



**Global Climate  
Action Partnership**

regional leadership, global change



**CLEAN ENERGY  
SOLUTIONS CENTER**

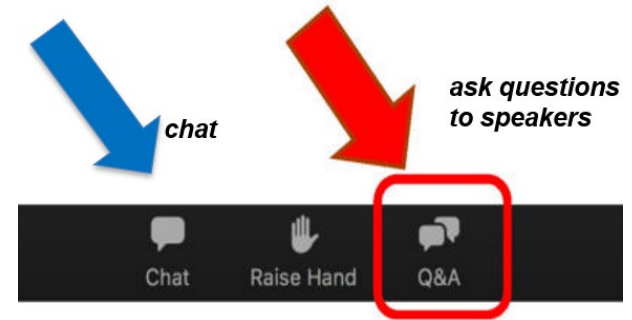
AN INITIATIVE OF THE CLEAN ENERGY MINISTERIAL

# Aligning NDCs and LTS: Energy

June 2024

# Housekeeping - Zoom

- This webinar is **being recorded** and will be shared with attendees.
- You will be **automatically muted** upon joining and throughout the webinar.
- Please use the **chat feature** to add comments and share input.
- Please use the **Q&A function** in your toolbar to ask questions.
- If you have **technical issues**, please use the chat feature to message Sophie Schrader or Holly Darrow.
- You can adjust your audio through the **audio settings**. If you are having issues, you can also dial-in and listen by phone. Dial-in information can be found in your registration email.
- You are encouraged to turn on live **closed-captions** in your preferred language. This feature can be found by clicking the “...” which shows more options.
- We will be launching a **survey** when the event ends. Your feedback is highly valuable to us!



# Agenda

- 1** GCAP and CESC Overview
- 2** Tripling Renewables: Ambition, progress, and financing needs
- 3** Panama's experience with deploying innovative renewable energy programs
- 4** Q&A

# Speakers



Caroline Uriarte

Global Climate  
Action Partnership  
(GCAP)



Riccardo Bracho

National  
Renewable Energy  
Laboratory



Faran Rana

IRENA



Rosilena Lindo Riggs

Ministry of Energy of  
Panama

# GCAP Overview

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The Global Climate Action Partnership (GCAP) is a global network accelerating the transition to resilient and inclusive net-zero economies through innovative solutions and collaborative peer learning.



# Global Climate Action Partnership

regional leadership, global change



Launched  
in 2011



Over 4,500  
climate leaders



Peer learning,  
technical  
collaboration,  
and information  
exchange



Implementation  
of ambitious LTS  
and NDCs

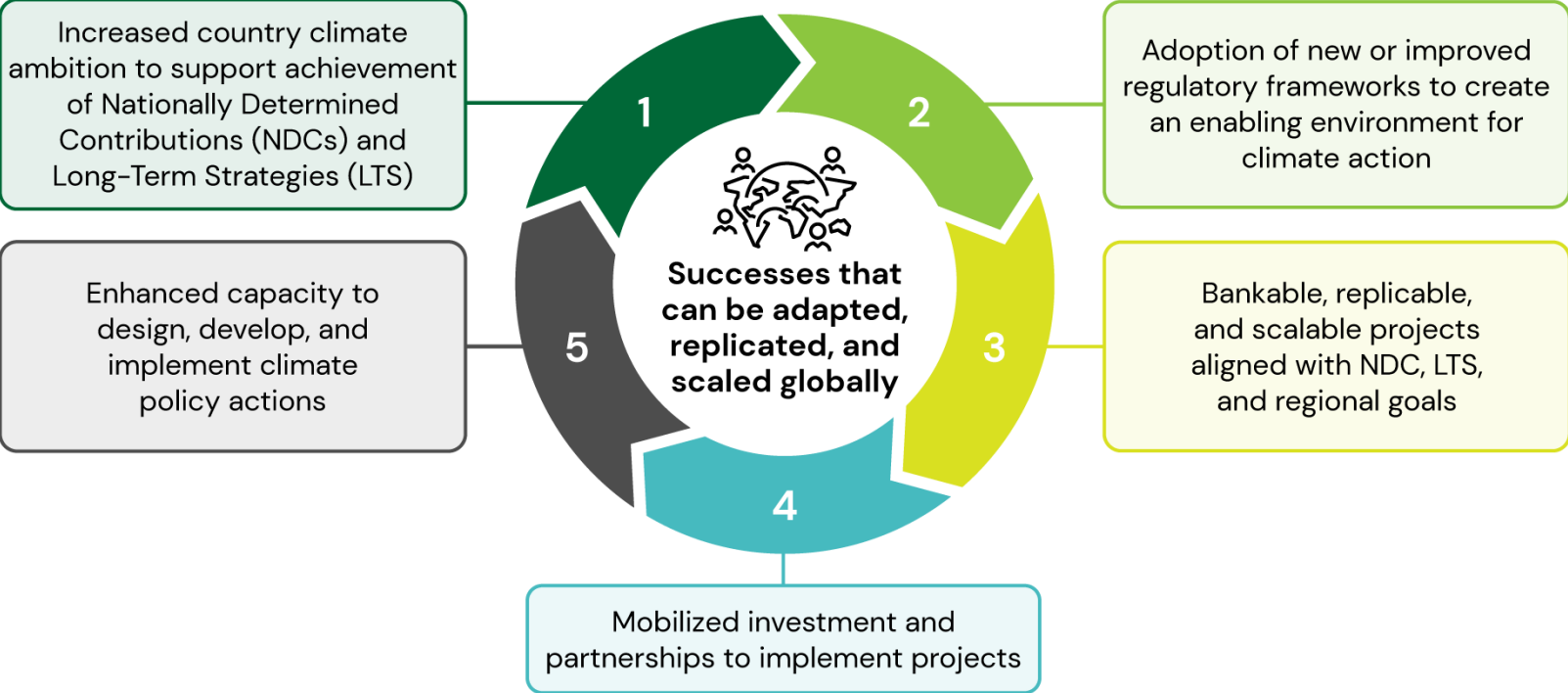


Country and  
demand-  
driven focus  
areas



Regional platforms  
in Africa, Asia,  
Latin America, and  
the Caribbean

# Mission and Impacts



Guided by a Steering Committee and Council of Leaders

### Thematic Areas



Energy



Transport



AFOLU



Finance

## Regional Platforms



**African Climate Action Partnership**

Partnering on climate action in Africa

- Sustainable Livestock Management
- Rice Methane
- Carbon Markets
- Clean Energy Mini-grids
- Soil Organic Carbon
- Long-Term Strategies



**ASIA LE DS PARTNERSHIP**

- Transport: EV batteries
- Energy: DER, Storage, Green Hydrogen
- Finance



ESTRATEGIAS DE DESARROLLO RESILIENTE Y BAJO EN EMISIONES

- Electric Mobility
- Energy: Bioenergy, RE Storage, Renewable Energy for LAC (RELAC)
- MRV & Decarbonization Plans
- Private Sector Engagement
- Methane



# Overview of the Clean Energy Solutions Center

Presented by Holly Darrow, Clean Energy Solutions Center

# The Clean Energy Solutions Center

## OBJECTIVE

To accelerate the transition of clean energy markets and technologies.

## RATIONALE

Many developing governments lack capacity to design and adopt policies and programs that support the deployment of clean energy technologies.

## AMBITION/TARGET

Support governments in developing nations of the world in strengthening clean energy policies and finance measures

## ACTORS

### Leads:



### Operating Agent:



### Partners:

More than 40 partners, including UN-Energy, IRENA, IEA, IPEEC, REEEP, REN21, SE4All, IADB, ADB, AfDB, and other workstreams etc.

## ACTIONS

- **Deliver** dynamic services that enable *expert assistance, learning, and peer-to-peer sharing of experiences. Services are offered at no-cost to users.*
- **Foster** dialogue on emerging policy issues and innovation across the globe.
- **Serve** as a first-stop clearinghouse of clean energy policy resources, including policy best practices, data, and analysis tools.

