Webinar

Renewables working together: Building back better through a green recovery

RENALLIANCE
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Tuesday 30 June 2020
1:00 pm – 2:15 pm BST

Eddie Rich

Chair of Ren Alliance
CEO International Hydropower Association

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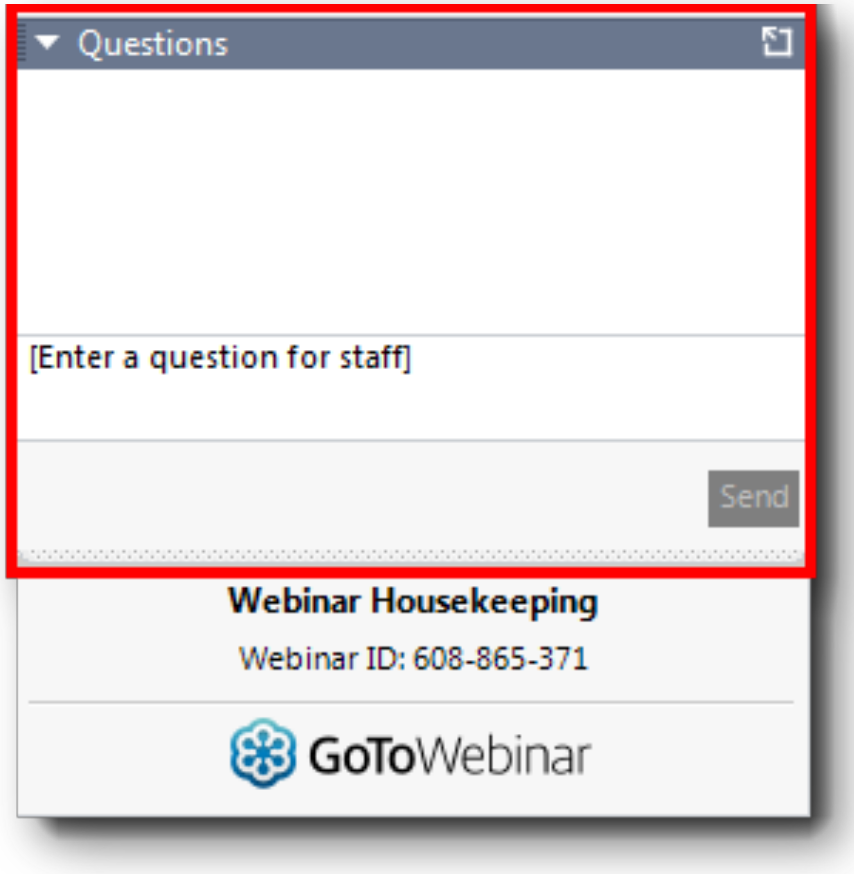
Comments and Questions

Please submit your text questions and comments using the Questions panel.



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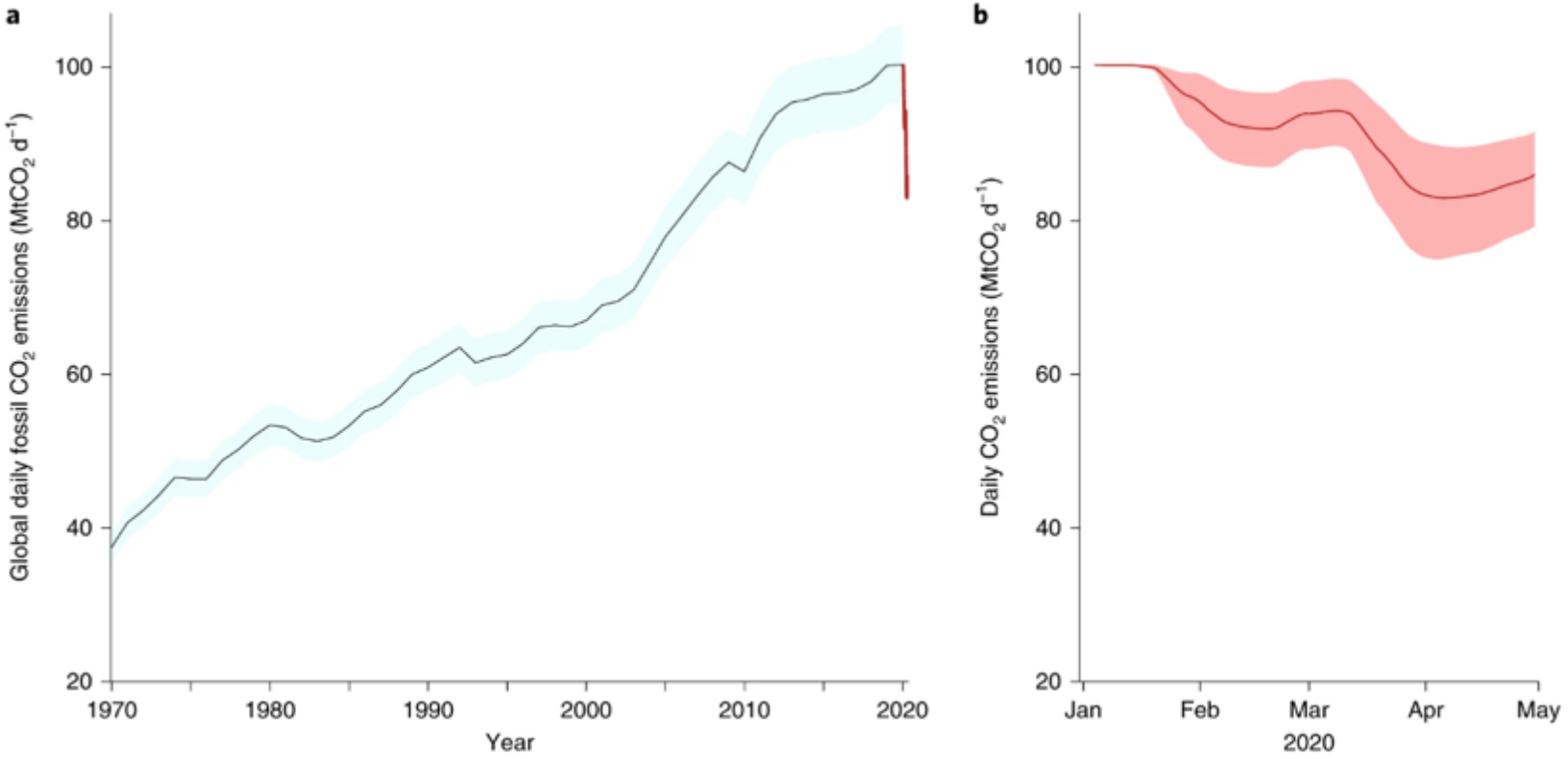
Impacts of the Covid-19 on global energy demand and CO_2 emissions



Le Quéré, C., Jackson, R.B., Jones, M.W. *et al.* Temporary reduction in daily global CO_2 emissions during the COVID-19 forced confinement.

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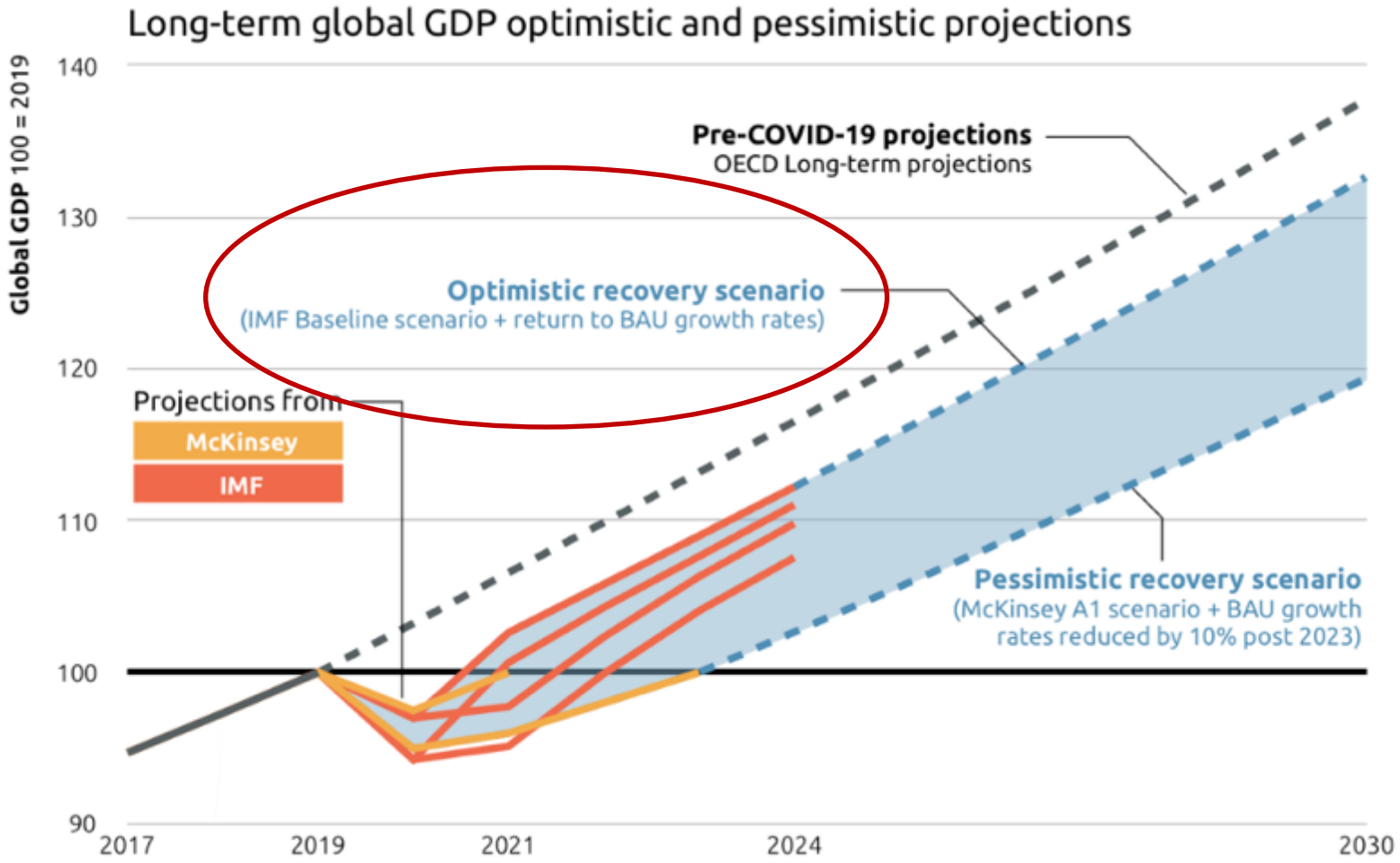
Estimating the economic impact from the Covid-19



