Green Deals:
Greening COVID-19 Recovery & Achieving Net-Zero 2050

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ECCK-GGGI Energy & Environment Seminar

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- The Blue Skies & Net-Zero 2050 Campaign
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BLUE SKIES
&
NETZERO
2050
CAMPAIGN
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NETZERO 2050
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BLUE SKIES & NETZERO 2050 CAMPAIGN

Overview

On December 12, 2019, GGGI and the embassies of Denmark, EU, France and the UK in the Republic of Korea agreed to partner on a civil society Campaign for Blue Skies and NetZero2050 in the Republic of Korea (ROK) to build public awareness of the twin air pollution and climate crises and public support for ambitious action to tackle these crises.

Despite the recent COVID-19 pandemic, we've gained a few instances of major progress for the Campaign. We are now seeing bold promises from the Korean government to ramp up climate ambitions.

Key Campaign Event: September 7: International Blue Sky Day

The Campaign on Blue Skies and NetZero 2050 in the Republic of Korea

- An internationally supported civil society campaign to increase public awareness and build public support for more ambitious action to tackle the twin climate and air pollution crises.
- The Campaign will sign up and support organizations to organize campaign events for their own members, networks and stakeholders.
- The Campaign will share key messages, campaign events and communication materials with participating organizations and reach out to the media.
- GGGI has taken initiative and will co-host the Secretariat with the Climate Change Center (CCC).
- CCCI will co-host the Secretariat and become the primary liaison with Korean stakeholders.

OUR PARTNERS

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ECCK EUROPEAN CHAMBER OF COMMERCE IN KOREA
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CAMPAIGN SECRETARIAT

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The Campaign on Blue Skies and NetZero 2050 in the Republic of Korea

Key objectives:

- Commitment to NetZero2050 by the ROK government
- Stop the ROK government-subsidies/support for coal-fired power plants internationally

Air Pollution in the Asia Pacific

- In the Republic of Korea, Air Pollution was declared a social disaster to be tackled through emergency laws.
- 92% of Asia and the Pacific's population – about 4 billion people – are exposed to levels of air pollution that pose a significant risk to their health.
- Blue skies are the top priority throughout Asia, from Mongolia to China to Bangkok – but blue skies will also help address the climate crisis.

Statistics source: UN Environmen

The Air Pollution Crisis

- Every year, an estimated 7 million people die from illnesses attributable to air pollution.
- Blue skies are the top priority throughout Asia, from Mongolia to China to Bangkok – but blue skies will also help address the climate crisis.
- Combating climate change and meeting the goals of the Paris Agreement could save around a million lives a year worldwide by 2050 solely through reductions in air pollution.

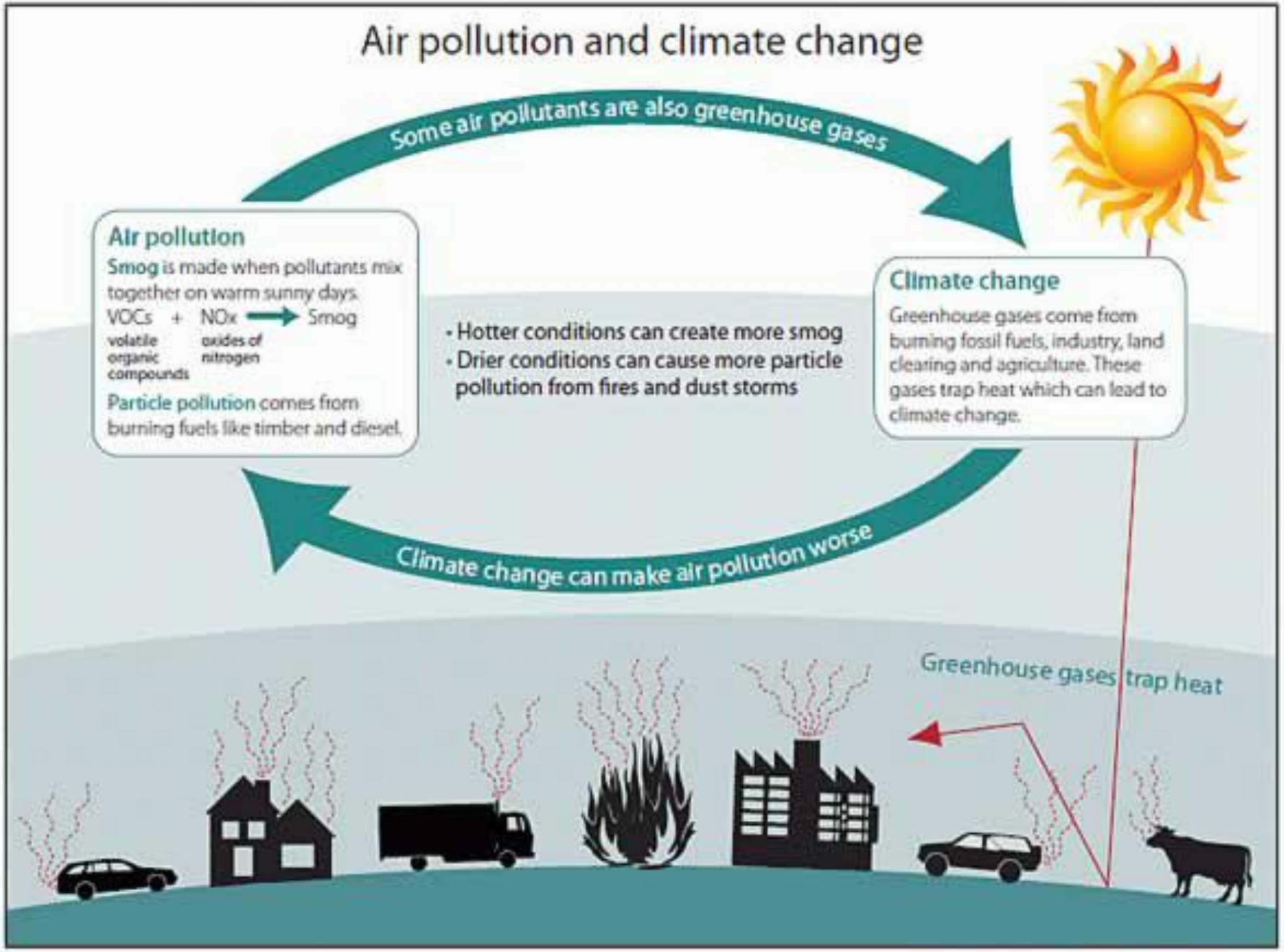
Climate Change:
heat waves, fires, floods, droughts intensify

