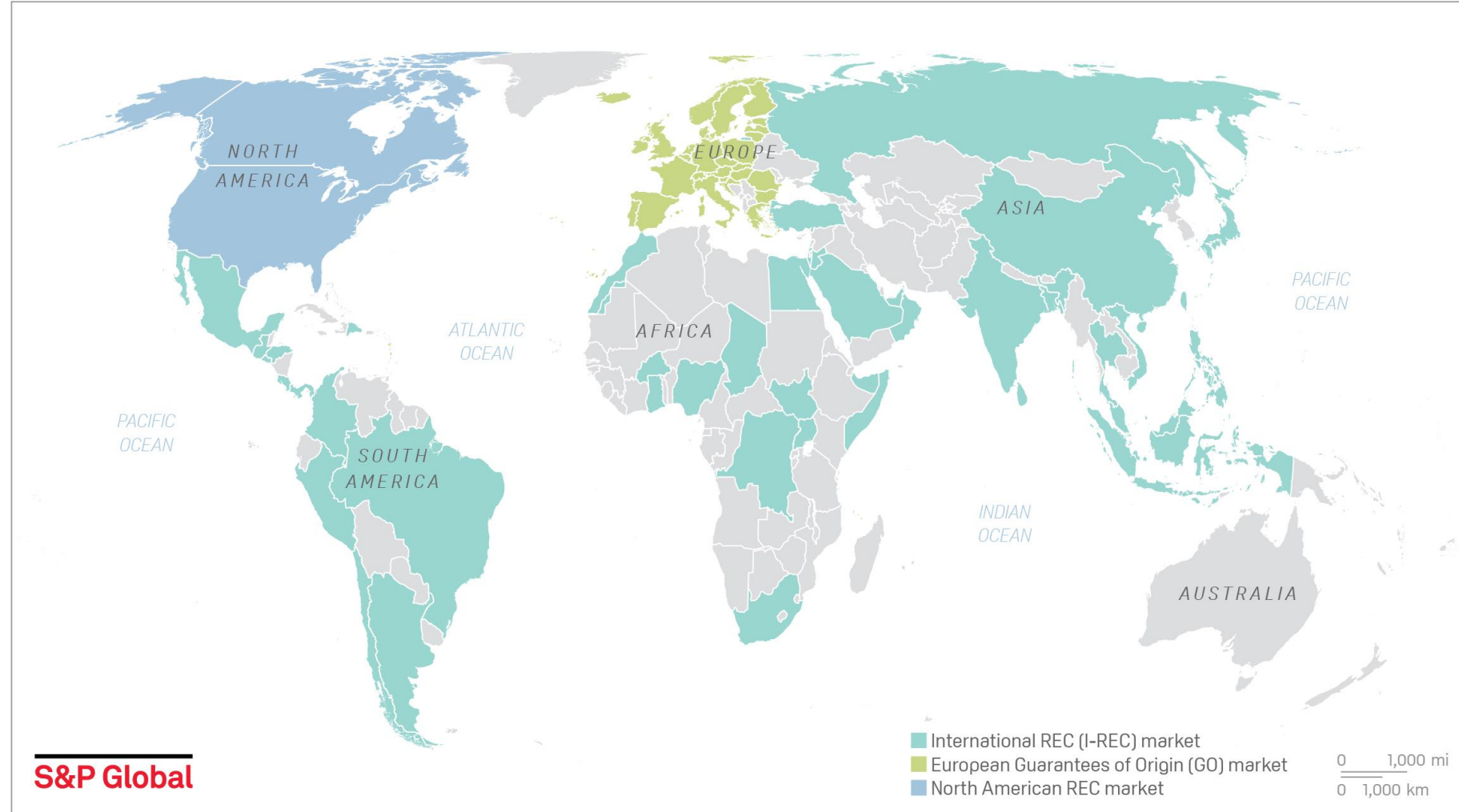


I-RECs

# What is an I-REC?

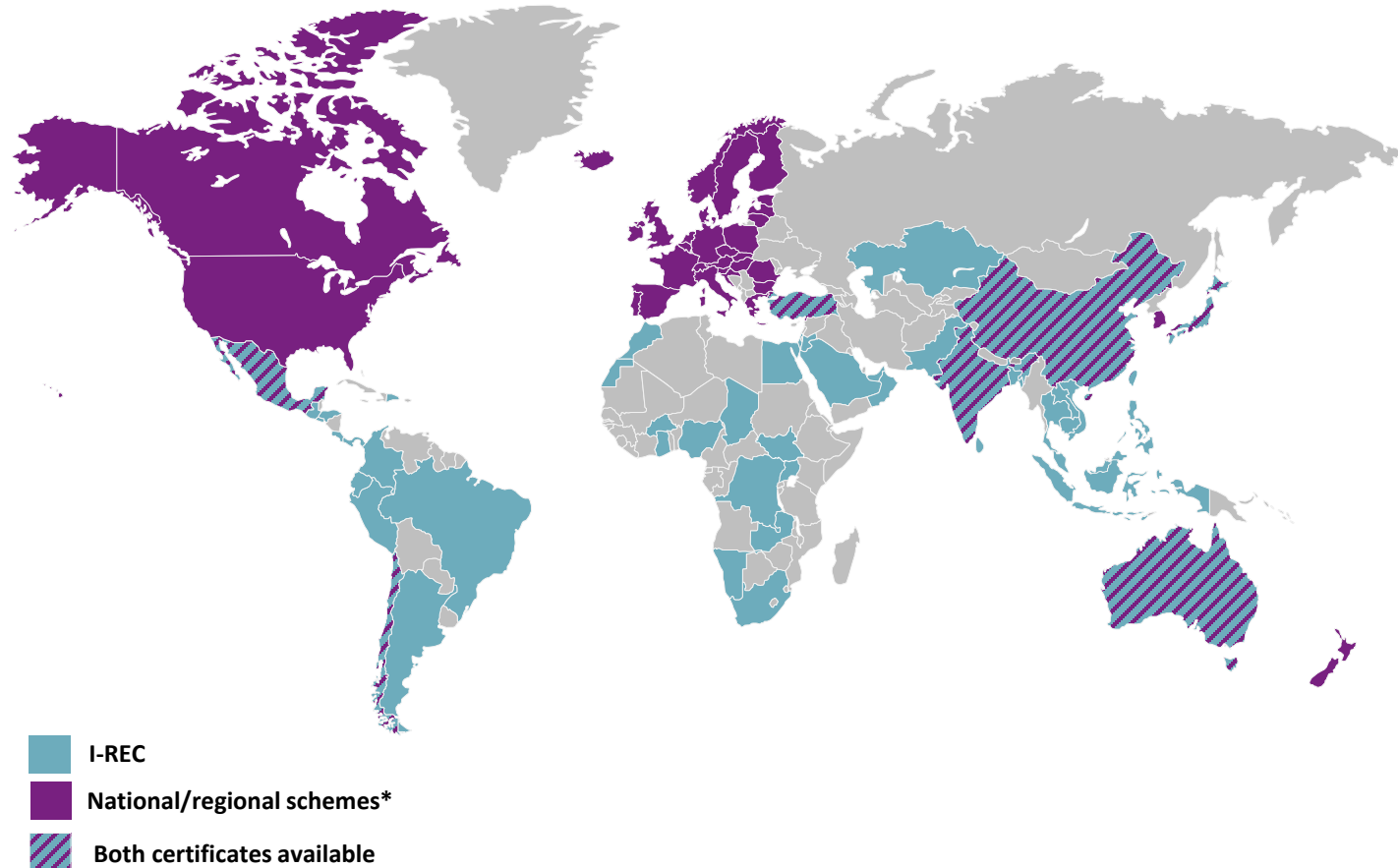
An I-REC is an electronic tracking certificate that represents the environmental attributes of electricity generated from renewable sources once transmitted into the grid.