Source: Climate Action Tracker

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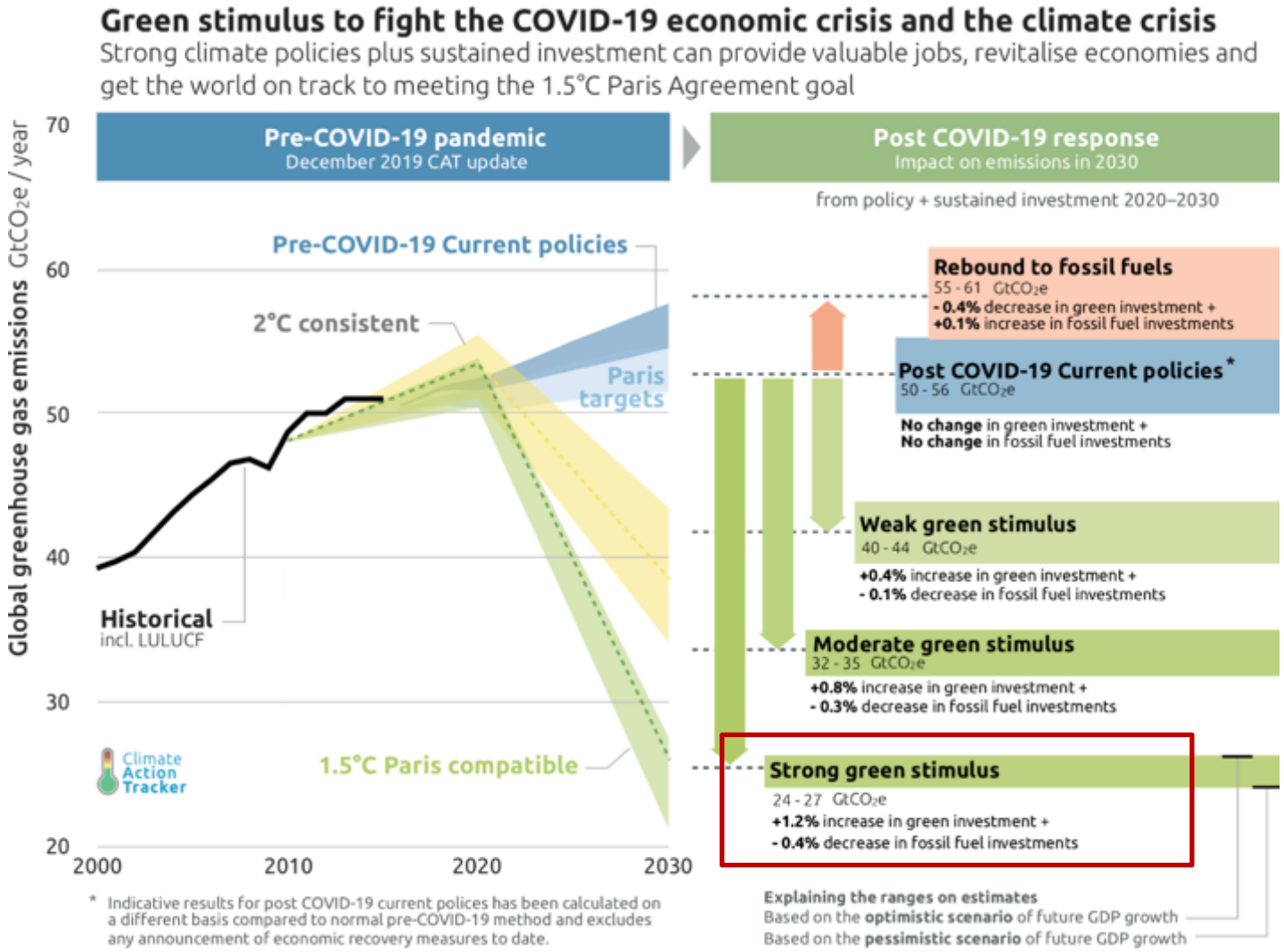
Estimating the economic impact from the Covid-19



Source: Climate Action Tracker

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Green recovery and the SDGs

Positioning renewables to support the recovery

42 million jobs by 2050 in renewables

Global GDP 2.4% higher, with a cumulative gain of **USD 98 trillion**

Women represent **32%** of the renewable energy workfoce, compared to 22% in the traditional energy industries

Welfare gains estimated at **13.5%**

Rana Adib

Executive Secretary at REN21

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REN21


RENEWABLES NOW
www.ren21.net

MAKE THE SHIFT TO RENEWABLES HAPPEN – NOW!

The only **global community** of renewable energy actors from science, academia, NGOs, governments, and industry.

Our more than **2,000 community members** co-operate collecting information, changing norms and debating.

We build upon a **decentralized intelligence,** ensuring high responsiveness to an ever changing environment.

Our **annual publications** are probably the world's most comprehensive, crowdsourced reports on renewables.

RENEWABLES 2020 GLOBAL STATUS REPORT

COLLABORATIVE ANNUAL REPORTING ON RENEWABLES SINCE 2005

THE REPORT FEATURES:

- Global Overview
- Policy Landscape
- Market and Industry Trends
- Distributed Renewables for Energy Access
- Investment Flows
- Energy Systems Integration and Enabling Technologies
- Energy Efficiency
- Feature: Public Support for Renewables

www.ren21.net/gsr-2020

DRIVERS FOR RENEWABLES

Clean air and a healthy environment

Fewer CO_2 emissions

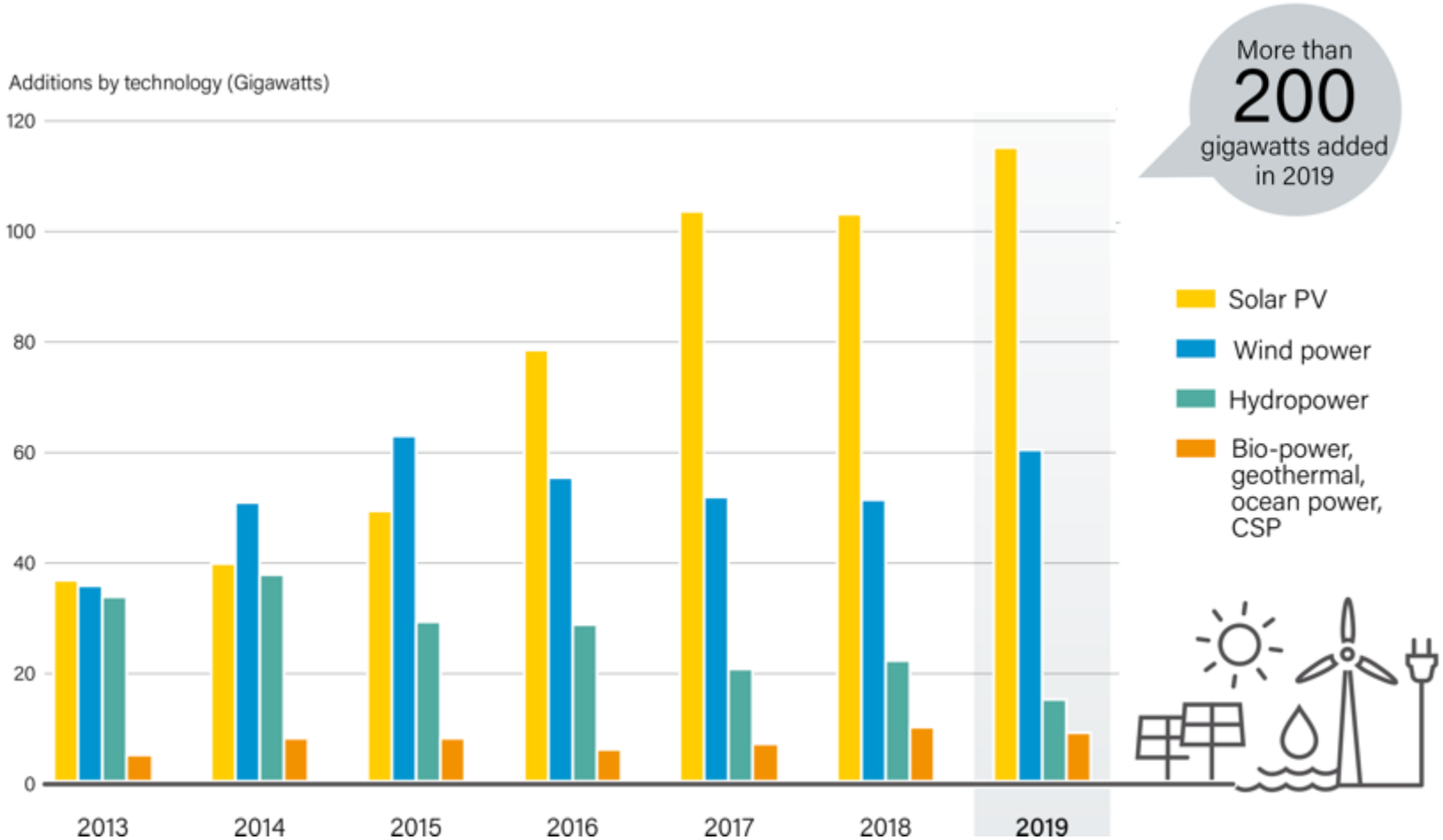
Economic opportunities

Decent jobs

Affordable and inclusive energy

Energy security and sovereignty

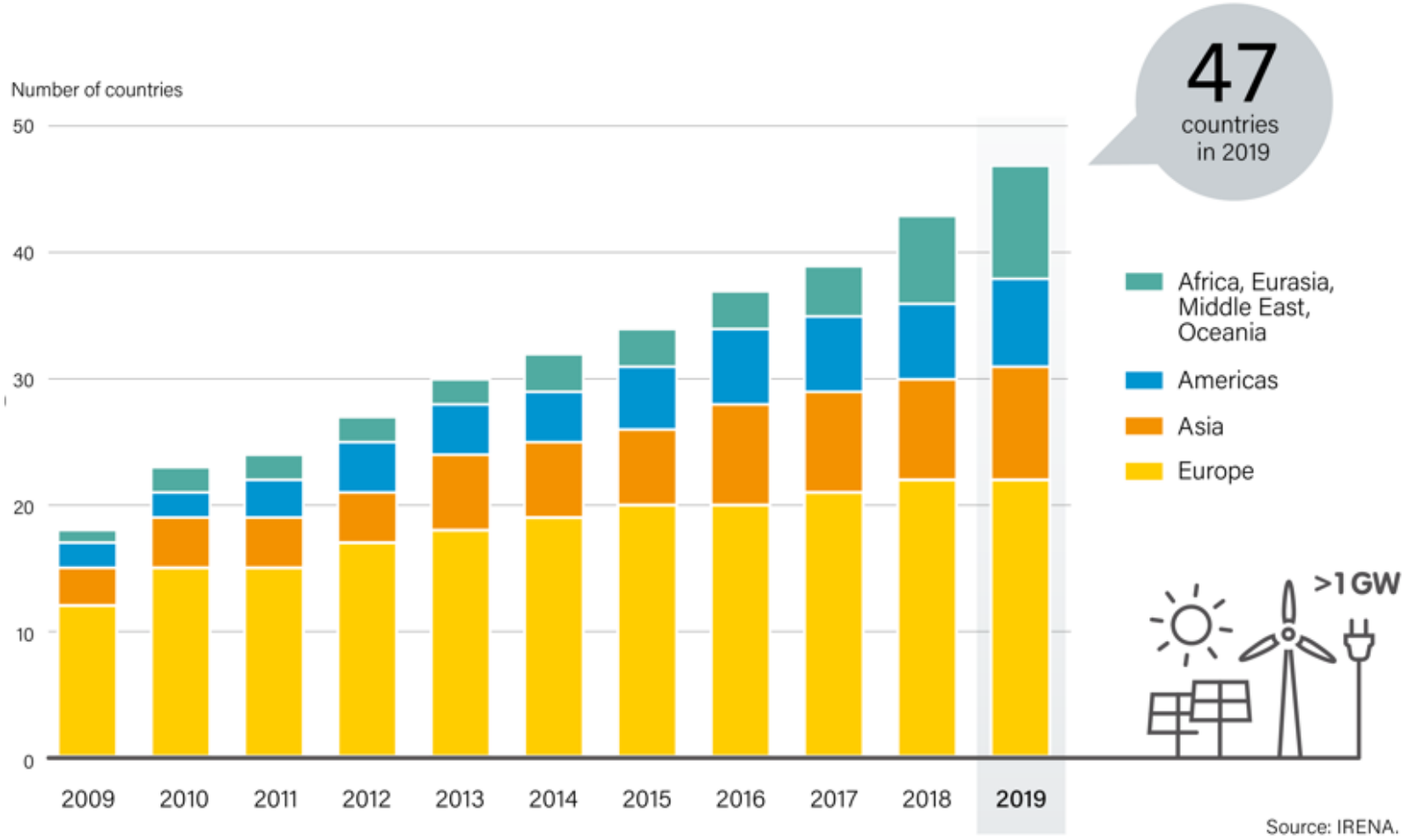
A RECORD 200 GIGAWATTS OF RENEWABLE POWER ADDED IN 2019



Annual Additions of Renewable Power Capacity, by Technology and Total, 2013-2019

Most of the additions were from **solar PV (115 GW)**, but global markets for wind power and bio-power also grew during 2019.