2018: Floods in Kerala worst in a hundred years

2018: Republic of Korea sets all-time record high temperature amid deadly heat wave

2018: Massive forest fires and intense droughts affecting millions of people

Maintaining good air quality in the longer-term is inextricably linked to ambitious climate action



Adapted from State of the Environment NSW 2000

Need for Green Growth: Blue Skies and Net Zero Carbon 2050

- Data from the Hyundai Research Institute indicated that air pollution costs South Korea around 4 trillion won ($3.4 billion) in 2018.
- South Korea has now committed to increasing the country's share of renewable energy from 7% to 20% by 2030 and other measures to reduce emissions.
- Is it enough? Will skies be blue? Will the climate crisis be averted

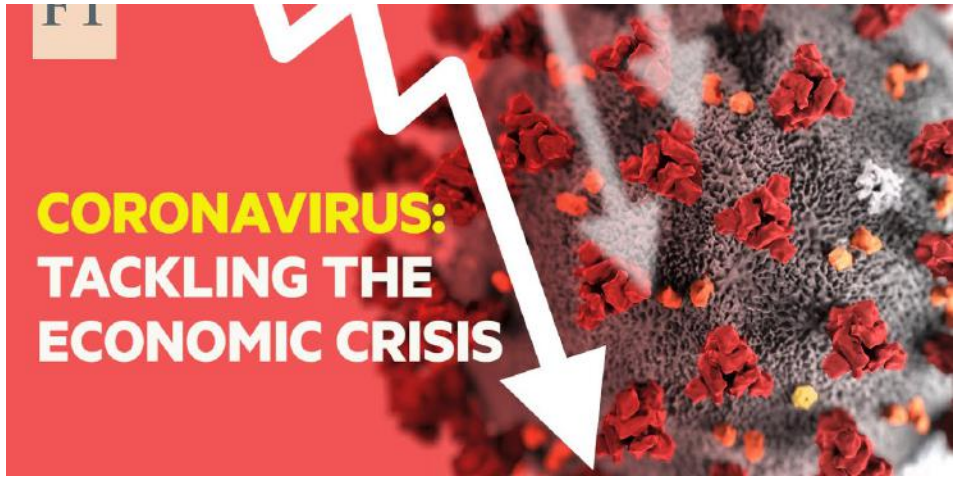
Source: KEIA; YNA

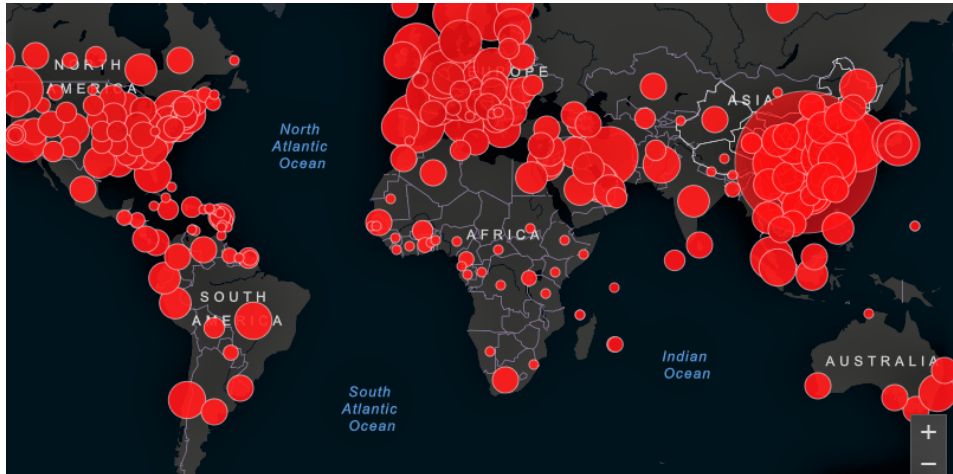
The COVID19-Crisis- what has changed?