## UPDATES

### Website:

[www.cleanenergyministerial.org/initiatives-campaigns/clean-energy-solutions-center](http://www.cleanenergyministerial.org/initiatives-campaigns/clean-energy-solutions-center)

### Factsheet:

[www.nrel.gov/docs/fy22osti/83658.pdf](http://www.nrel.gov/docs/fy22osti/83658.pdf)

**Requests:** Now accepting Ask an Expert requests!

# The Clean Energy Solutions Center



## **Ask an Expert Service**

- Ask an Expert is designed to help policymakers in developing countries and emerging economies identify and implement **clean energy policy** and finance solutions.
- The Ask an Expert service features a network of more than **50** experts from over **15** countries.
- Responded to **300+** requests submitted by **90+** governments and regional organizations from developing nations since inception



## **Training and Capacity Building**

- Delivered over **300** webinars training more than **20,000** public & private sector stakeholders.



## **Resource Library**

- Over **1,500** curated reports, policy briefs, journal articles, etc.



For additional information and questions, reach out to Jal Desai, NREL, [jal.desai@nrel.gov](mailto:jal.desai@nrel.gov)

# Aligning NDCs and LTS: Energy

**Tripling Renewables: Ambition, progress, and financing needs**

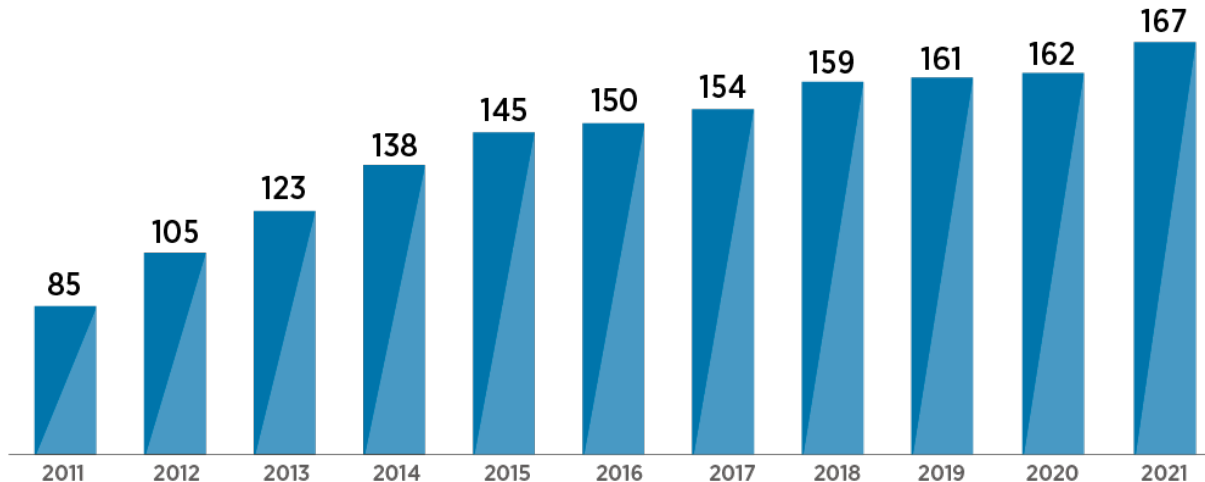
**Faran Rana**

**26 June 2024**

## About IRENA



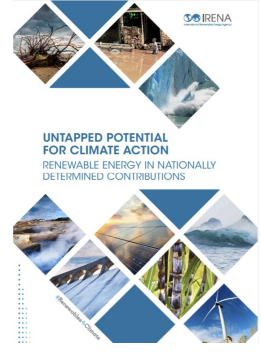
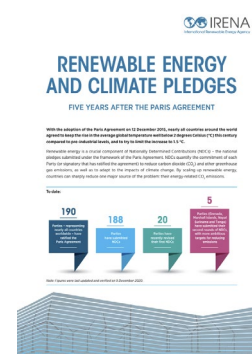
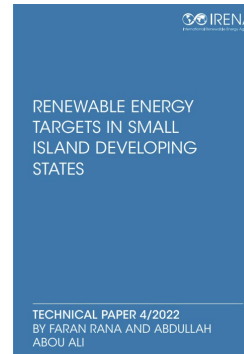
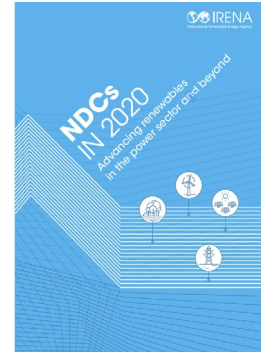
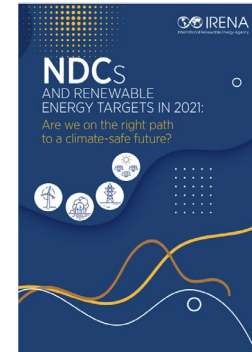
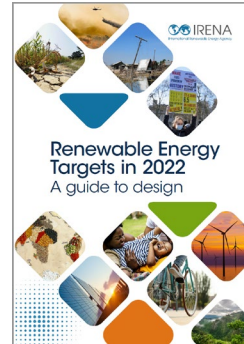
- » Intergovernmental organization established in 2011 headquartered in Abu Dhabi, UAE
- » **Mandate:** To promote the widespread adoption and sustainable use of all forms of renewable energy worldwide
- » **Membership:** 168 Members and 16 States in Accession