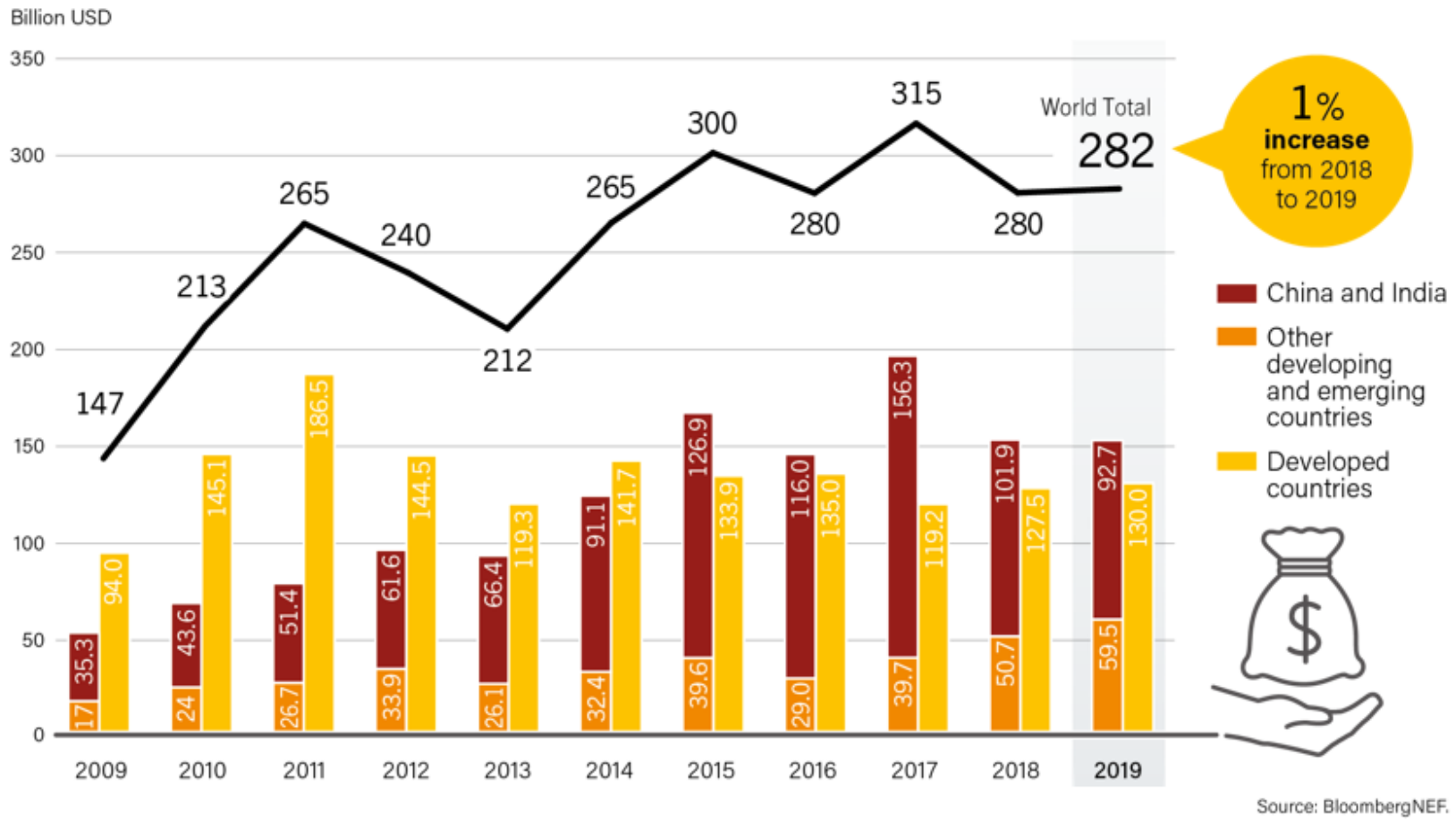
SOLAR PV AND WIND POWER ARE SPREADING AROUND THE WORLD



Number of Countries with More Than 1 GW of Solar PV and Wind Power, by Region, 2009-2019

47 countries had installed at least 1 GW of solar PV and wind power. compared to **18 countries** in 2009.

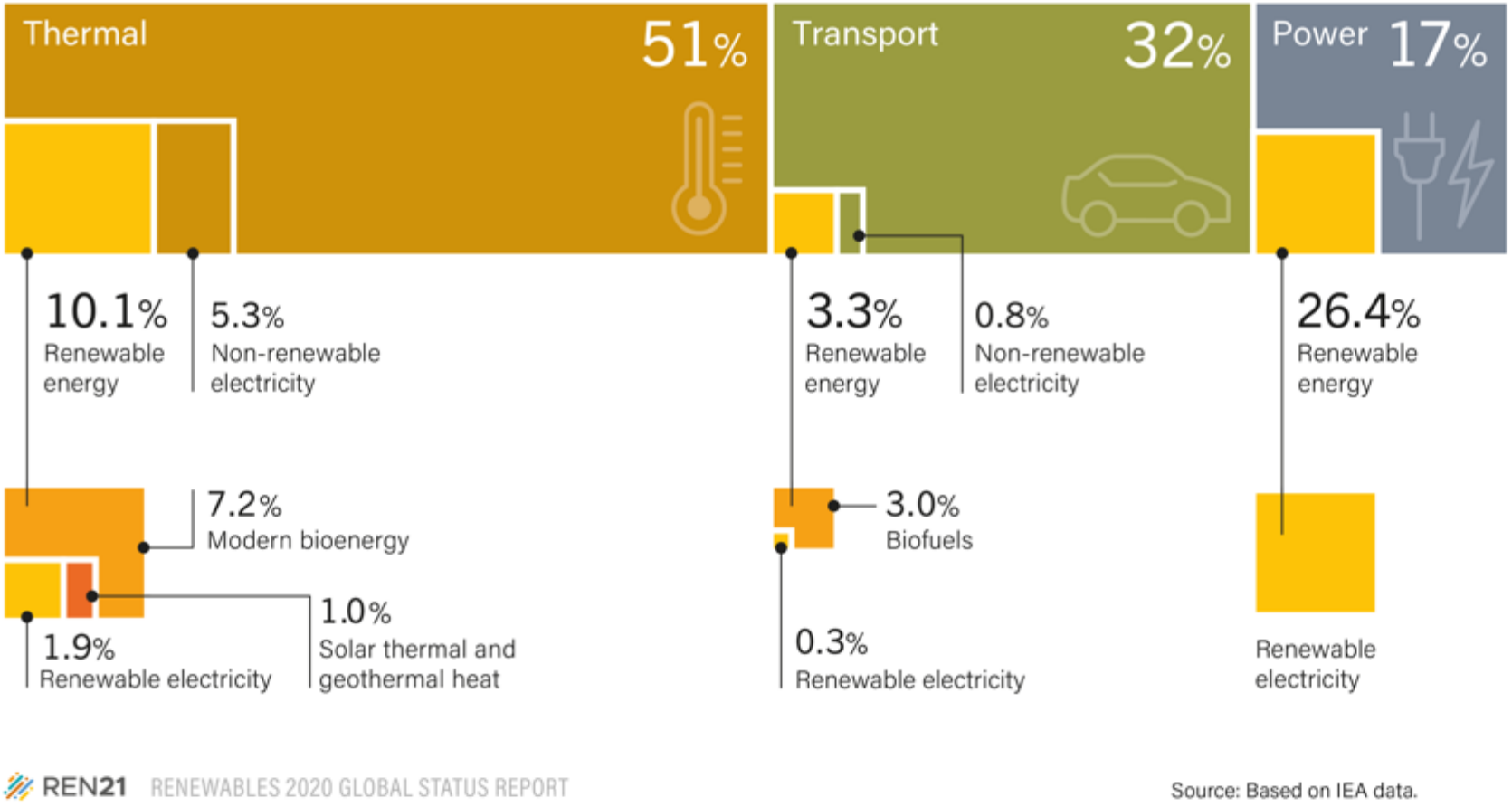
INVESTMENT IN RENEWABLES HAS BARELY GROWN



Global Investment in Renewable Power and Fuel Capactiy in Developed, Emerging and Developing Countries, 2009-2019

Developing and emerging economies surpassed developed countries in renewable energy capacity investment for the fifth year running, reaching USD 152 billion.

MORE THAN 80% OF OUR ENERGY FOR HEATING, COOLING, TRANSPORT

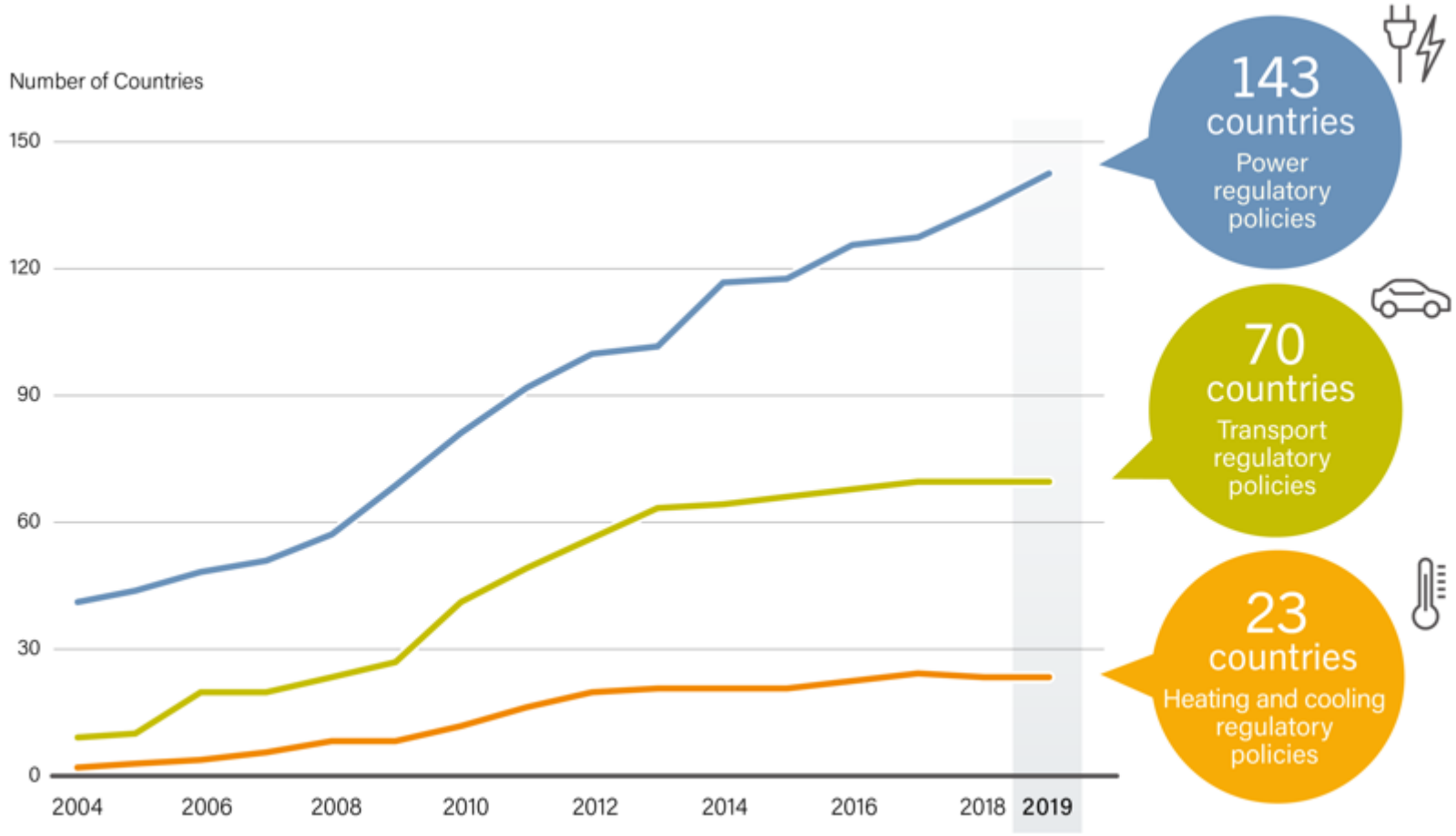


Share of Electricity Generation from Variable Renewable Energy, Top Countries, 2019

Most focus is on the power sector.

But the **greatest urgency** is in heating, cooling and transport.