## GLOBAL VOLUNTARY RENEWABLE ENERGY ATTRIBUTE CERTIFICATES



Source: I-REC Standard Foundation, S&P Global

# I-REC is one of the most popular renewable energy certificates issued globally to fulfil voluntary compliance



\* National/regional schemes: EACs are often issued by government affiliated entities or used to meet regulatory compliance requirement  
 Source: I-REC

I-REC	
<b>Description</b>	Initiated by International REC Standard Foundation (I-REC Standard), a type of Energy Attribute Certificate (EAC) that represents the environmental attributes of energy generated by renewable sources
<b>Unit</b>	1 certificate = 1 MWh
<b>Eligible technology</b>	Hydro, wind, solar, biomass, wave, tide, etc.
<b>Issuance</b>	Issued by accredited third-party issuers, which vary by regions
<b>Transaction channel</b>	Over the counter (OTC)
<b>Expiration</b>	Do not expire
<b>Redemption/retirement</b>	Required
<b>Secondary market</b>	Not common
<b>Market demand</b>	Voluntary compliance

# Methodology

**Assessments:** Platts publishes daily prices of International Renewable Energy certificates (I-RECs). In the absence of bids, offers and spot transactions, indications of value and expressions of interest or, in the absence of liquidity, where a spot transaction would have been concluded, are considered.

**Minimum quantity:** Trades/bids/offers for 1 GWh in volume will be the minimum volume considered for assessment. There is currently no maximum volume considered.

## Technologies assessed, with further market expansion by Q1 2024:

Brazil	Turkey	India	Chile	Mexico
<ul style="list-style-type: none"><li>- Hydropower</li><li>- Biomass</li><li>- Solar</li><li>- Wind</li></ul>	<ul style="list-style-type: none"><li>- Hydropower</li><li>- Biomass</li><li>- Solar</li><li>- Wind</li></ul>	<ul style="list-style-type: none"><li>- Hydropower</li></ul>	<ul style="list-style-type: none"><li>- Hydropower</li><li>- Biomass</li><li>- Solar</li><li>- Wind</li></ul>	<ul style="list-style-type: none"><li>- Hydropower</li><li>- Biomass</li><li>- Solar</li><li>- Wind</li></ul>

- In the absence of liquidity, related markets are referenced for the assessment.
- <https://www.spglobal.com/commodityinsights/PlattsContent/assets/files/en/our-methodology/methodology-specifications/i-recs-international-renewable-energy-certificates-methodology.pdf>

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# Demand drivers

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For end-users, I-RECs provide support for meeting with regulatory renewable energy targets and enables voluntary end-users to track, verify and ground their environmental claims toward climate goals.

There is also a growing interest from the private sector on how to make renewable energy consumption claims grounded on robust schemes and mechanisms to track its electricity consumption.

Demand comes mainly from the voluntary commitments of corporations to 100% renewables consumption accounted for in Scope 2 emissions as provided by the GHG Protocol.

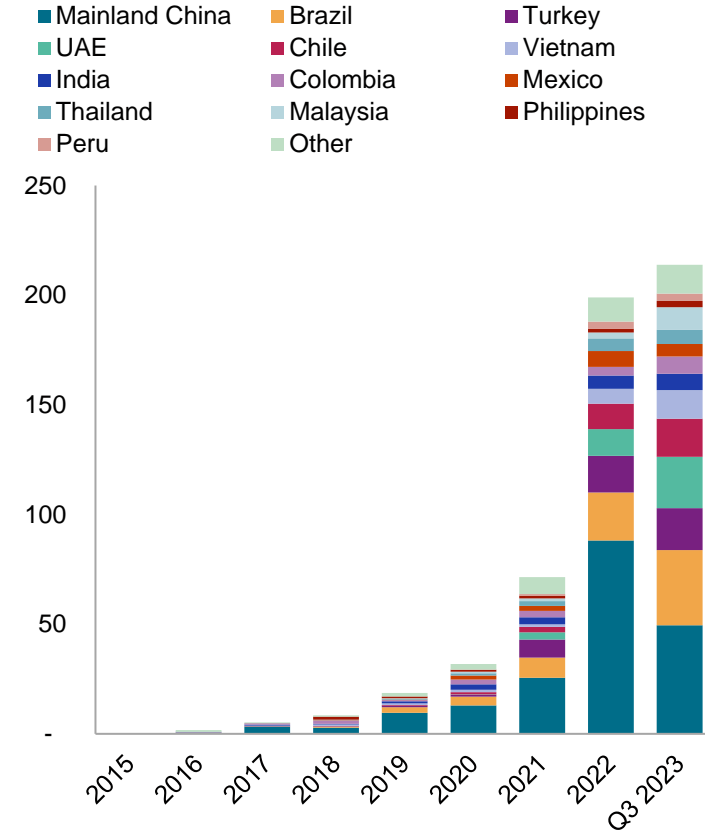
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# In Q3 2023, global I-REC supply grew 38% YOY sustaining a strong momentum of 35% in H1. Mainland China resurged to dominate issuance market in Q3