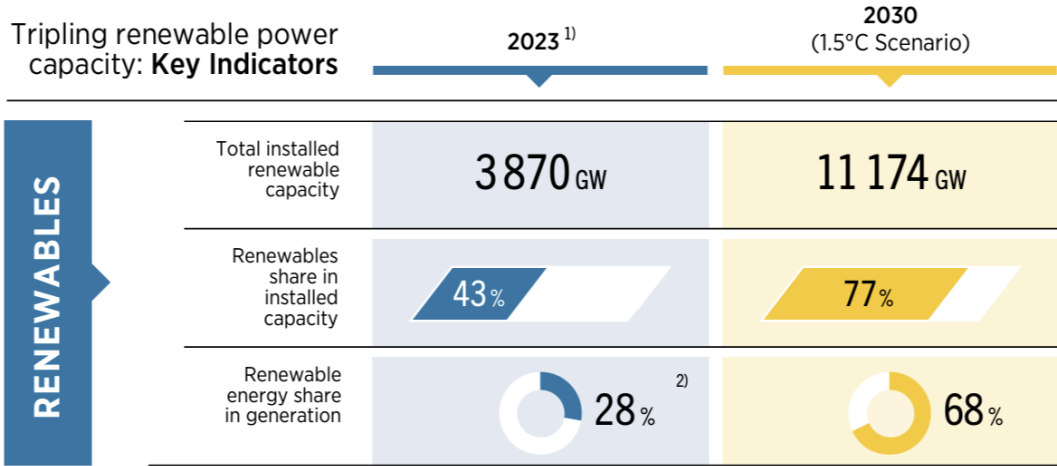


## NDCs and renewable energy targets in 2023

### Tripling renewable power by 2030

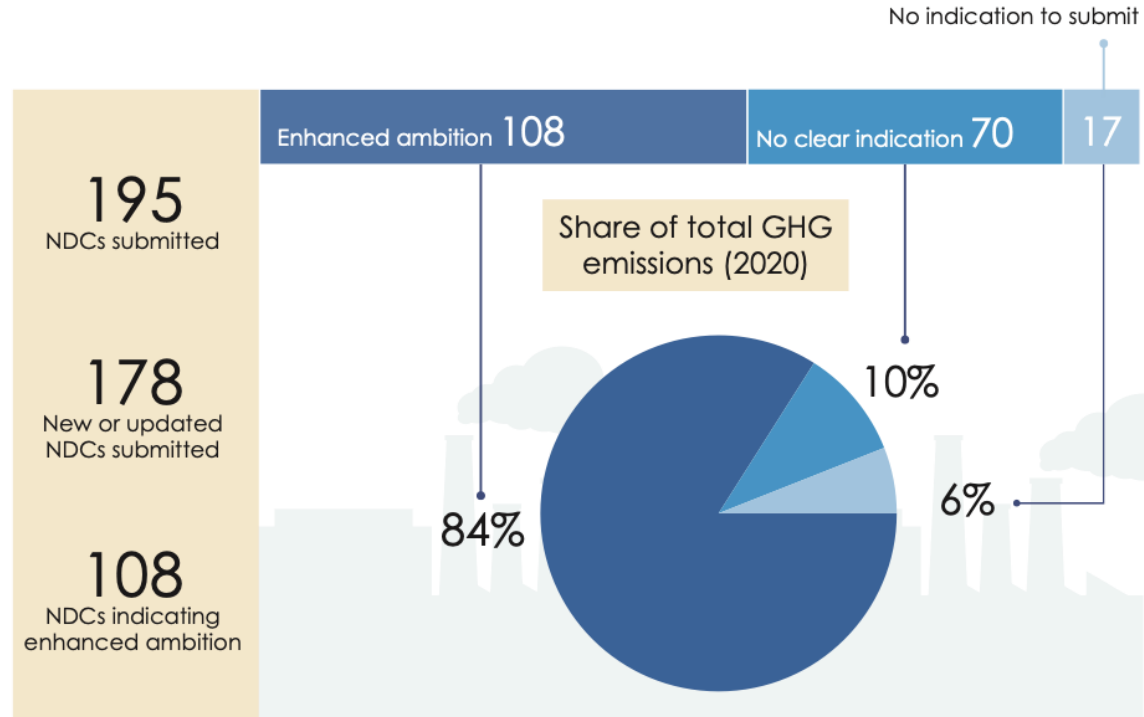


# 120+ countries pledged to triple the world's renewable energy capacity by 2030



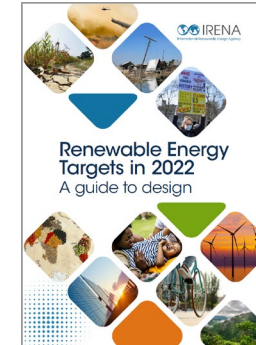
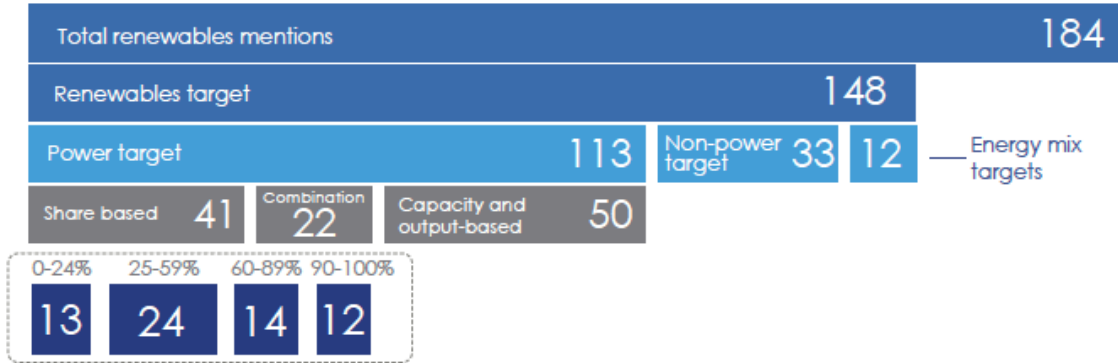
An **additional 7.3 TW** of RE power must be deployed to reach 11 TW by 2030  
**G20** RE power capacity needs to increase from **<3 TW in 2022 to 9.4 TW by 2030**

To align with IRENA's 1.5°C scenario, renewable energy capacity needs to almost triple to 11.2 TW



**As of October 2023, a total of 178 Parties submitted updated NDCs but only 108 Parties - making up 84% of the world's GHG emissions – had enhanced their ambition**





Note: analysis based on NDCs submitted as of October 2023, prior to COP28

**Renewable energy is the most frequently mentioned mitigation strategy in the NDCs. About 148 NDCs feature quantifiable renewable energy targets, of which 113 focus on power**