- COVID-19 has changed our lives more rapidly than anyone could imagine.
- For many it is a sign that our old life was not sustainable.
- Air pollution and obesity are aggravating factors for COVID-19
- Can we green the COVID recovery?
- How will the economic crisis affect green growth?
- Can we go back to our old lives?
- Can there be a Green New Deal?

COVID and Economic Crisis

- Massive job losses everywhere
  - Travel and tourism down 80-90%
  - Korean export down 46%
  - US low-wage unemployment as high as 40%
  - Stimulus bills massively boost government debt and are unsustainable
  - End of globalization?
  - ***BUT: Renewable Energy doing much better than coal and Electric Car sales remarkably resilient!***





The Quality of Economic Growth Really Matters:

Clear Need for "Green Growth"

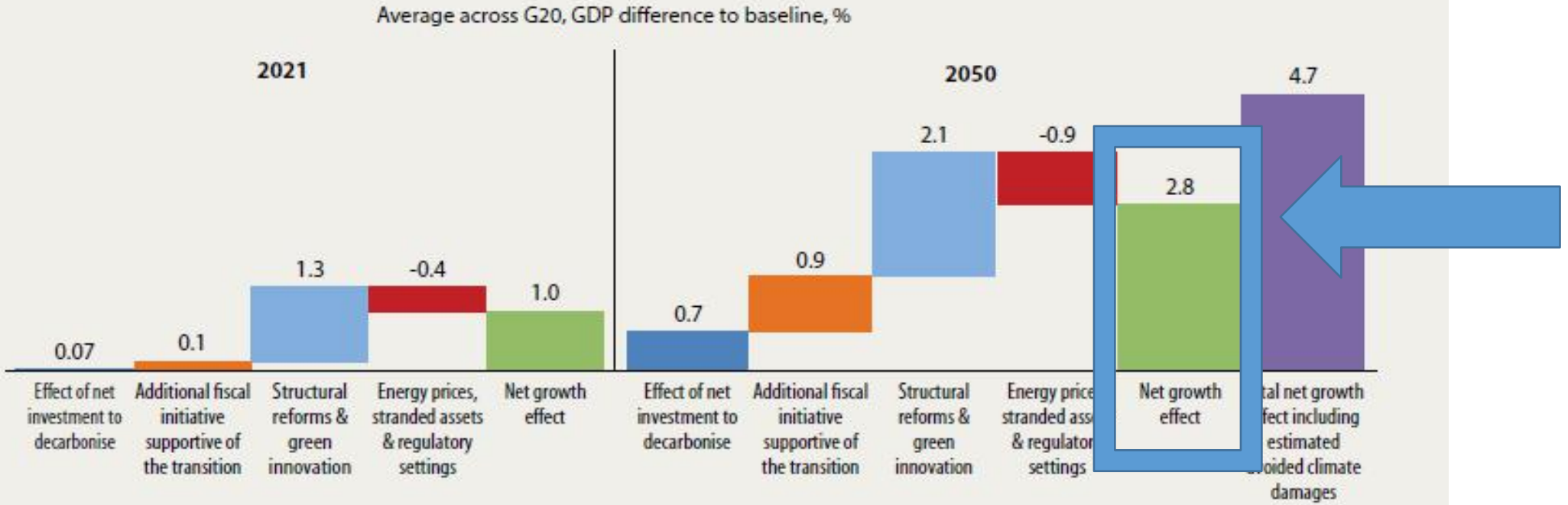
... a development approach that seeks to deliver economic growth that is both environmentally sustainable and socially inclusive.