## Annual issuance by market (TWh)



## Issuance ranking by market

Q1 2023	Q2 2023	Q3 2023
Brazil	UAE	Mainland China
Mainland China	Mainland China	Turkey
Turkey	Brazil	Brazil
Chile	Chile	Malaysia
Colombia	Vietnam	Vietnam
Malaysia	Turkey	Thailand
Vietnam	Malaysia	India
India	Australia	Mexico

- In Q3 2023, Mainland China issued 22TWh of I-RECs, which accounted for 41% of total issuance across the world. Mainland China resurged as the largest issuer in nine months.
- Malaysia and Thailand saw exponential growth, up by 467% and 207% respectively YOY.
- Turkey, Brazil, Thailand, India and Mexico also displayed over 50% YOY growth.

Data compiled October 023.

UAE = United Arab Emirates.

Sources: I-REC; S&P Global Commodity Insights

# Prices slightly drop as majority of compliance demand has been met and remains relatively flat

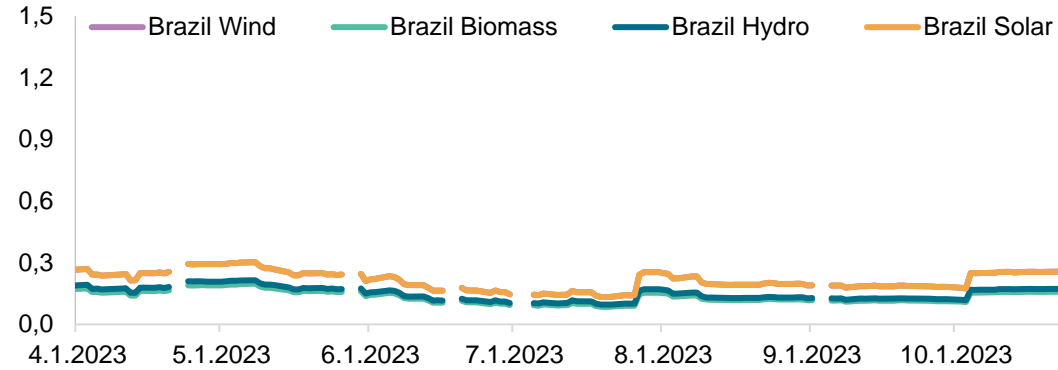
Indictive current-year I-REC price ranges and movement in some key markets, (US\$/MWh)

	Hydro	Wind	Solar	Price movement
China	0.15-0.18	0.55-0.80	0.55-0.80	➔
Malaysia	1.50-1.60		3.00-4.90	➔
Thailand	1.40	2.00-2.10	2.00-2.10	➔
Vietnam	0.25-0.30	0.50-0.75	0.50-0.75	⬇
Chile	0.85	0.85	0.85	⬇
Colombia	0.75-1.10			➔
Mexico	0.95-1.35	0.95-1.35	0.95-1.35	⬇