Ambition



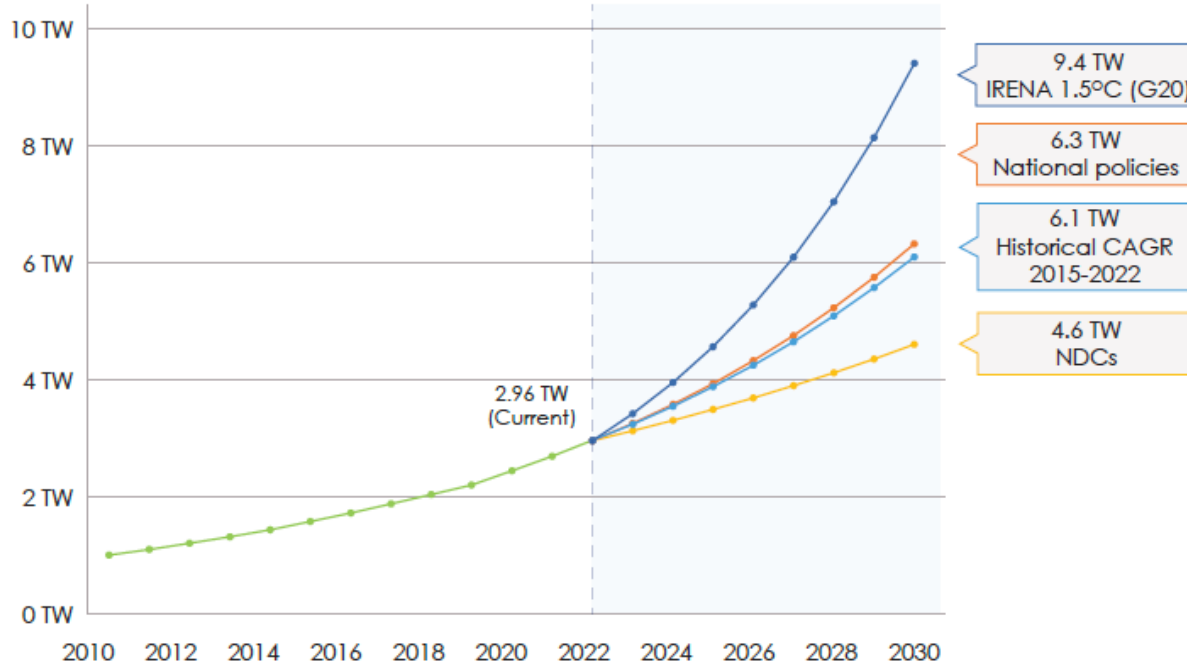
Progress



Conditionality and  
financing needs

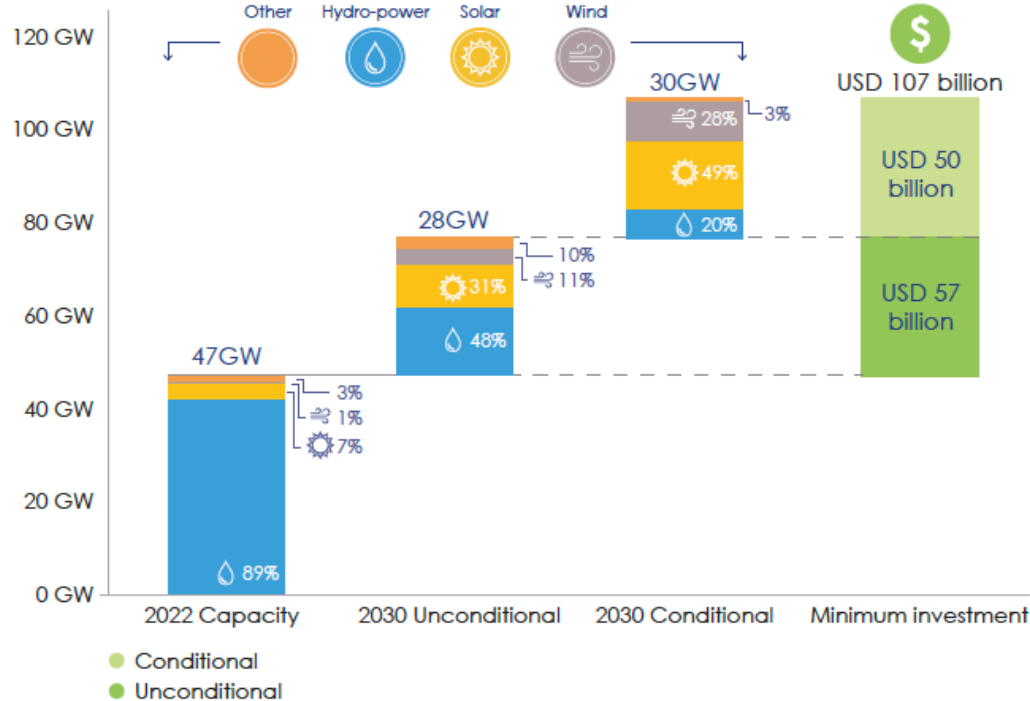


Alignment with national  
policies and plans



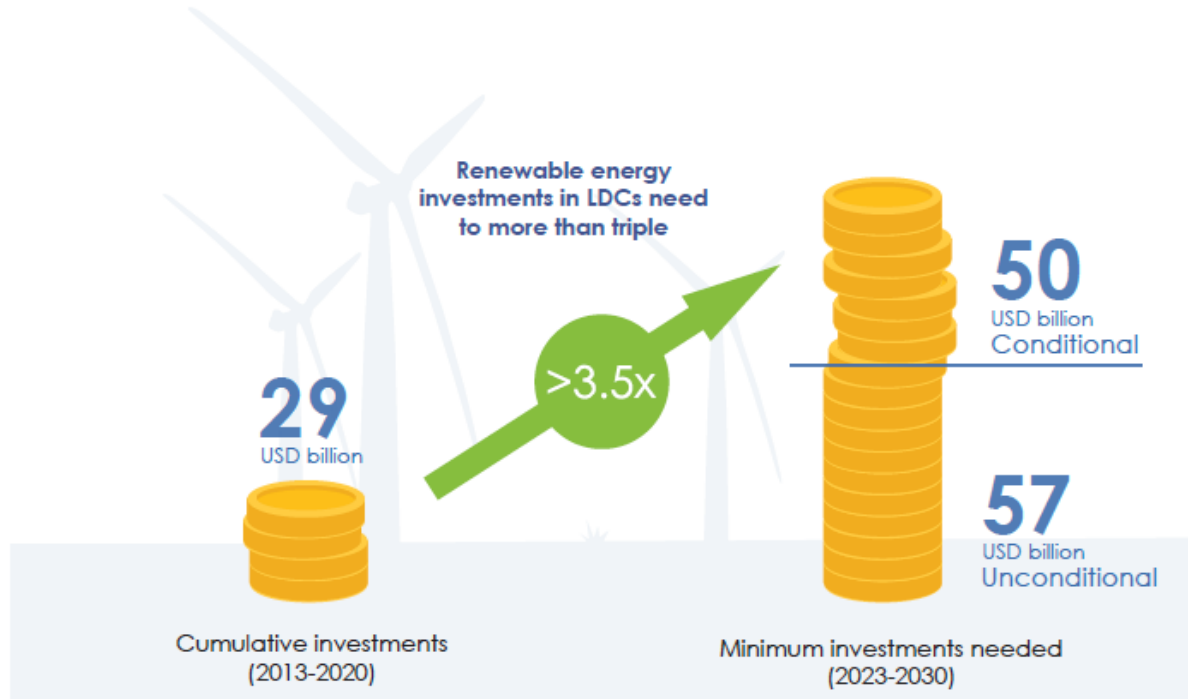
- **NDCs and national policy documents** (plans, policies, roadmaps and laws) are **misaligned** by a margin of **1.7 TW or 37%**
- Only **two Parties** have reflected targets in national law, remaining are part of plans and roadmaps
- **Some G20 Parties** have **conditional commitments** e.g. India, Indonesia, and Turkey

**renewable energy targets of G20 members fall drastically short of the levels needed to limit global temperature rise to below 1.5°C**



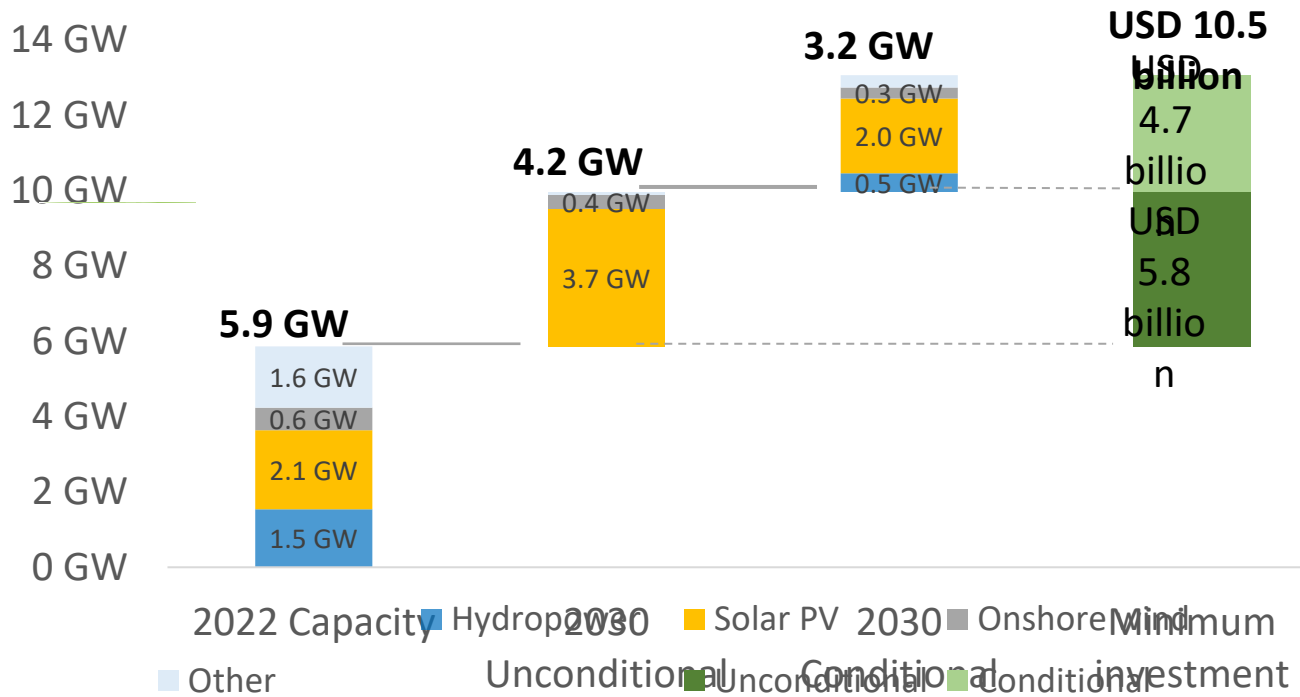
- **28 GW** remains to be installed **unconditionally** – through a **mix of domestic and international public and private funding sources**
- An **additional 30 GW** is **conditional** on securing additional **international financial support, technical assistance, and technology transfer**

LDCs intend to more than double their renewable energy capacity from 47 GW to 105 GW but more than half of the additional targeted capacity is conditional on financial assistance.



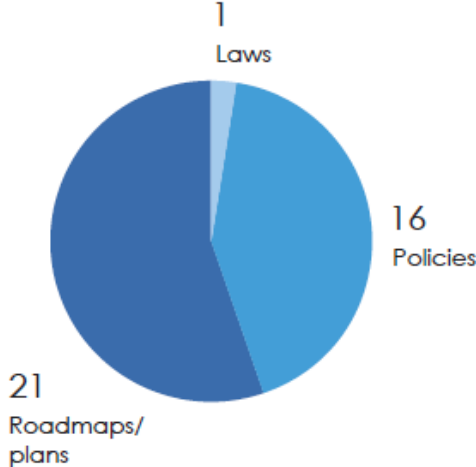
investments in LDCs need to more than triple by 2030 compared to historical standards, to meet their conditional and unconditional renewable energy targets as per the NDCs.