The green growth model **seeks opportunities for economic growth** that are:

- low-carbon and climate resilient
- prevent or remediate pollution
- maintain health natural ecosystems
- ***create green jobs***
- reduce poverty
- enhance inclusion

Green growth approach brings positive economic growth effects in countries

Figure 1. **Positive growth effects for the G20 by combining climate action with economic reforms in a decisive transition (50% probability of achieving 2°C)***



(Source: OECD, 2017)

Collective "decisive transition" can increase the net growth effect by 2.8% on average across the G20 (when comparing a current policies trajectory to a pathway set to hold warming below 2 degree Celsius with a probability of 50%)

The green transition

Solutions

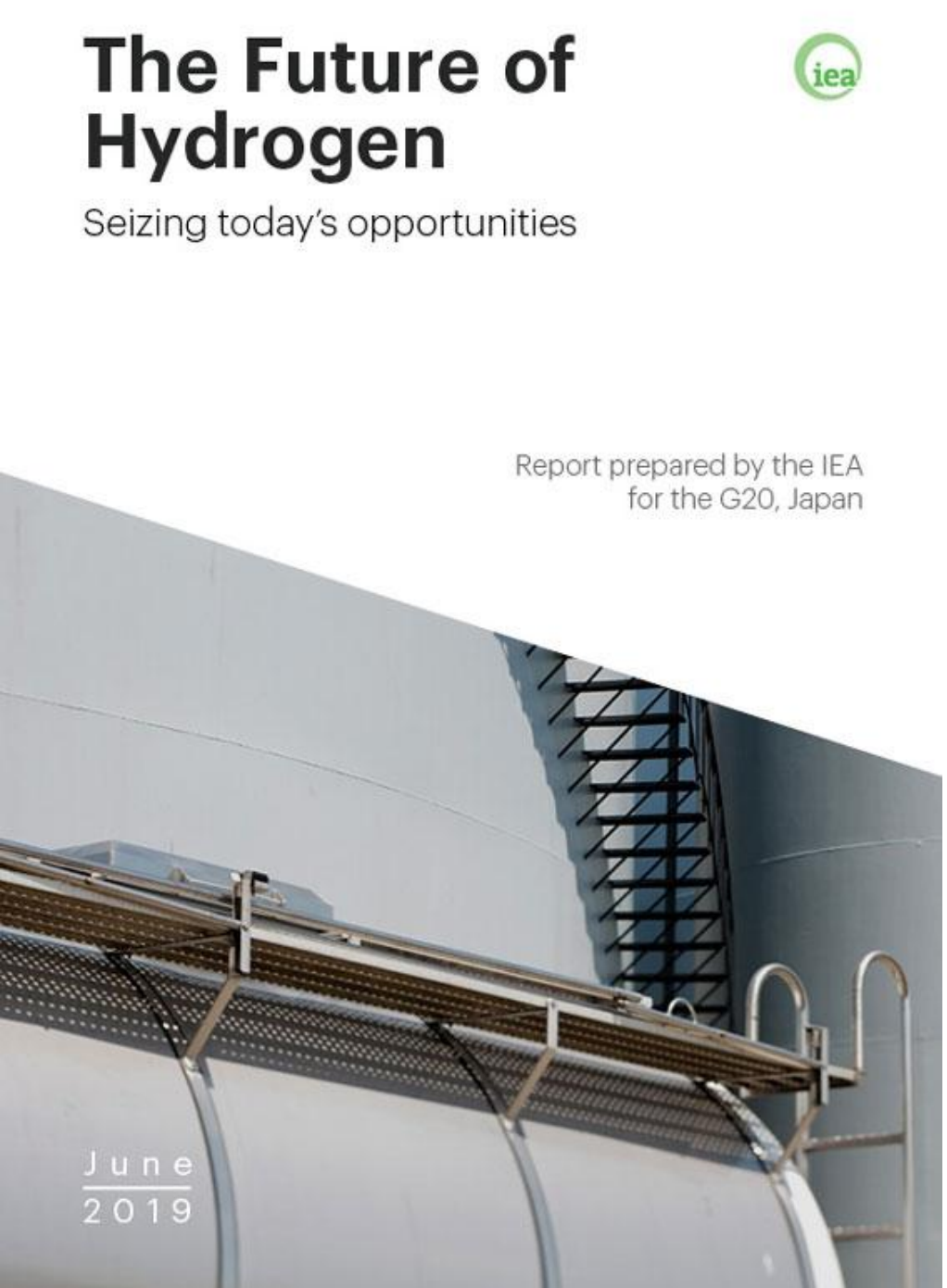
Solutions: Renewable Energy

- Investment opportunity in renewable energy.
- Renewable energy is disrupting the energy market.
- Wind and solar energy, in many regions, are now cheaper than fossil fuels.
- Costs of renewable energy technologies, generally, continuing to fall.