POWER SECTOR CONTINUES TO RECEIVE MOST POLICY ATTENTION



Number of Countries with Renewable Energy Policies, 2004-2019

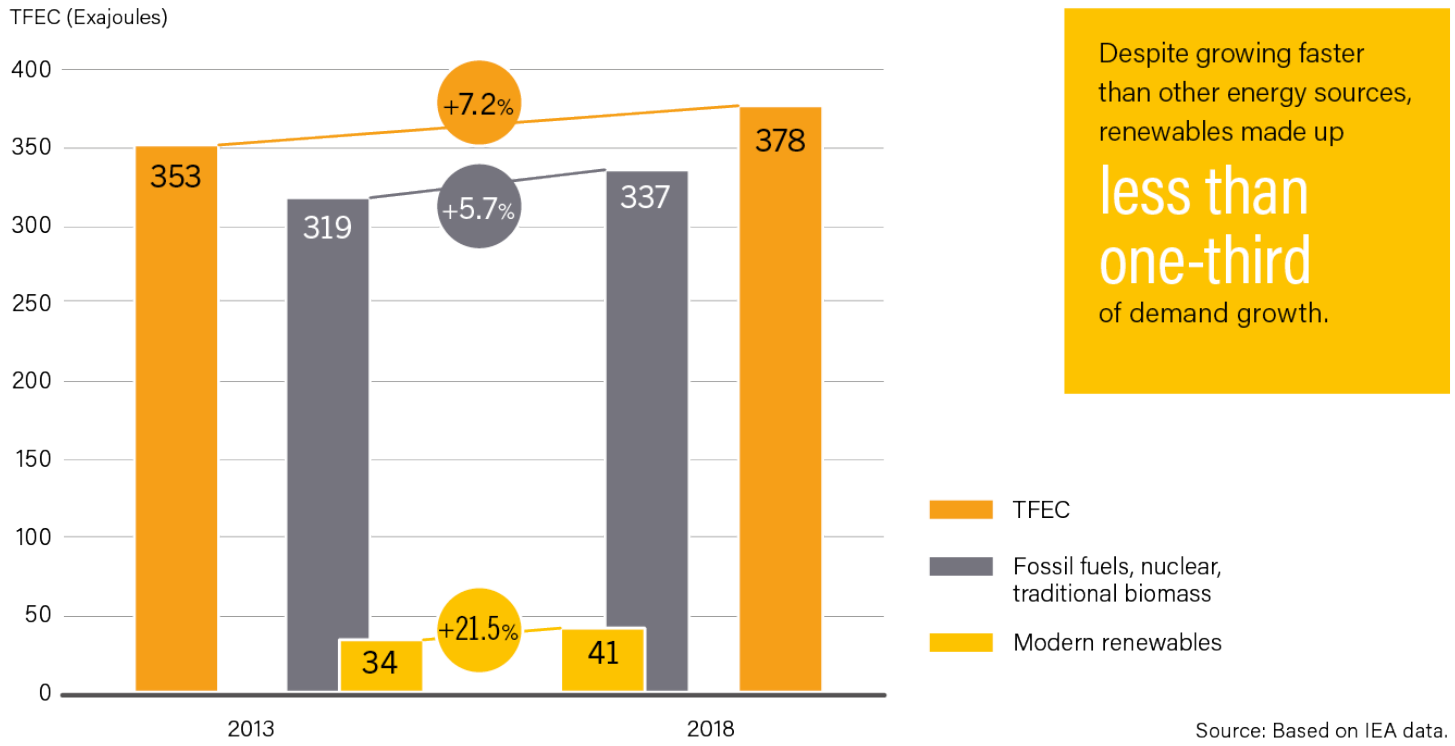
Policies and targets **renewables in power** remain more ambitious and more numerous than those for other sectors.

RENEWABLES ARE GROWING FAST... BUT NOT FAST ENOUGH

RISING ENERGY DEMAND KEEPS RENEWABLE SHARE LOW

- Renewables grew three times faster than fossil fuels
- Renewable energy only accounted for **29%** of demand growth
- Energy efficiency and renewables both needed to reduce fossil fuel use

Estimated Global Growth in Renewable Energy Compared to Total Final Energy Consumption, 2013-2018



Despite growing faster than other energy sources, renewables made up

less than one-third

of demand growth.

Source: Based on IEA data.

MANY EXISTING SOLUTIONS SHOULD BE URGENTLY IMPLEMENTED

ACTIONS TO BE TAKEN IN PARALLEL

- **Use policies to actively support renewables across all end-use sectors:**
  - Examples include mandates for renewable heat technologies and incentives to use EVs with RE
  - Create accessible market conditions
- **Make energy efficiency mandatory to decrease energy demand:**
  - Building retrofits and net zero energy codes
  - Promote walking/cycling and public transport
  - Fuel efficiency standards
- **Accelerate the phase-out of fossil fuels**
  - Fossil fuel bans, in particular heating/transport
  - Divest from fossil fuels
  - Remove fossil fuel subsidies
- **Accompany sectors to change:**
  - Integrate planning among all energy sectors
  - Reskilling
  - Public procurement of renewables

A **systemic problem** requires a **systemic solution**.

Roland Roesch

Deputy Director, IRENA Innovation and Technology Center

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THE POST-COVID RECOVERY

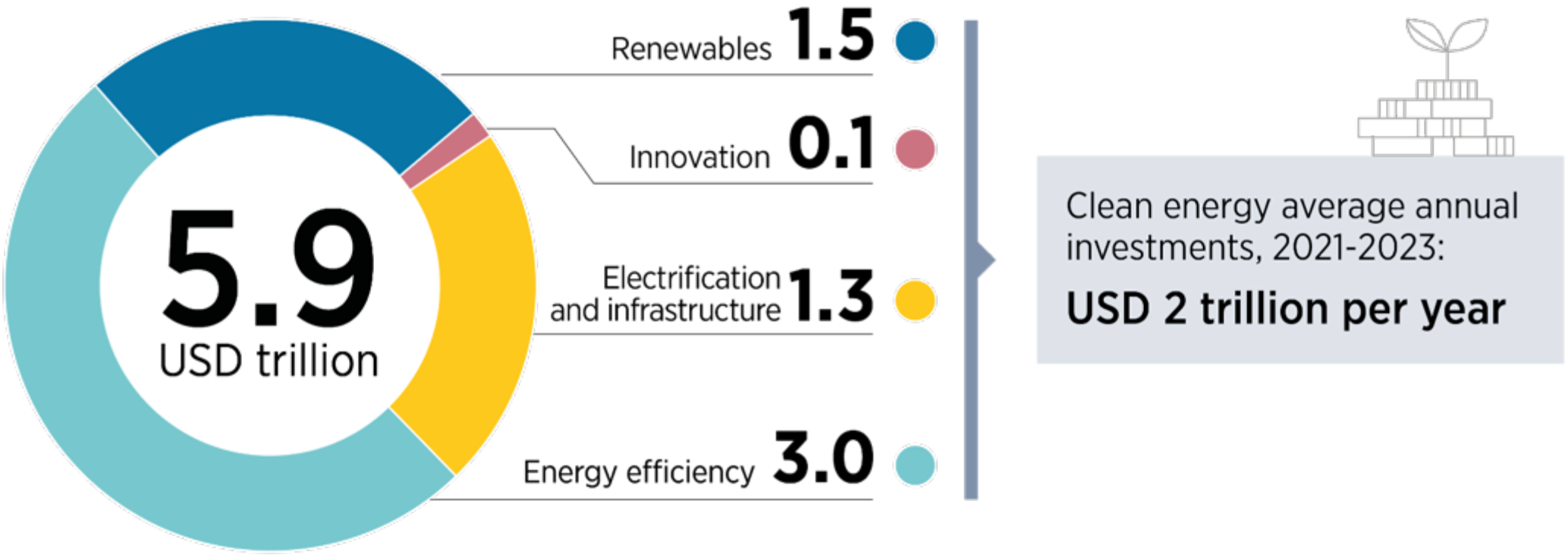
An agenda for resilience, development and equality

Roland Roesch
Deputy Director IRENA Innovation and Technology Center

30 June 2020 • REN Alliance

Energy transformation investments to 2021-2023

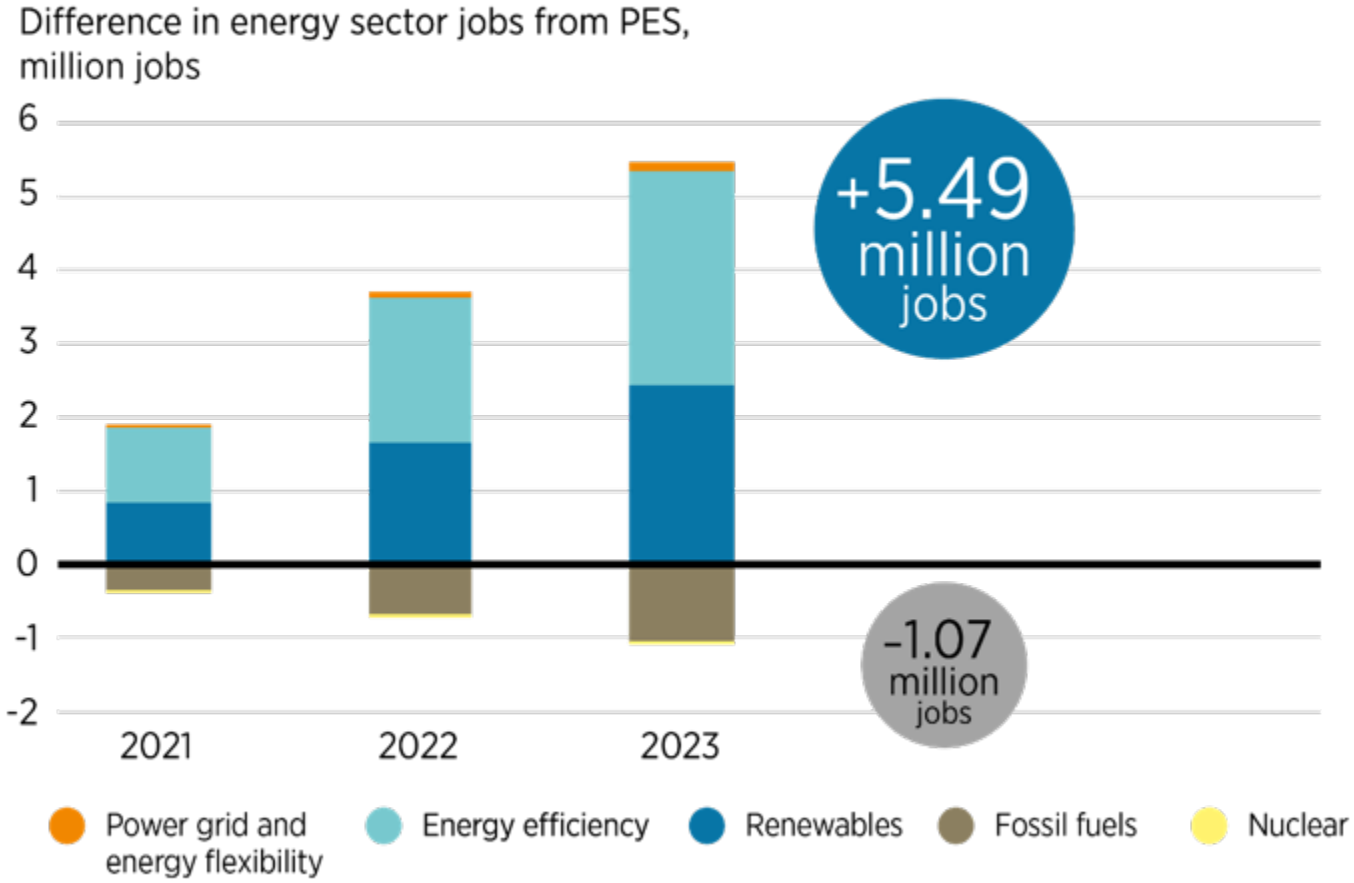
Cumulative clean energy investments between 2021 and 2023 in the Transforming Energy Scenario (USD_{2019} trillion)



Investments in energy transition technologies needs to grow two-fold between 2021 and 2023 (USD 2 trillion per year) compared to 2019 levels (USD 825 billion).