# NDC targets in SIDs by conditionality and the level of financing required

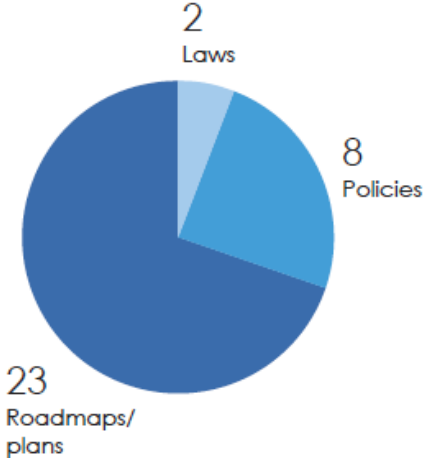


**minimum investment of USD 10.5 billion is required to meet the additional capacity target of 7.4GW by 2030, out of which 3.2 GW is conditional on financial assistance**

Renewable energy targets in the NDCs of least developed countries (LDCs), by type



Renewable energy targets in the NDCs of Small Island Developing States (SIDS), by type



Most of the LDCs and SIDS targets remain part of less binding roadmaps and plans, and are conditional on financial and technological assistance



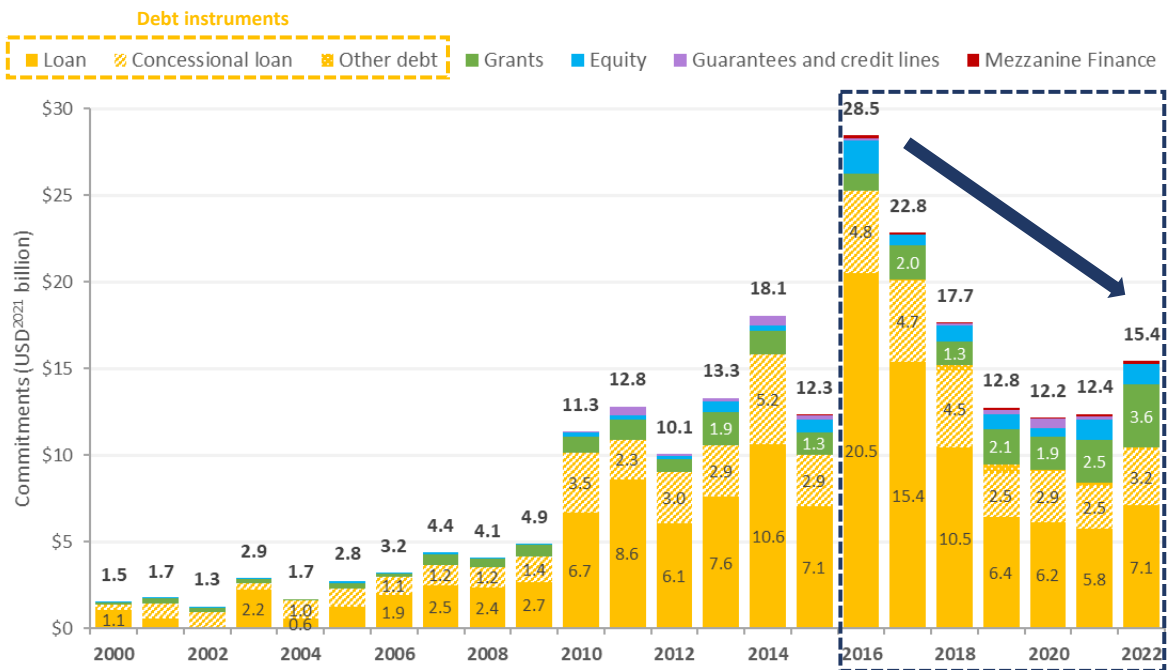
## NDCs and renewable energy targets in 2023 Tripling renewable power by 2030



- G20's ambition must increase significantly to be in line with IRENA's 1.5°C scenario
- Aligning renewable energy targets in NDCs and national energy policies, plans, and laws can increase the effectiveness and credibility of both, sending clear signals to the international community
- The upcoming NDC updates should reflect the pledge of tripling renewables, financing needs, and potential sources of financing
- International community **must increase financing** for a just and inclusive energy transition in the LDCs and SIDs



## Annual international public financial flows for RE in developing countries



**International flows are on a downward trend since 2016**

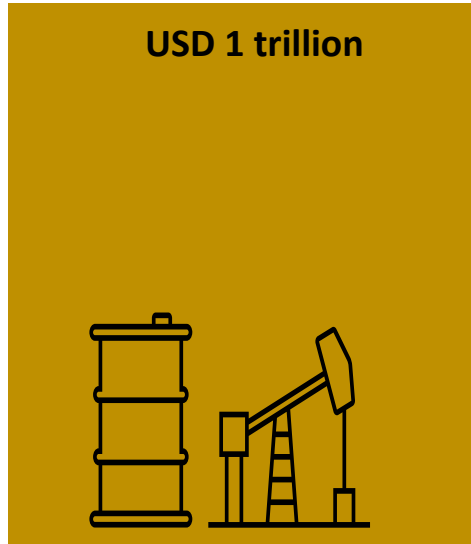
**Debt-based instruments** dominate, while use of **grants** remains **low**

**LDCs** received just **15% of flows in 2022**

**International public flows** must **increase** substantially to achieve **SDG7**

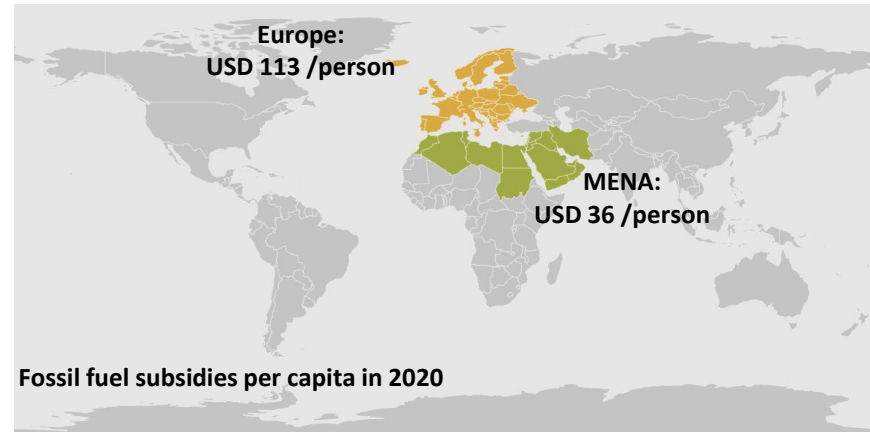
## Fossil Fuel vs Renewable Investment

- Investments in **fossil fuels** almost **doubled** those in **renewables** in **2022**