Falling costs of energy storage

- Storage prices are falling quicker than originally anticipated , partially due to the increasing demand for electric vehicles (EVs).
- With lower prices, storage will be able to play an increasingly larger role in energy markets, such as replacing conventional power generators for reliability, providing power-quality services, and supporting renewables integration.

Source: McKinsey & Company

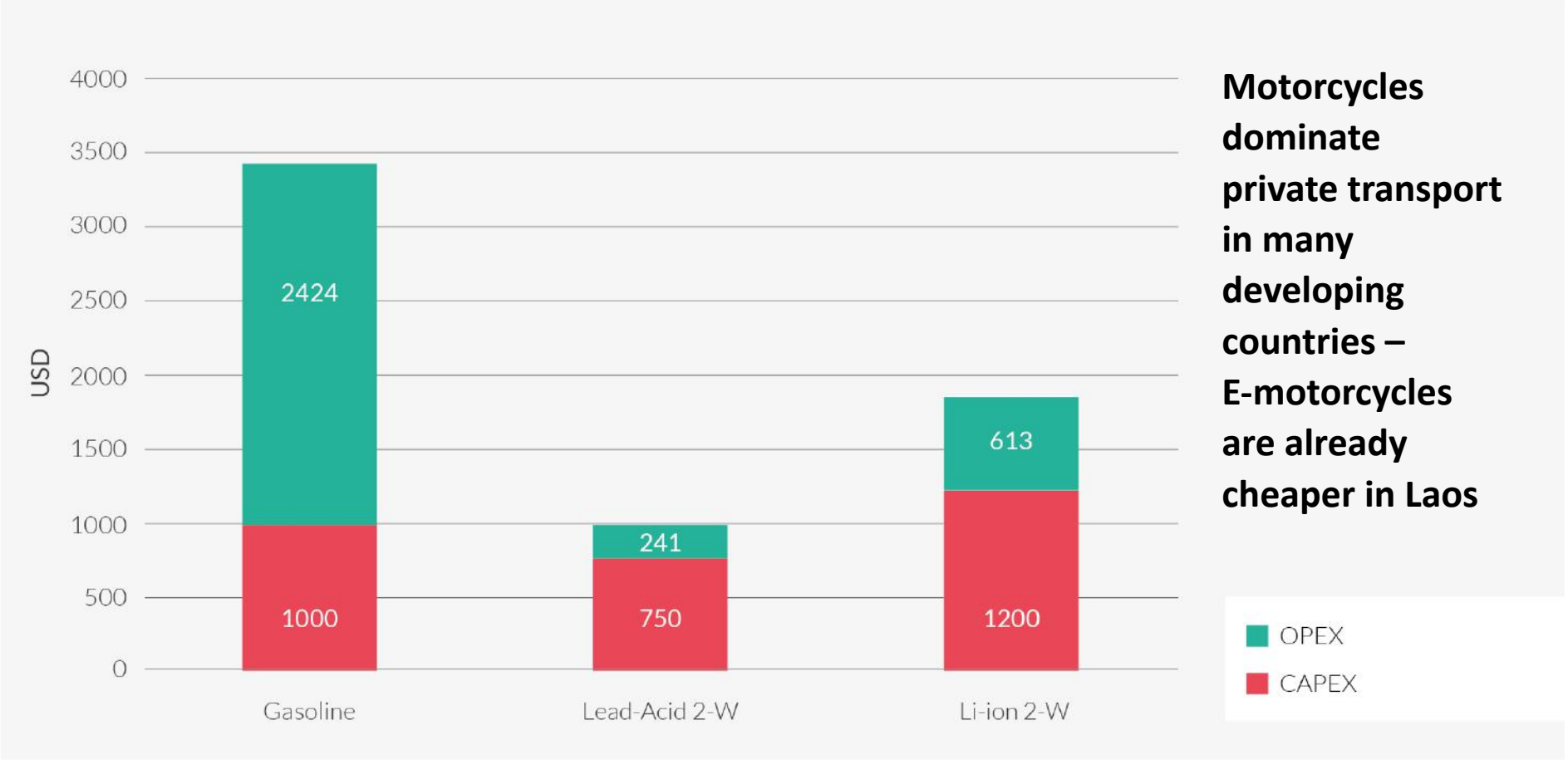


"Hydrogen is today enjoying unprecedented momentum. The world should not miss this unique chance to make hydrogen an **important part of our clean and secure energy future**."
Fatih Birol, Executive Director, IEA