Immediate employment and GDP benefits

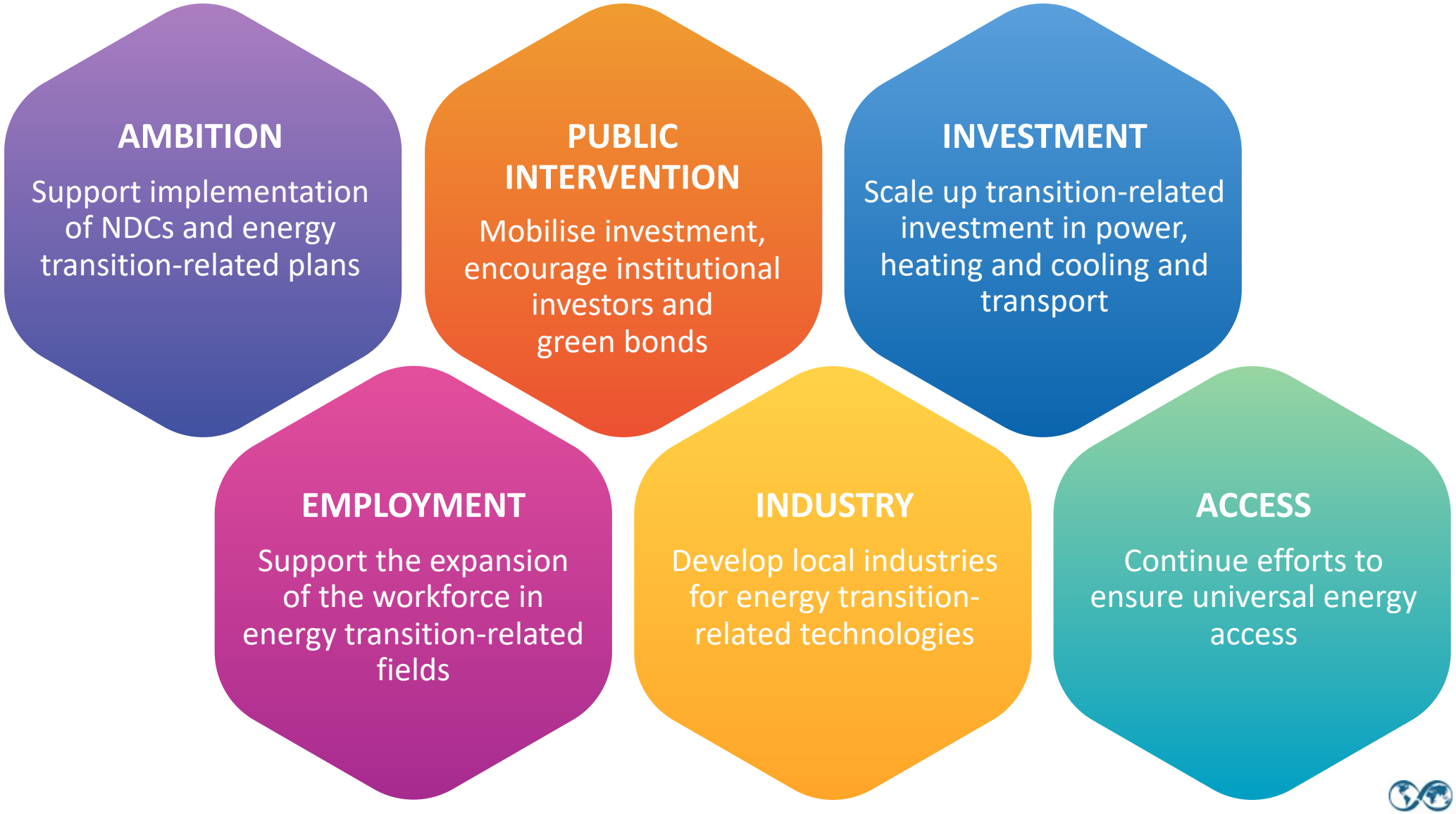
Changes in energy sector jobs resulting from transition-related investment (Transforming Energy Scenario compared to Planned Energy Scenario, 2021-2023)



+ 1.0% GDP on average between 2020 – 2023 compared to PES

The specifics vary from region to region and country to country – whether in terms of underlying structural conditions, the specific opportunities that can be pursued, or the scope of policy ambition.

Key policy measures needed to bolster green stimulus



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International Renewable Energy Agency

THANK YOU!

Paolo Frankl

Head of the Renewable Energy Division at IEA

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iea

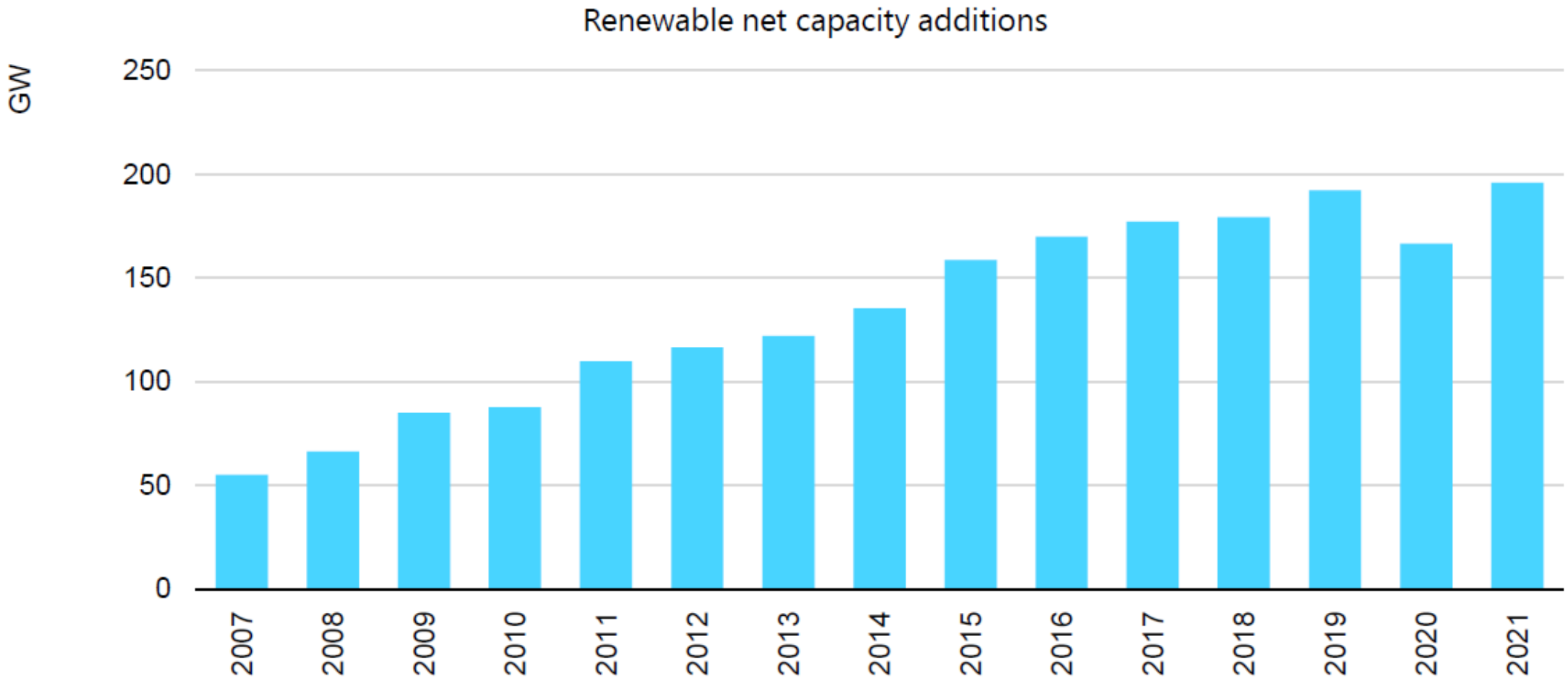
International Energy Agency

Renewable energy & sustainable recovery

Dr. Paolo Frankl, Head Renewable Energy Division

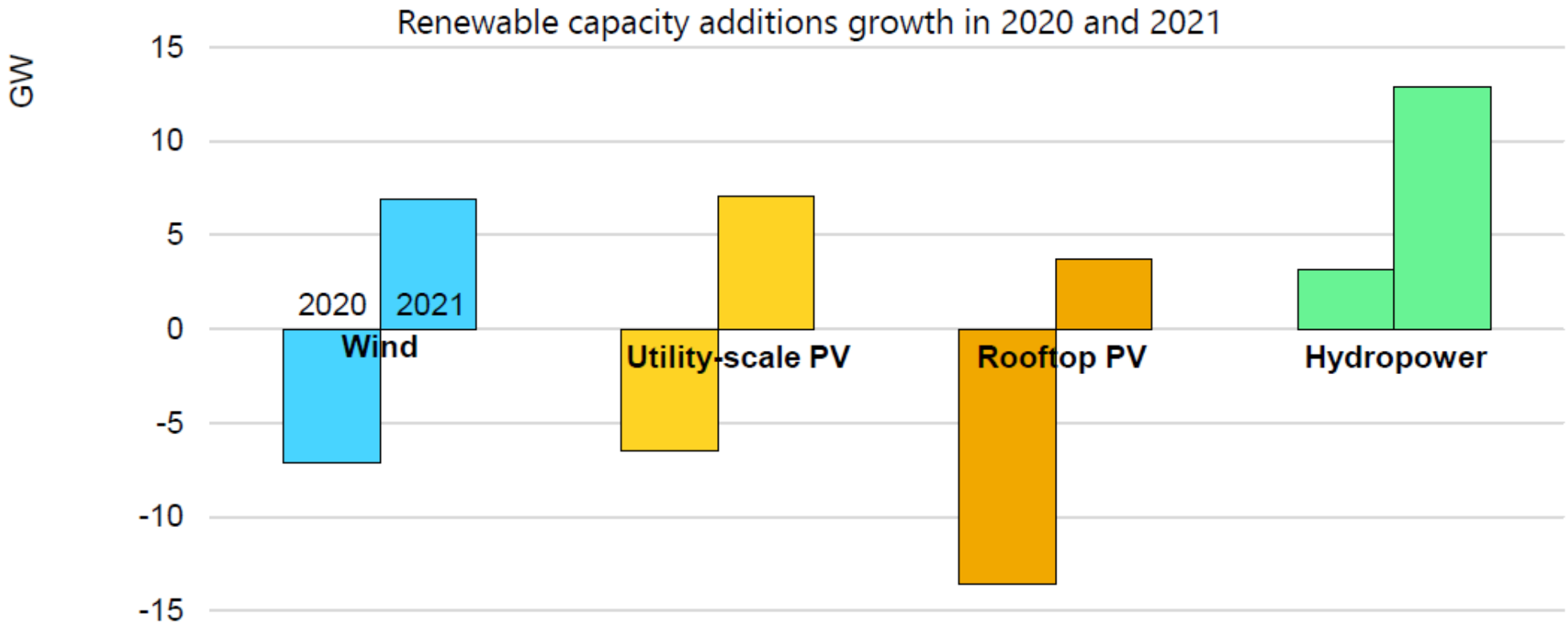
Renewables working together: Building Back Better through a Green Recovery
REN Alliance Webinar, 30 June 2020