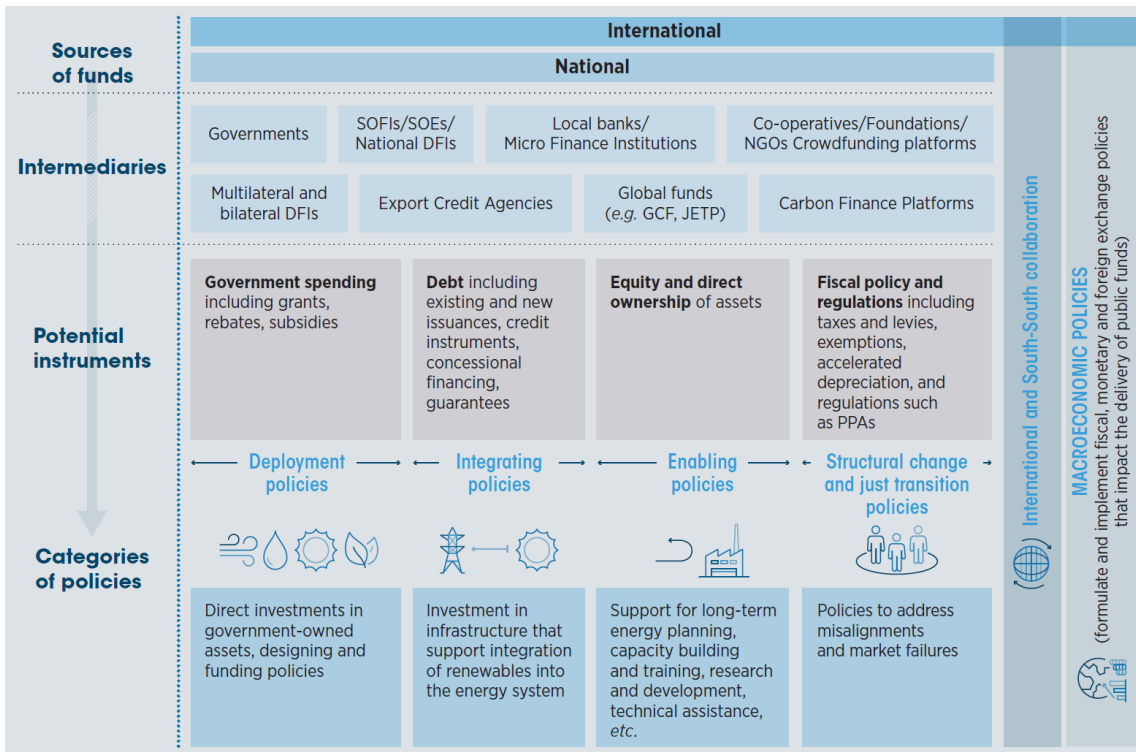


## Fossil Fuel Subsidies

In **2022**, fossil fuel subsidies **doubled to USD 1.5 trillion**, compared to 2021  
**G20** alone provided **USD 1 trillion**



# The way forward



- **The availability of capital for public investments will need to be increased, and lending to developing nations transformed**
- **Funds with more grants and concessional loans will be needed**

**Note:** DFI = development finance institution; GCF = Green Climate Fund; JETP = Just Energy Transition Partnership; NGO = non-governmental organisation; PPA = power purchase agreement; SOFI = state-owned financial institution; SOE = state-owned enterprise.



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a



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[www.flickr.com/photos/irenaimages](http://www.flickr.com/photos/irenaimages)



[www.youtube.com/user/irenaorg](http://www.youtube.com/user/irenaorg)

## Energy Transition as NDC´s ambition driver

Rosilena I. Lindo Riggs

National Energy Secretary of Panama

June 26<sup>th</sup> 2024



# ENERGY SECTOR NDC PRECURSOR

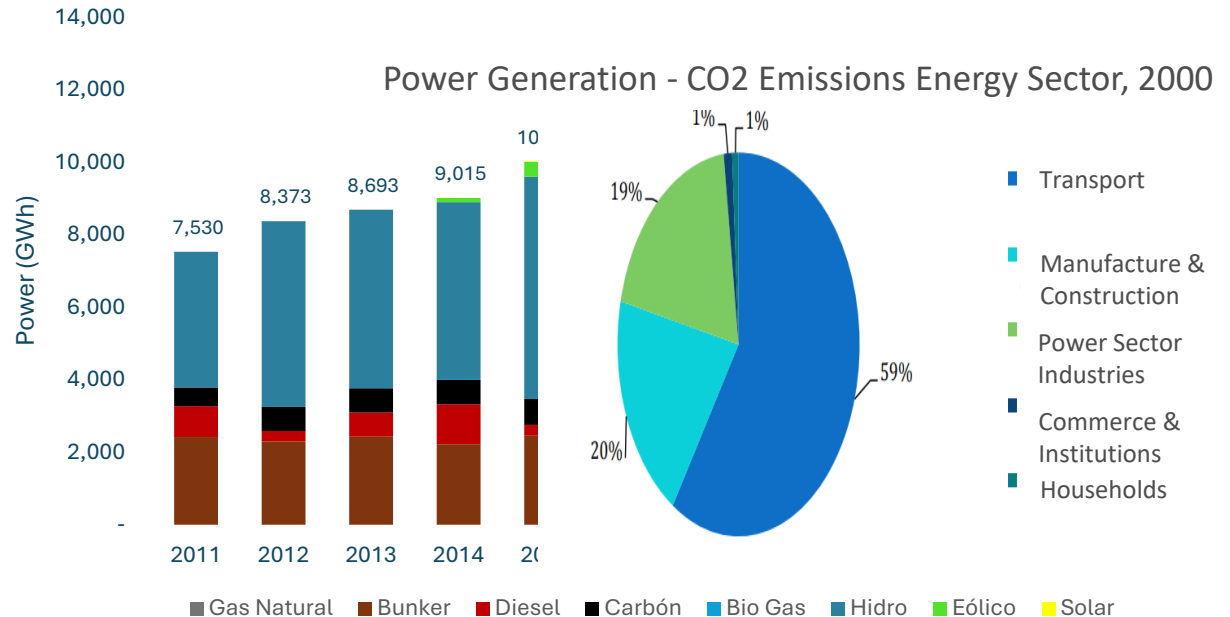
# 2015

## National Energy Plan 2015-2050: The Future we want



- Rural Electrification
- Non Conventional Renewable Energy
- Institutional Strengthening
- Electricity Growth and Natural Gas

Stateholders Consultation & active Participation

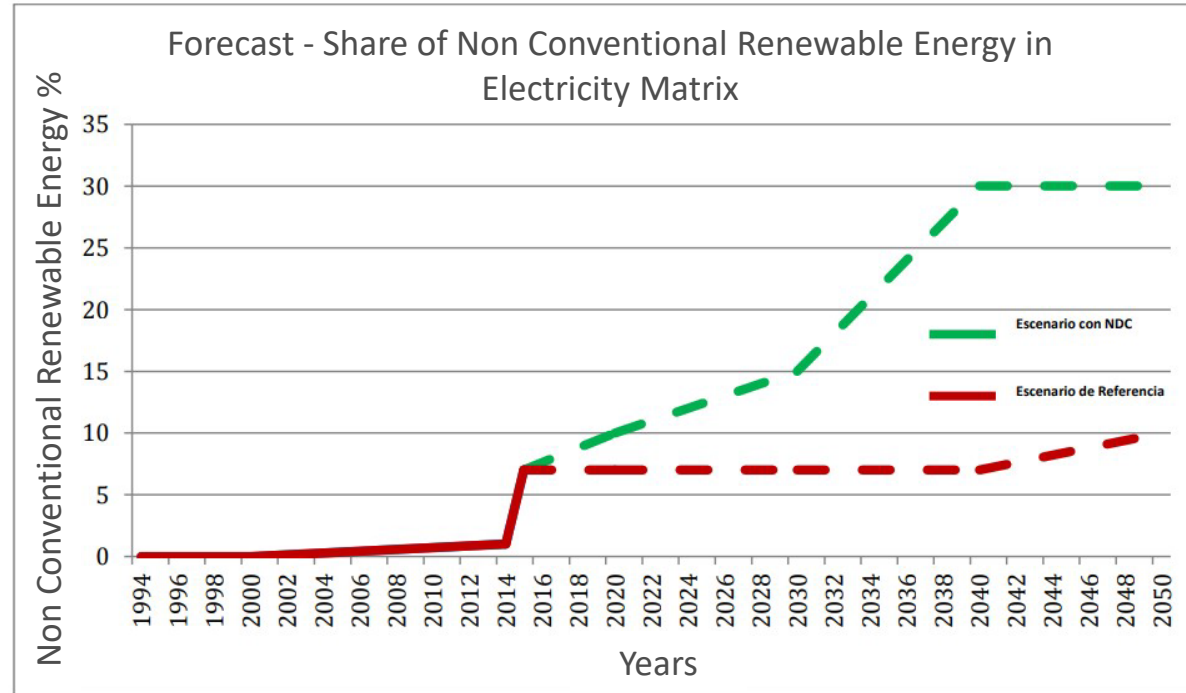


# ENERGY SECTOR NDC COMMITMENT

# 2016

Promotion of the use of other renewable energy sources:

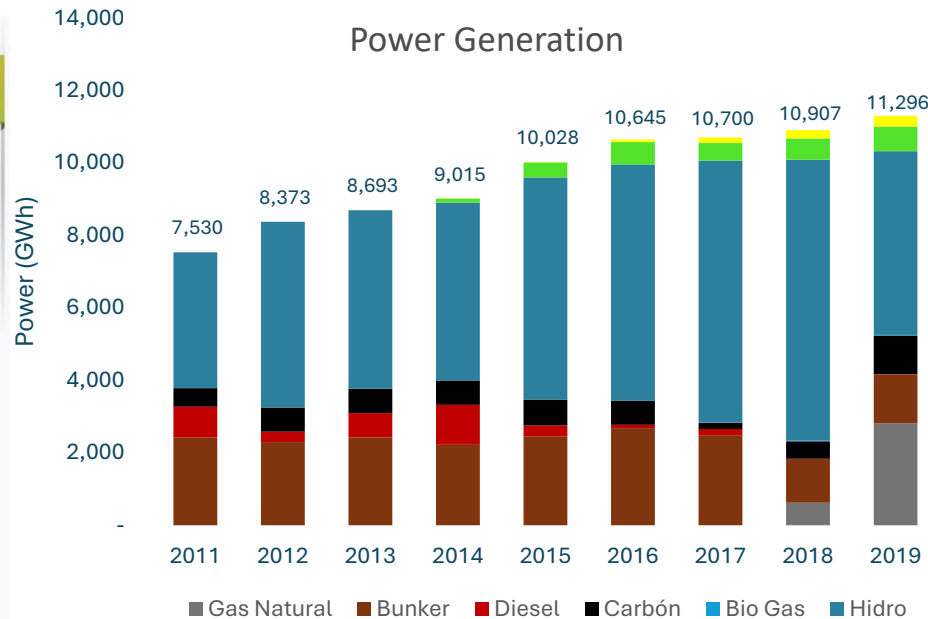
- By **2050, 30%** of the installed capacity of the electricity grid should come from other types of renewable energy sources.



# ENERGY SECTOR NDC 1 PRECURSOR

# 2020

## Energy Transition Agenda Strategic Guidelines



95.5 % of total NDC1 CO<sub>2</sub> emission reductions.

Equivalent to reforest 6 times Panama's surface or Sweden with tropical forest



# ENERGY SECTOR NDC1 COMMITMENT

By **2050**, Panama will achieve a reduction of total emissions from the country's energy sector of at least **24%** and at least **11.5% by 2030**, compared to the business-as-usual scenario, representing an estimated **60 million tons of CO2 equivalent between 2022-2050** and up to **10 million tons** of CO2 equivalent accumulated between **2022-2030**.

By **2025**, Panama will have a **National Climate Change Plan for the Energy sector**, with a mitigation component and an adaptation component.

## Energy Transition Agenda Strategic Guidelines 2020-2030

# 2020

### 5 years

### 2050

Indicators		ETA3	Indicators		ETA3	Indicators		ETA3
	Higher GDP	<b>+0.52 %</b> USDS <b>0.49</b> billion		Greater energy-related CO <sub>2</sub> emission reduction	<b>-10 %</b>		Higher GDP	<b>+6.5 %</b> USDS <b>125.8</b> billion
	More job creation	<b>+15,687</b>		All scenarios improve air quality leading			More job creation	<b>+141,951</b>
	Improve government finance	<b>USDS 0.16</b> billion		Less people with respiratory diseases	<b>-19,169</b>		Greater economic benefits per USD spent	<b>1.33</b>
	Increase in labor income	<b>USDS 0.16</b> billion		Savings in health system	<b>USDS 0.02</b> billion		Greater job creation per USD spent	<b>1.5</b>
	Savings in energy subsidy phase-out	<b>USDS 0.56</b> billion		Reduced environmental damage - protecting the climate	<b>USDS 0.11</b> billion		Greater government revenues per USD spent	<b>0.7</b>
							Savings in energy subsidy phase-out	<b>USDS 10.5</b> billion
							Savings in energy costs renewable technologies & EVs	<b>USDS 6.5</b> billion
						<b>All scenarios improve air quality leading</b>		
							Less people with respiratory diseases	<b>- 654,455</b>
							Savings in health system	<b>USDS 0.79</b> billion
							Savings in Social Cost of Carbon	<b>USDS 4.78</b> billion
								<b>-20 %</b> Fossil fuel demand
								<b>100 %</b> Fully energy access
								<b>-1.32 %</b> Reduction in electricity price for final consumers
								<b>-27 %</b> Greater energy-related CO <sub>2</sub> emission reduction