- Dedicated electricity generation from renewables or nuclear power offers an alternative to the use of grid electricity for hydrogen production.
- With declining costs for renewable electricity, in particular from solar PV and wind, interest is growing in electrolytic hydrogen

Electric Mobility

Total costs of ownership of gasoline and electric motorcycles in Laos



Motorcycles dominate private transport in many developing countries – E-motorcycles are already cheaper in Laos

Source: GGGI Analysis


Source: Global Environment Facility

Energy Efficiency: Green Buildings

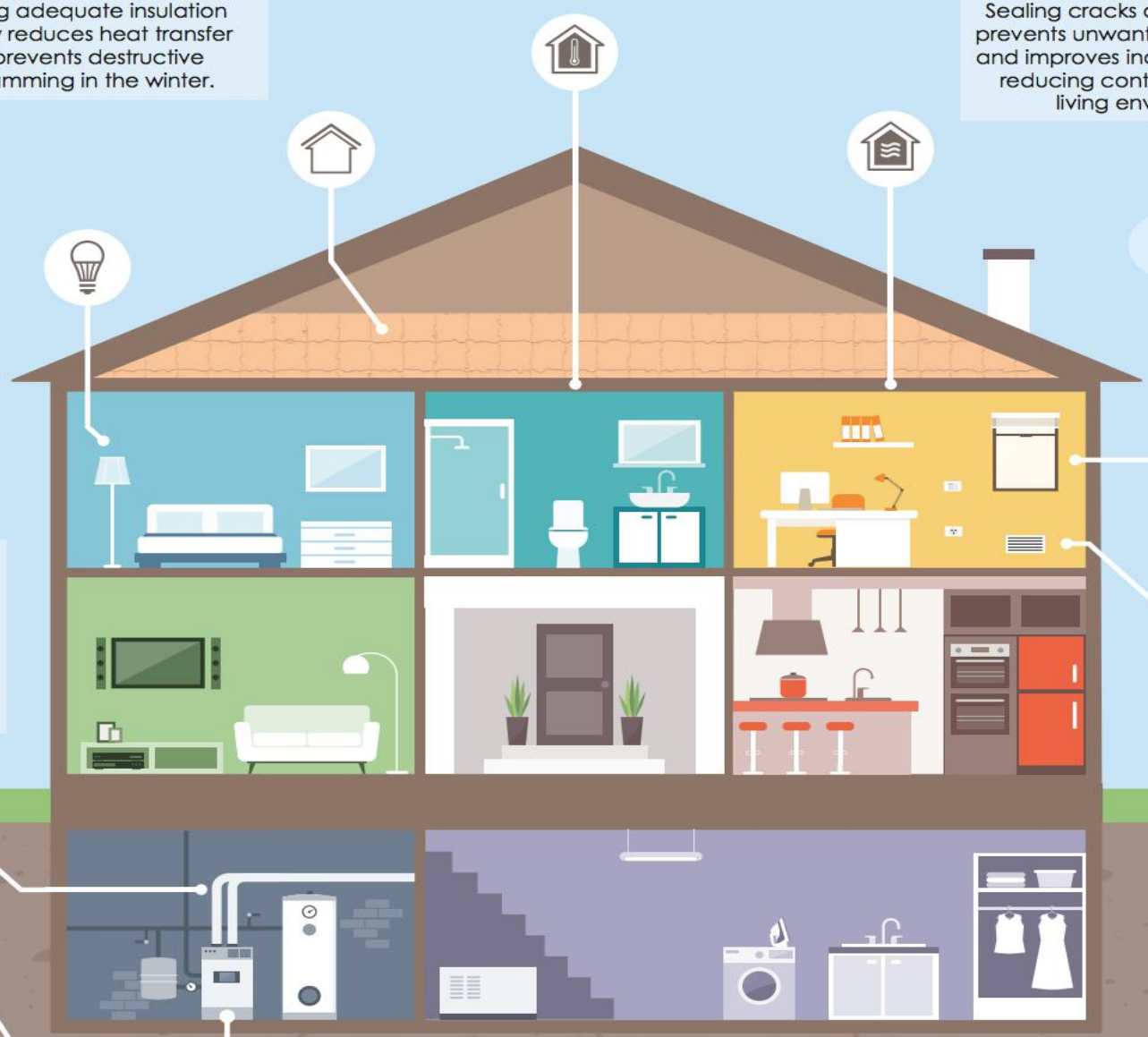
- Buildings are responsible for an estimated 32% of global energy use and almost 30% of total GHG emissions.
- Heating and cooling energy requirements can be lowered by 50-90% through retrofitted buildings.
- New, energy-efficient buildings, in many cases, use almost zero energy for heating and cooling.