Covid-19 causes first decline in new additions in last two decades



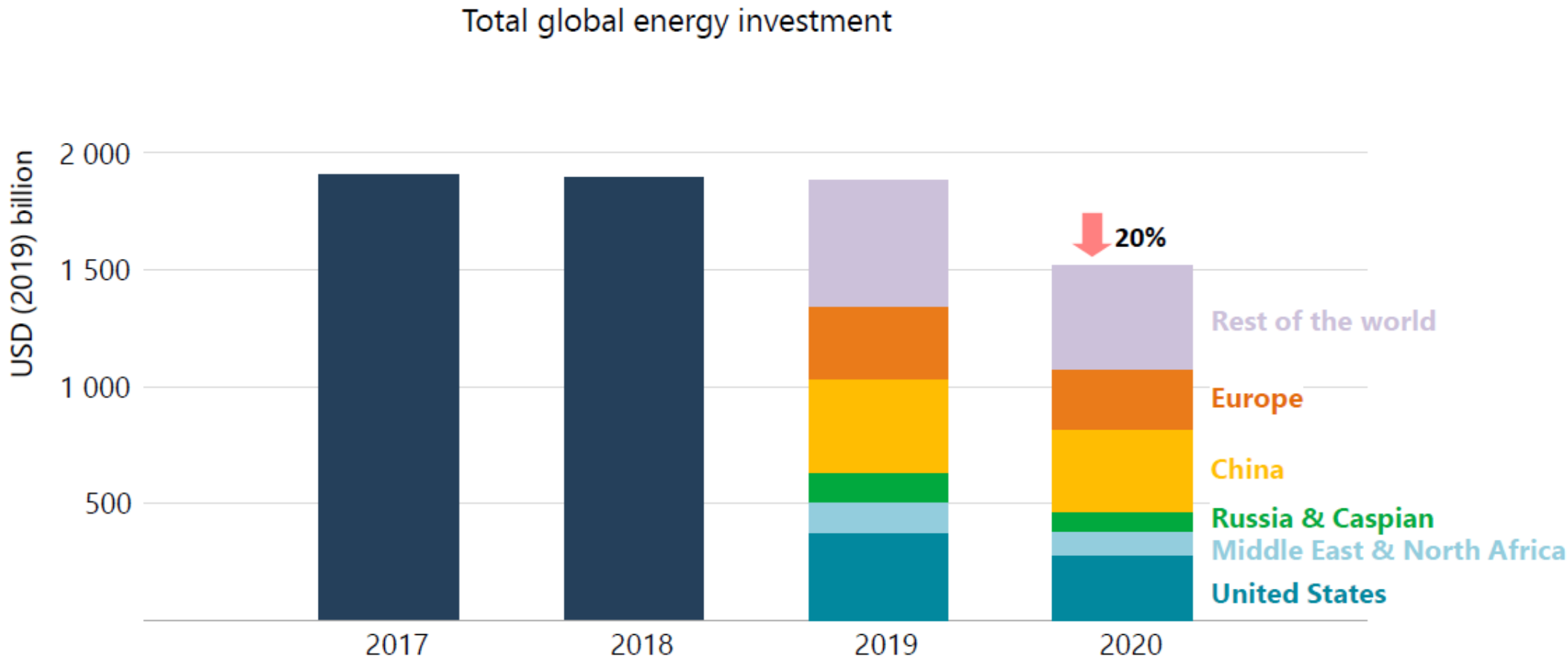
Renewables new installation increase is affected by Covid-19 but not halted. Growth is expected to resume next year as delayed projects come online and assuming a continuation of supportive government policies

Rooftop solar PV suffers the heaviest blow



Most wind & PV projects already financed see delays but recover in 2021, with hydropower's contribution. The economic crisis hurts rooftop investments as investors lack short-term liquidity & reprioritise spending.

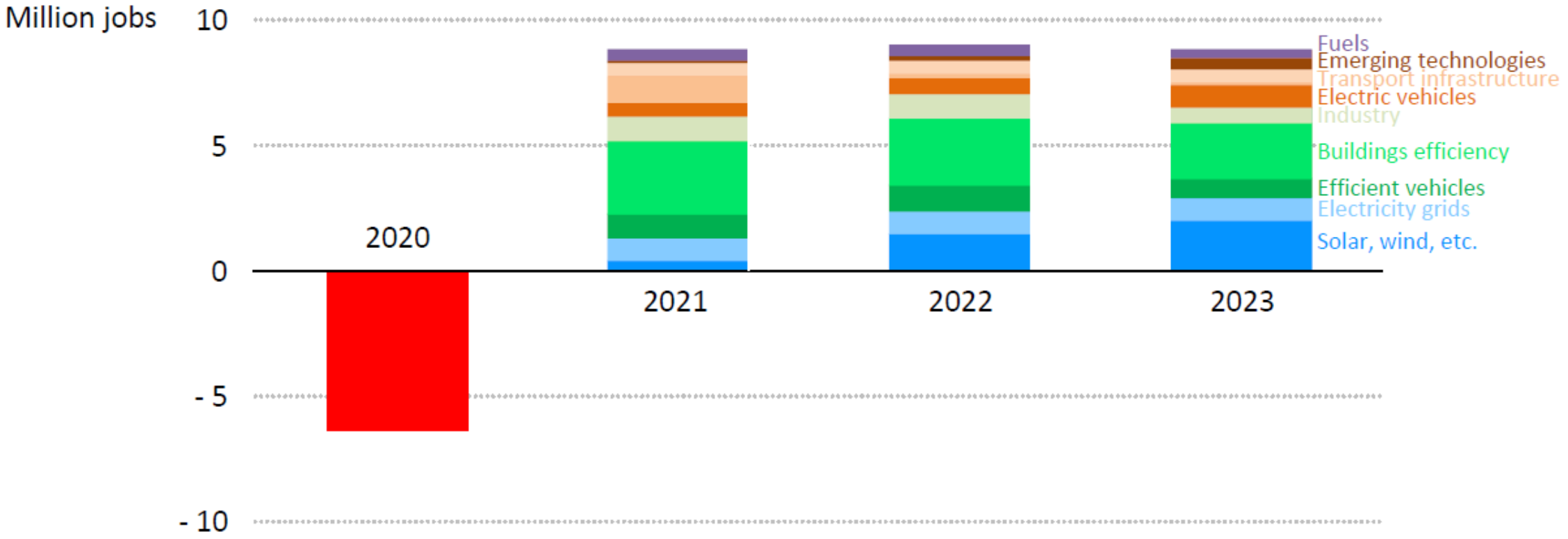
2020: An unparalleled decline in energy investment



Disruption from Covid-19 is expected to push 2020 energy investment down by almost $400 billion. All parts of the world are affected, but major producers of oil & gas have seen the largest falls

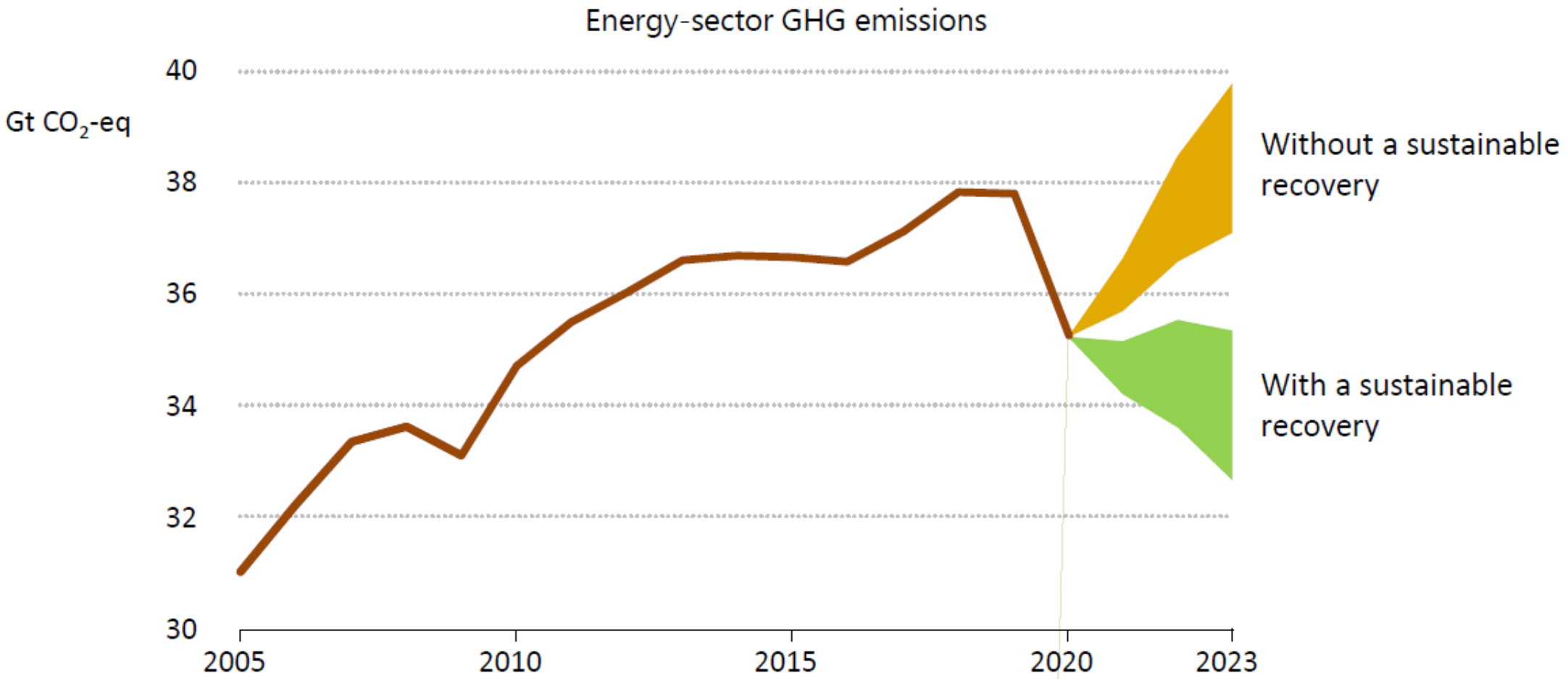
A Sustainable Recovery Plan creates new jobs

Energy-related jobs at risk due to Covid-19 in 2020 and new jobs created by the Sustainable Recovery Plan



With 6 million jobs that could be permanently lost due to the crisis, the plan could create or save some 9 million jobs in every year between 2021 and 2023 with most being in efficiency and in power.

Energy systems would shift towards structurally cleaner ones



The plan would make 2019 the definitive peak in global emissions, reducing GHG emissions by 4.5 billion tonnes and putting them on a path towards achieving long-term climate goals, including the Paris Agreement.

International Renewable Energy Industry Alliance

Bharadwaj Kummamuru

Executive Director at the World Bioenergy Association (WBA)

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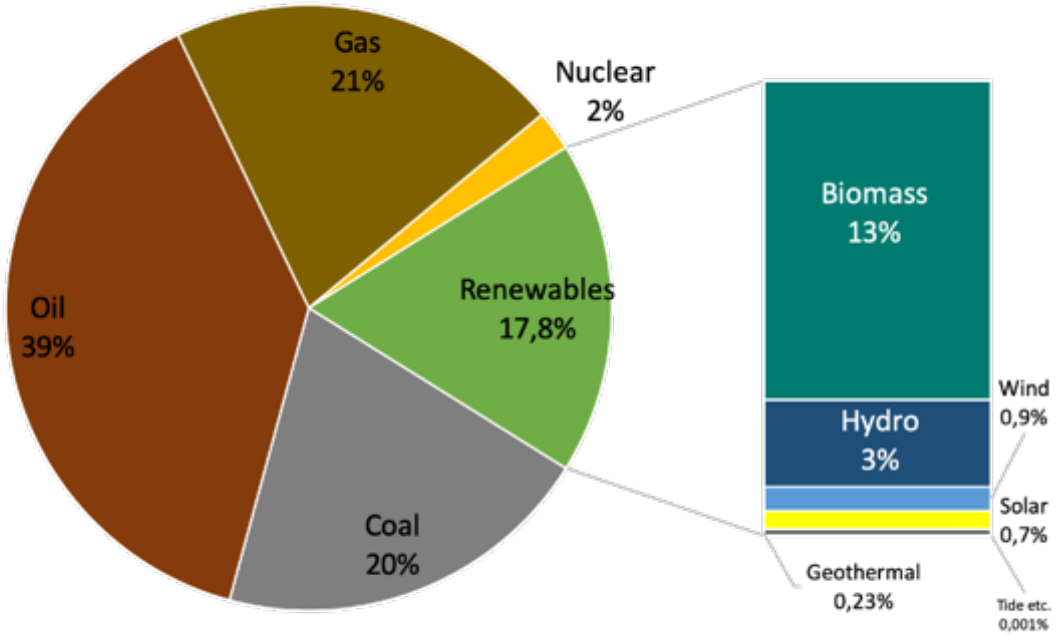
WORLD BIOENERGY ASSOCIATION

World Bioenergy Association

Global organization promoting sustainable bioenergy development

- **Bioenergy**
  - Largest RE source globally
  - Solution for decarbonizing all end use sectors – electricity, heat/cool, transport fuels
  - Diverse range of feedstock: forestry, agriculture and municipal waste

- **Impact of COVID19**
  - Significant impact on the sector
  - Impact dependent on sector and policies
  - Majority of supply chains resilient



World Bioenergy Association

Key message to policy makers

1. **Bioenergy as essential service**
2. **A bioenergy future**
3. **Dis-incentivize fossil fuels**
4. **Build back better with Bioenergy**
5. **Time for ambition and action**

World Bioenergy Association
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+46 8 441 70 84