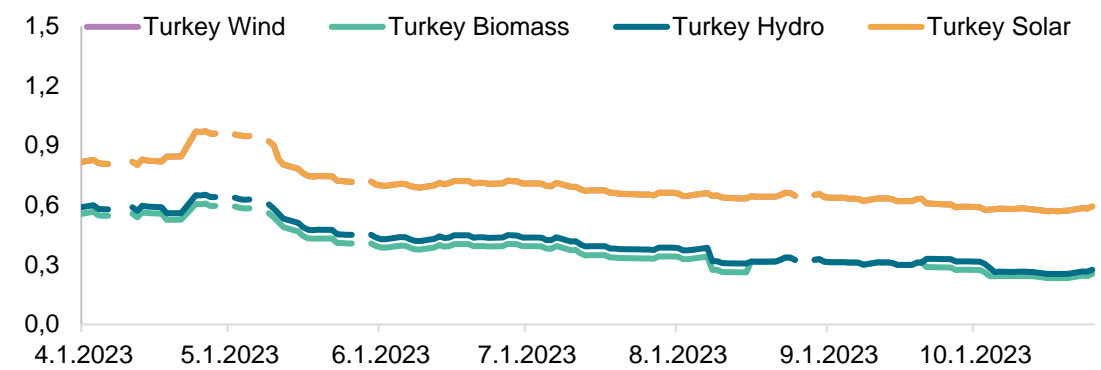
Data compiled October 2023.  
Source: S&P Global Commodity Insights.

# In Q3, prices remain relatively flat, while some markets face downward pressure as trades are increasingly shifting to 2024

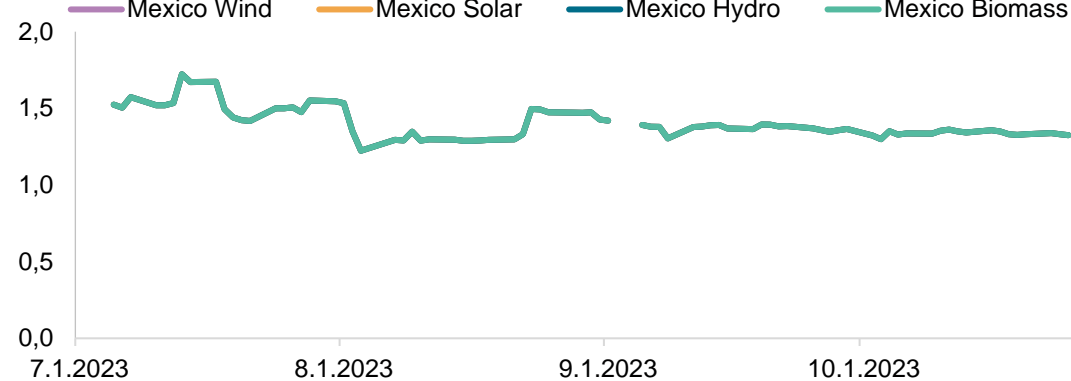
### Current year I-REC prices: Brazil (\$/MWh)



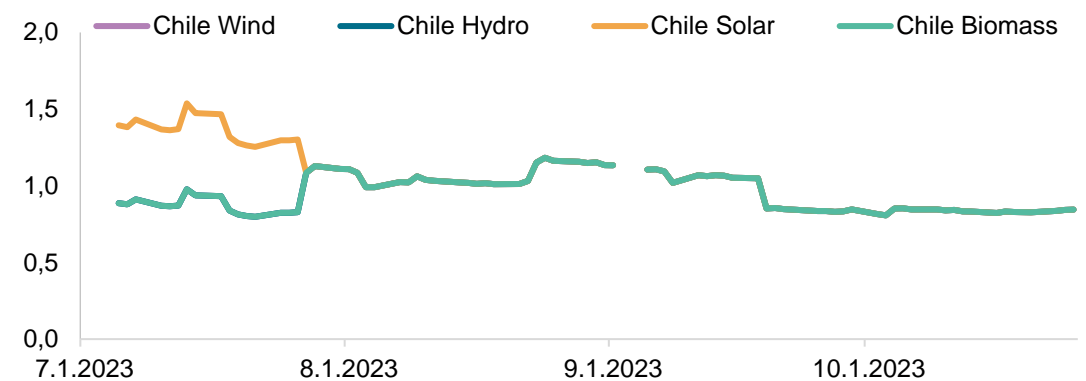
### Current year I-REC prices: Turkey (\$/MWh)



### Current year I-REC prices: Mexico (\$/MWh)



### Current year I-REC prices: Chile (\$/MWh)



Price assessments for Mexico and Chile were initiated in July 2023

Data compiled October 2023.

Source: S&P Global Commodity Insights.



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