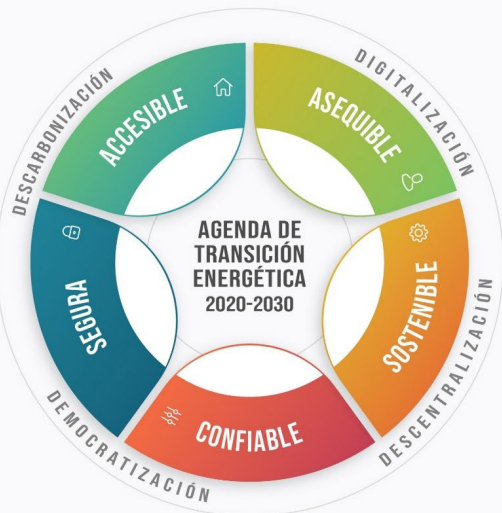


# ENERGY SECTOR NDC 2 PRECURSOR

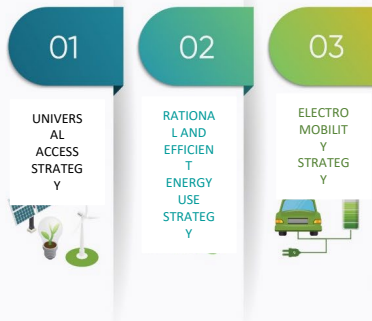
# 2024

## ODS7+4D = Energy Transition 2020- 2030

Decentralization      Decarbonization  
Democratization



## Electric Sector Strategies



## Hydrocarbons Strategies



## Transversal Axes



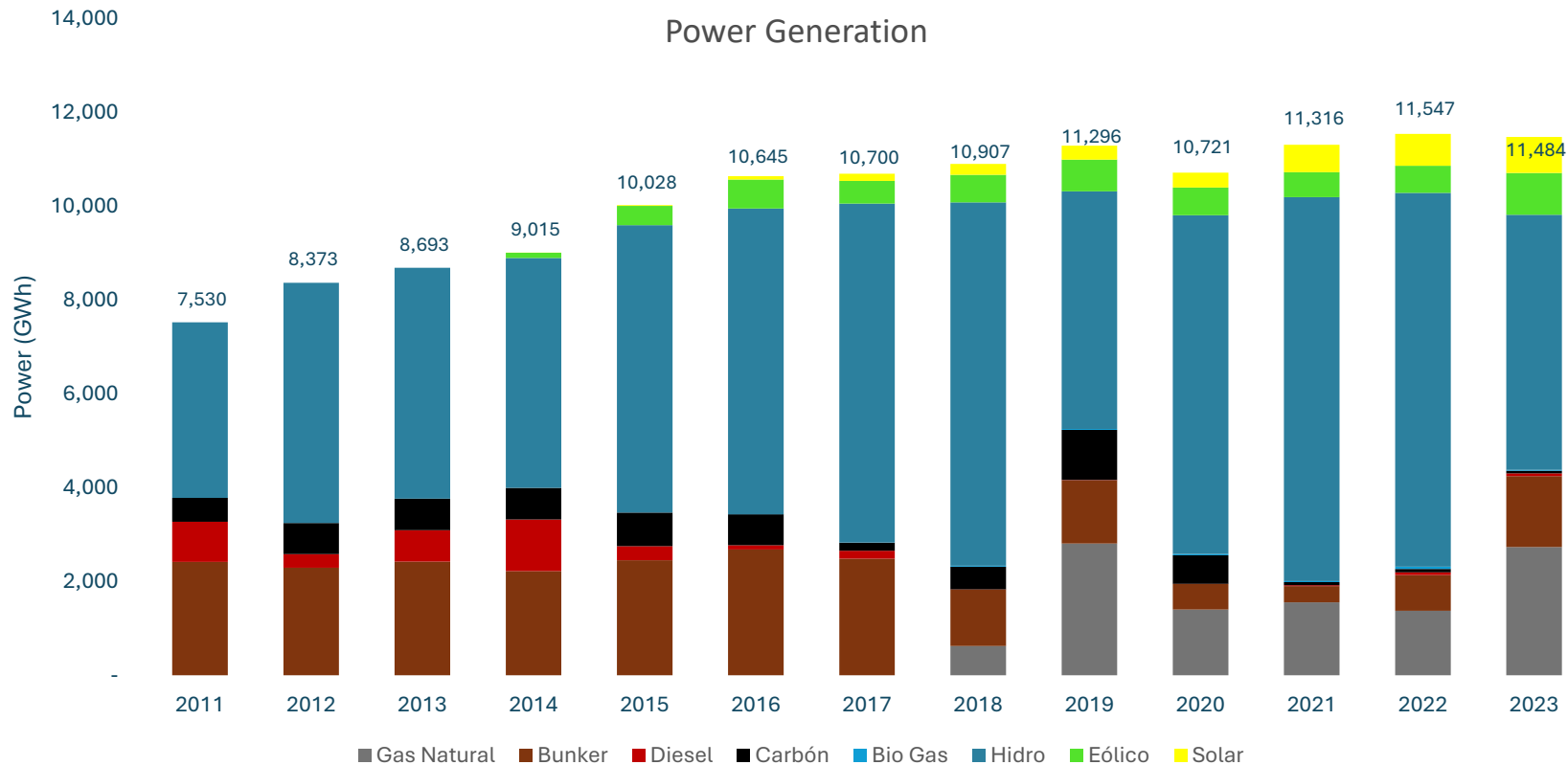
# Panama's Energy Transition Agenda Summary

**37** Goals, **69**  
Objectives y  
**266** Lines of  
Action



# ENERGY SECTOR NDC 2 PRECURSOR

# 2023



# Moving forward the Energy Transition 2020-2030

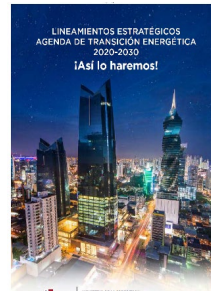
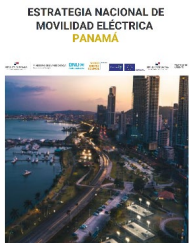
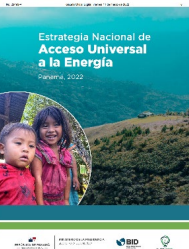
54 %

87 %

36 %

39 %

12 %



2070 EXEMPTION PROCEDURES FOR GENERATION DISTRIBUTED BETWEEN 2019 TO JUNE 2024

14.4 MILLION IN FISCAL SACRIFICES FOR GEN DISTRIBUTED

47.5 %

21 %

55 %

59 %

80 %

32 %



# ENERGY SECTOR NDC 2 COMMITMENT

## Energy Transition Agenda Strategic Guidelines 2020- 2030 +7 Energy Transition Strategies & 4 ET Roadmaps

# 2024



Adaptation Plan for  
the energy Sector  
2025

Produce 500.000  
Tons of Green H2  
by 2030

<https://online.fliphtml.com/eebm/sorx/#p=53>



Elimination of  
Carbon power  
generation by 2026

Achieve 20 % Non  
conventional  
renewable energy  
installed capacity by



21000 new energy  
transition jobs by  
2027

Achieving 1700  
MW of Solar  
distributed  
Generation



Achieving universal  
access to energy by  
2030

By 2030 the 25%-  
50% of total public  
transport fleet are  
going to be electric



By 2030 a 10%-20%  
of total private  
electric vehicles are  
going to be electric

Installation of 5 %  
of total Energy  
production in BESS  
Global Climate Action Partnership | 40

# Governance & Energy transition

NATIONAL ENERGY  
TRANSITION COUNCIL

ENERGY TRANSITION PANEL  
OF EXPERTS

ENERGY TRANSITION GROUP  
OF OBSERVERS

UNIVERSAL ACCESS TO  
ENERGY INTERINSTITUTIONAL  
COMMITTEE

ELECTRO MOBILITY  
INTERINSTITUTIONAL  
COMMITTEE

DISTRIBUTED GENERATION  
INTERINSTITUTIONAL  
COMMITTEE

INNOVATION OF  
INTERCONNECTED GRID  
SYSTEM AND INSTITUTIONAL  
STRENGTHENING  
INTERINSTITUTIONAL  
COMMITTEE

RATIONAL AND ENERGY  
EFFICIENCY USE  
INTERINSTITUTIONAL  
COMMITTEE

TECHNICAL GREEN  
HYDROGEN COMMITTEE

HIGH LEVEL GREEN  
HYDROGEN COMMITTEE



#WEAREBETTERTOGETHER





# ALLIANCES AND ALLIES

REPÚBLICA DE PANAMÁ  
GOBIERNO NACIONAL

MINISTERIO DE LA PRESIDENCIA  
SECRETARÍA DE ENERGÍA

## WORLD ENERGY COUNCIL

### HIGH-LEVEL DIALOGUE ON ENERGY

UNITED NATIONS, NEW YORK, SEPTEMBER 2014

## solar alliance

## Clean Cooling Coalition

## ANES

## the offshore energy alliance

## WORLD ECONOMIC FORUM

## FRIEDRICH EBERT STIFTUNG

## KONRAD ADENAUER STIFTUNG

## asomove

## GWNET

Global Women's Network for the Energy Transition

## ICH

International Centre for Hydropower

## PPCA

## BIO FUEL

## jica

## enel

Foundation

## FAMERAC

## GLOBAL GEOTHERMAL ALLIANCE

## ReLAC

## UN WOMEN

## REN21

RENEWABLES NOW

## olade

ORGANIZACION LATINOAMERICANA DE ENERGIA  
LATIN AMERICAN ENERGY ORGANIZATION  
ORGANIZACAO LATINO-AMERICANA DE ENERGIA  
ORGANISATION LATINO-AMERICAIN DE ENERGIE

## Global Energy Alliance for People and Planet

GEAPP

## IAEA

## adelat

## CLEAN ENERGY MINISTERIAL

Advancing Clean Energy Together

## cecacier

Financiado por la Unión Europea

## Unión Europea

## CEPAL ECLAC

ORGANIZACION DE NACIONES UNIDAS

## cier

## U.S. DEPARTMENT OF ENERGY

## UNFCCC

## KOICA

Korea International Cooperation Agency

## TUM

TECHNISCHE UNIVERSITÄT MÜNCHEN

## giz

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

## dena

Deutsche Energie-Agentur

## RECME

Red Centroamericana de Recursos Energéticos

## BGR

## STUDENT ENERGY

## Euroclima+

## lea

## IRENA

International Renewable Energy Agency

## SUSTAINABLE ENERGY FOR ALL

## unicef

## IEEE

## PNUMA

## UNDP

## ECPA

Alianza de Energía y Clima de las Américas

## aacid

## UN ENERGY





THANK YOU

ROSILENA LINDO RIGGS  
NATIONAL ENERGY SECRETARY OF  
PANAMA



# Thank you!

[www.globalclimateactionpartnership.org](http://www.globalclimateactionpartnership.org)



**Global Climate  
Action Partnership**

regional leadership, global change