Marit Brommer

Executive Director at the International Geothermal Association (IGA)

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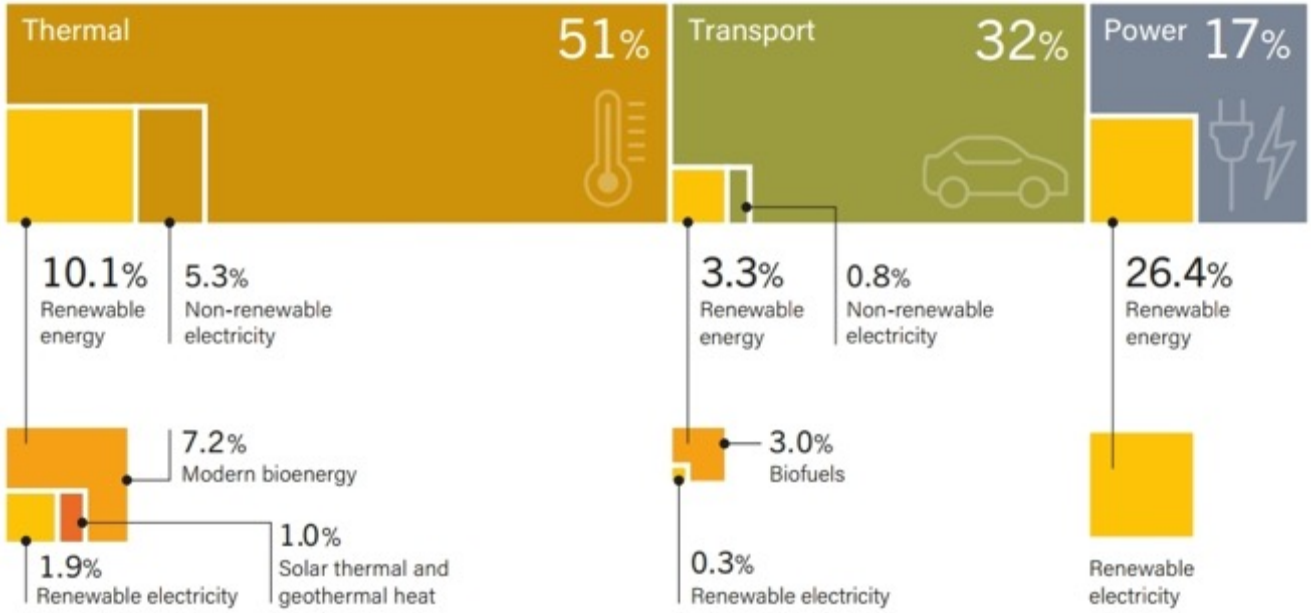
INTERNATIONAL GEOTHERMAL ASSOCIATION
IGA

Geothermal

Size and relevance of the Sector:

- Relatively **small in Electricity production** (~16GW).
- **High potential** in Direct Use for **Heating and Cooling** (~550Pj).
- Crucial role in **Decarbonisation** of H&C.



Source: REN21 - Renewables 2020 Global Status Report

Covid-19 impacts:

- Impact dependent on factors like project type (Power, H&C), phase and region:
- Minor impact on ongoing projects.
- Uncertainty for planned Power projects.
- Strong commitment to H&C projects

=> Covid-19 confirms Geothermal as reliable and resilient Technology.

Geothermal

Way forward: building back better and stronger

- Geothermal to increase awareness and raise visibility

Key messages from the sector to policymakers:

- Regulations to focus on zero-emission technologies.
- Broader policy framework devoted to a just an inclusive energy transition, that focuses on deployment, enabling and integrating policies.
- Focus on green skills and offer of renewable jobs to communities.

Cristina Diez Santos

Senior Analyst at the International Hydropower Association (IHA)

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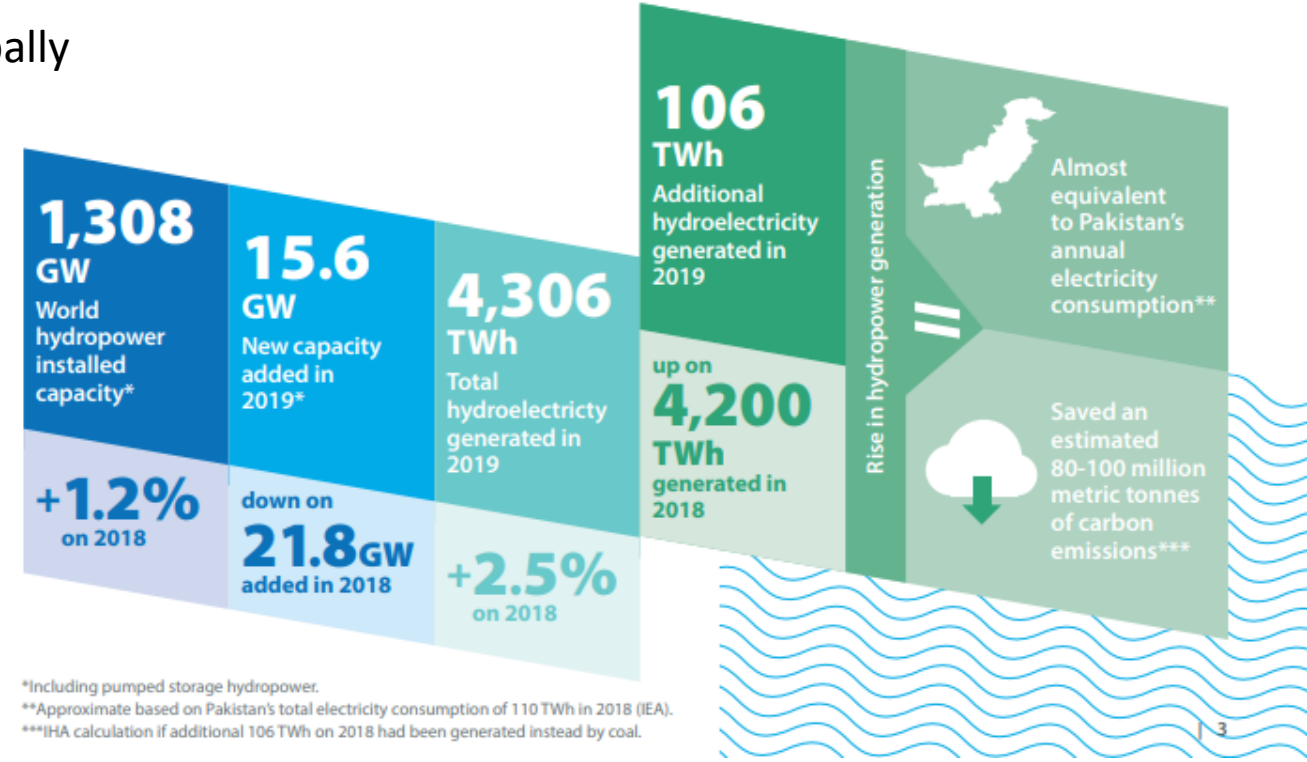
iha
international hydropower association

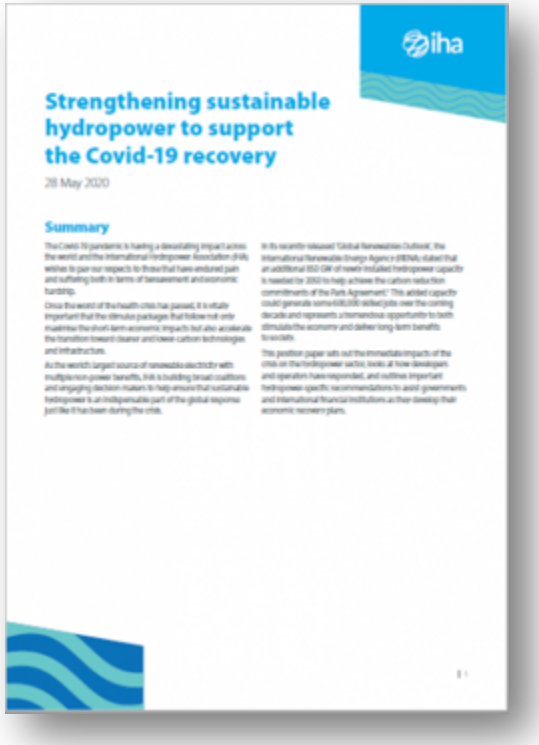
Hydropower

- Hydropower represents almost **60%** of the total renewable electricity production
- In 2019, hydropower generated total of **4,306 TWh**
- If replaced by coal, **4 billion tones** of additional GHG would be emitted per year
- Hydropower employs about **2 million** people globally
- Pumped storage **largest grid scale energy storage** application
- Contribute to **system resilience**
- Offers **multiple services** to mitigate the impacts of droughts and floods and to ensure supply to industrial, agricultural and domestic uses.



*Including pumped storage hydropower.
**Approximate based on Pakistan's total electricity consumption of 110 TWh in 2018 (IEA).
***IHA calculation if additional 106 TWh on 2018 had been generated instead by coal.

Positioning hydropower to support the recovery



Support the development of sustainable hydropower as an **essential part of the energy transition and wider development strategy** to help kick-start the recovery.

Where possible **fast-track planning approvals** to ensure development can commence as soon as possible.

Provide appropriate financial support where needed.

Where applicable **extend any construction deadlines** for projects that have previously received gov't support such as FiTs.

Work with regulators and system operators to **develop appropriate compensation mechanisms** that recognize and value all the attributes hydropower provides.

Increase the ambition of renewable energy and climate targets.

David Renne

Former President at the International Solar Energy Society (ISES)

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ISES
International
Solar Energy Society

The Solar Sector

- Installed Solar Technologies PV and CSP for power, Solar Thermal for heating and cooling) > 1 TW
- Solar PV + CSP supplies ~3% of word's electricity
- Solar PV among lowest cost sources of new power additions (approaching USD 0.05$/kw-h LCOE); costs continue to drop rapidly

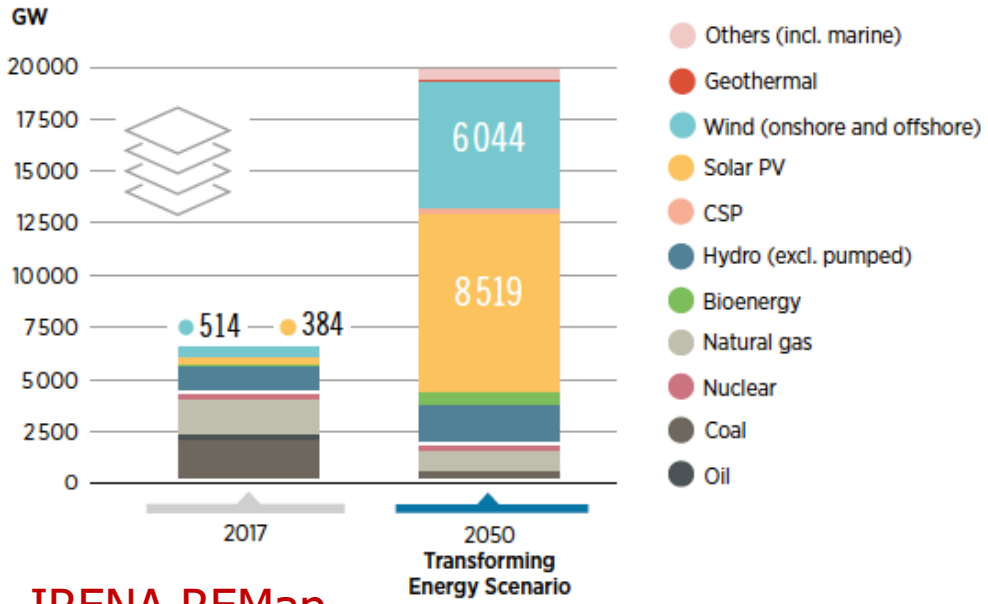
COVID-19 Impacts on Sector

- Short term yet significant impacts on both supply and demand side
- COVID-19 likely to impact new capacity additions by ~10% in short term; but will mostly recover within 5 years

Message from solar industry

- Solar is a significant source of new jobs (up to 30M by 2030)
- Costs will continue to drop due to further scale-up and technology improvements

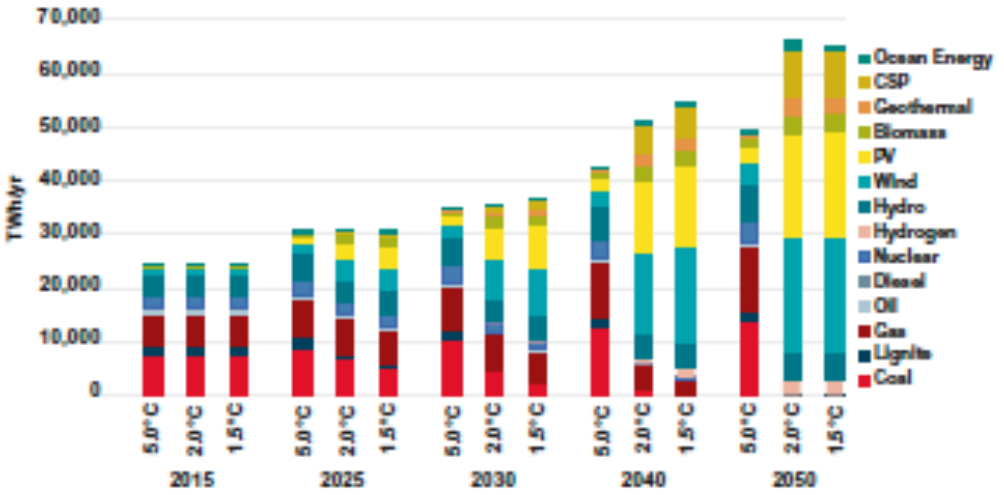
SolarPV Plays Major Role in Pathways to 100% RE



IRENA REMap

Global Renewables Outlook Edition 2020

Solar PV Capacity, 2050: 8519 TW



University of Sydney

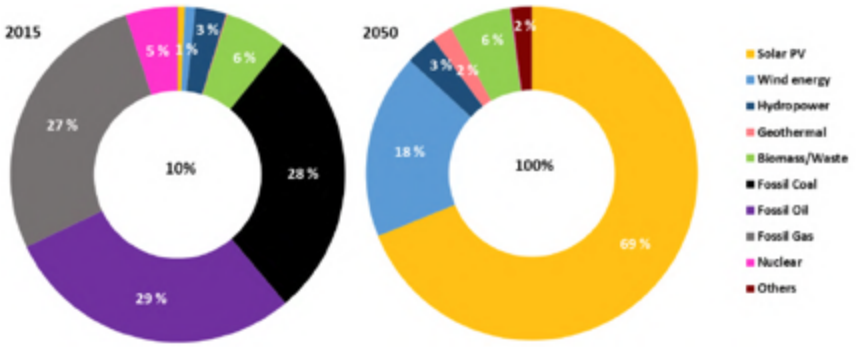
Achieving the Paris Climate Agreement Goals

Solar PV Capacity, 2050: 12,864 TW

Energy Watch Group/LUT

Global Energy System Based on 100% Renewable Energy

Solar PV Capacity, 2050: ~79,000 TW



Stefan Gsänger

Secretary General at World Wind Energy Association (WWEA)

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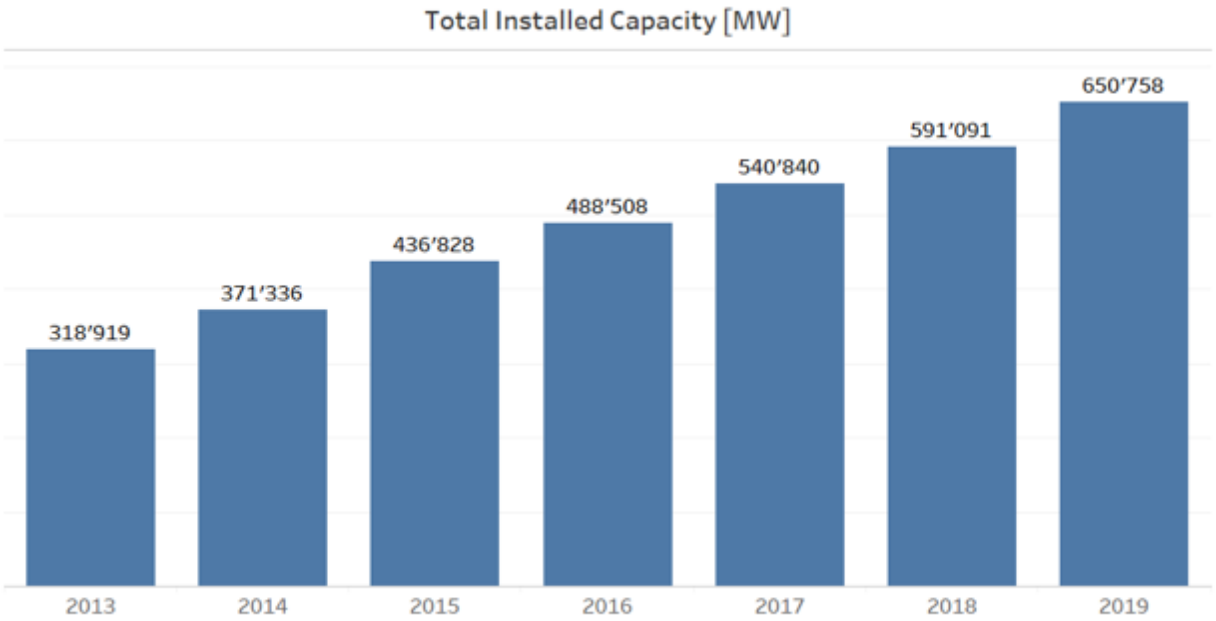
WWEA
World Wind Energy Association

World Wind Energy Association

Towards a global, 100% renewable energy supply with wind as one cornerstone

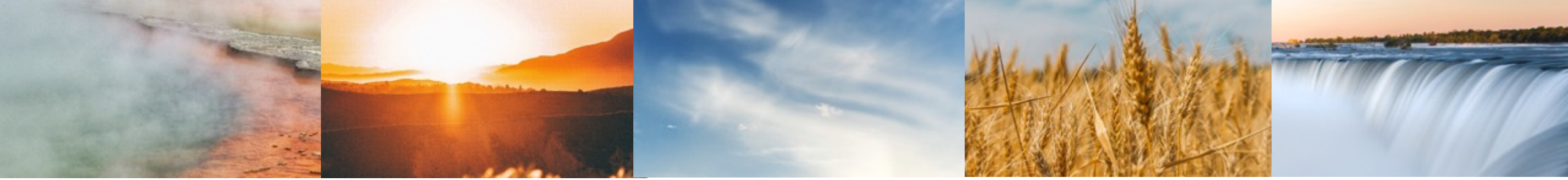
- **Wind Power:**
  - Covers ~6% of global electricity demand
  - Average annual growth rates >10%
  - Global potential far beyond human energy needs
  - Of particular importance: local involvement



- **Impact of COVID19**
  - Interruption of international and national supply chains
  - Domestic activities often interrupted also by workforce problems
  - Short-term: decrease in new installations
  - Mid-term: emphasise on national/local resilience will strengthen the sector

World Wind Energy Association

- **Necessary activities:**
  - Scale up massively wind power deployment rates
  - Strengthen local and domestic supply chains
  - Strengthen local and domestic investors
  - Focus on local participation and investment
  - Refrain from non-inclusive policies such as auctions
  - Remove other barriers in particular related to wind farm permissioning
  - Develop 100% renewable energy strategies across all sectors and allow wind power to play its role
  - Introduce accordingly new regulatory frameworks that encourage self-consumption, sector coupling and other ways to achieve 100% renewables as fast as possible



Eddie Rich, IHA

Rana Adib, REN21

Roland Roesch, IRENA

Paolo Frankl, IEA

Bharadwaj Kummamuru, WBA

Marit Brommer, IGA

Cristina Diez, IHA

David Renne, ISES

Stefan Gsänger, WWEA

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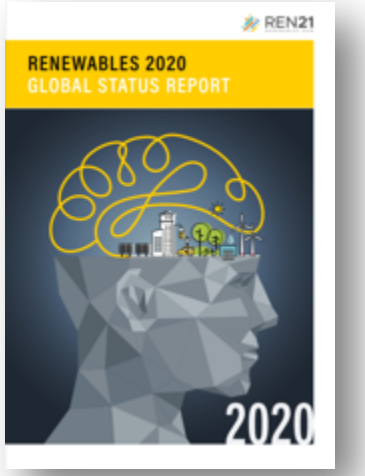
The Prospects for 100% Renewables

Take away messages from all members, unified voice for renewables

- Need to **accelerate deployment** across all sectors, especially in heating, cooling and transport sectors, also by connecting the sectors.
- Create substantial **financial incentives** for renewables to create competitive advantage for end-users and encourage self-supply.
- Move to mechanisms that meet other objectives than only lowest price and **consider additional benefits** and services of renewables when designing market mechanisms.
- Broader **policy framework** devoted to a just and inclusive energy transition, that focuses on deployment, enabling and integrating policies and that allows the full variety of investors, from individuals, communities, SMEs up to larger companies to participate and invest.
- Focus on **green skills** and offer renewable jobs to communities.
- Map and **promote health benefits** of a green energy-based economy.

Renewables status reports



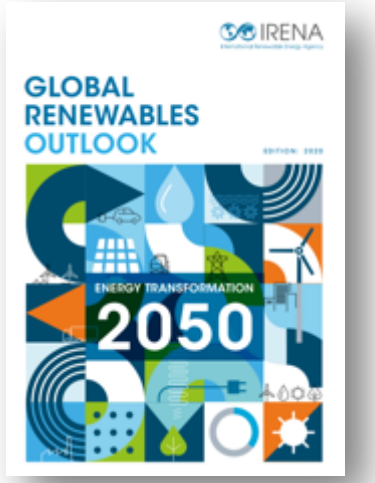
[REN21 Renewables Global Status Report]

[REN21 Renewables in Cities Global Status]

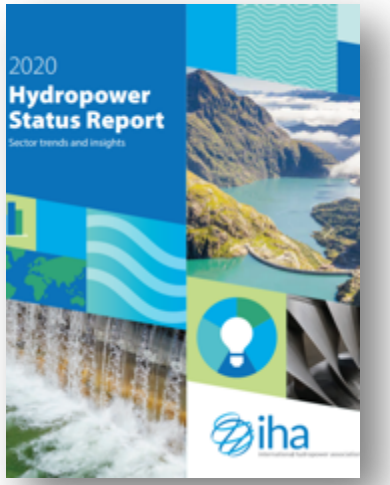
[Renewable Energy Market Update]

[Global Energy Review 2020]

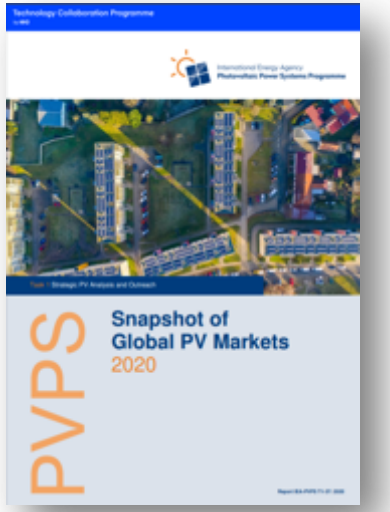
[Renewable Power Generation Costs in 2019]



[Global Renewables Outlook]



[2020 Hydropower Status Report]



[Snapshot of PV Global Markets 2020]

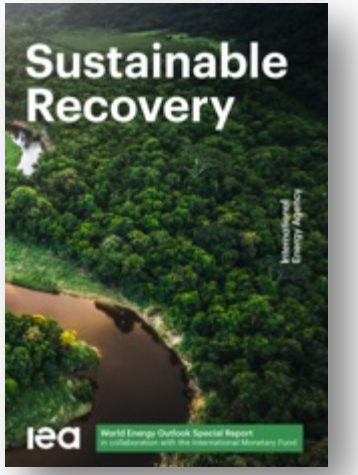
Prospects for a green recovery

WBA Position on COVID19

IHA Positioning paper

IRENA Call to Action on Response to Covid-19

Covid-19 Renewables Hub



Sustainable Recovery
World Energy Outlook Special Report

Post-Covid Recovery: an agenda for resilience, development and equality

Thank you!

RENALLIANCE
renewables working together