THERMAL BARRIER
Installing adequate insulation on all sides of the home improves occupant comfort and reduces the heating and cooling load.

CEILING INSULATION
Installing adequate insulation properly reduces heat transfer and prevents destructive ice-damming in the winter.

AIR BARRIER
Sealing cracks and penetrations prevents unwanted air movement and improves indoor air quality by reducing contaminants in the living environment.

EFFICIENT LIGHTING
Installing LEDs or CFLs dramatically lowers electricity usage and reduces unwanted heat in the home.



EFFICIENT WINDOWS
It is critical that windows be well insulated and well-sealed to prevent unwanted heat transfer and moisture infiltration.

DUCT SEALING
Sealing all components of the HVAC system, and testing to verify, improves indoor air quality, system efficiency, and increases occupant comfort by ensuring air is evenly distributed to all rooms in the home.

MECHANICAL VENTILATION
Installing a dedicated exhaust, supply or balanced ventilation system improves indoor air quality by guaranteeing source-controlled fresh air is being supplied to the home.

HVAC SYSTEM SIZING
Properly sizing the HVAC system reduces capital costs, prolongs the life of the system, and improves system efficiency.

Created by

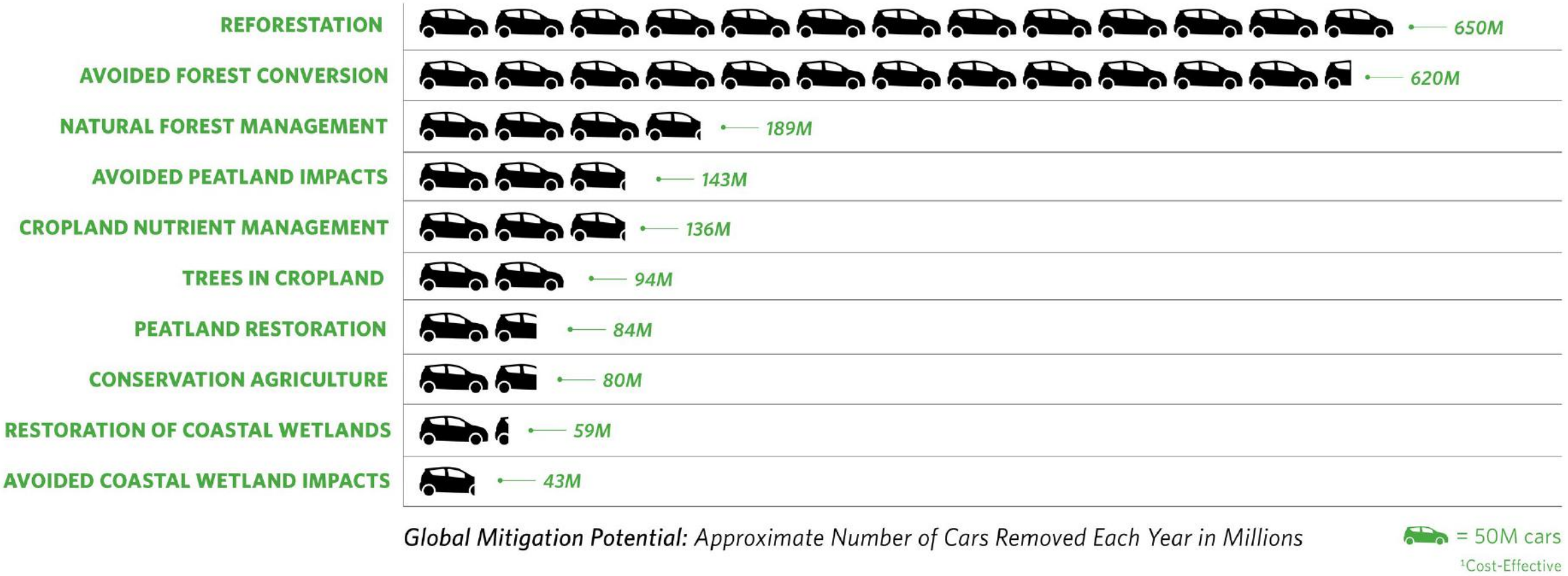
MEEA
MIDWEST ENERGY EFFICIENCY ALLIANCE

NATURAL CLIMATE SOLUTIONS

The Nature Conservancy

TOP 10 MITIGATION PATHWAYS[1] WITH CO-BENEFITS

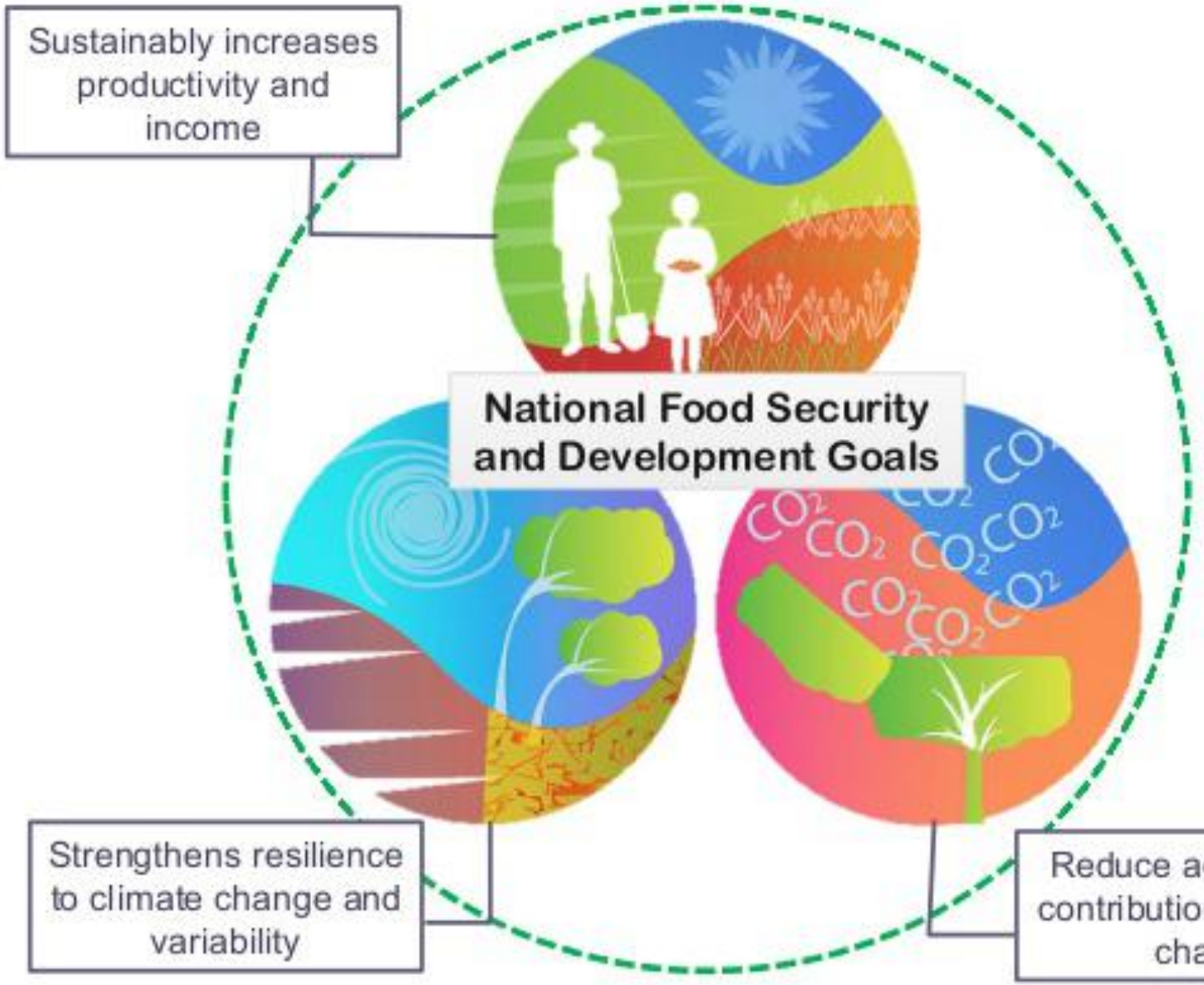
Natural Climate Solutions have the same impact on emissions as taking millions of cars off the road



Bronson W. Griscom el al., "Natural climate solutions," *PNAS* (2017). www.pnas.org/cgi/doi/10.1073/pnas.1710465114

Climate Smart Agriculture

What is CSA?



COVID-19 recovery: green jobs in renewable energy and energy efficiency projects outnumber brown jobs in fossil fuel projects by factor of 2-5

Case studies Mexico, Indonesia, Rwanda

GGGI

As countries are looking for the right measures to include in their COVID-19 economic recovery, GGGI's recent study provides evidence that **investing in renewable energy could create more jobs compared to fossil fuel - based technologies**, while simultaneously building a green model of economic growth.

GGGI Technical Report 12 | **June, 2020**

EMPLOYMENT ASSESSMENT OF RENEWABLE ENERGY:

Power sector pathways compatible with NDCs and national energy plans

Source: GGGI Analysis

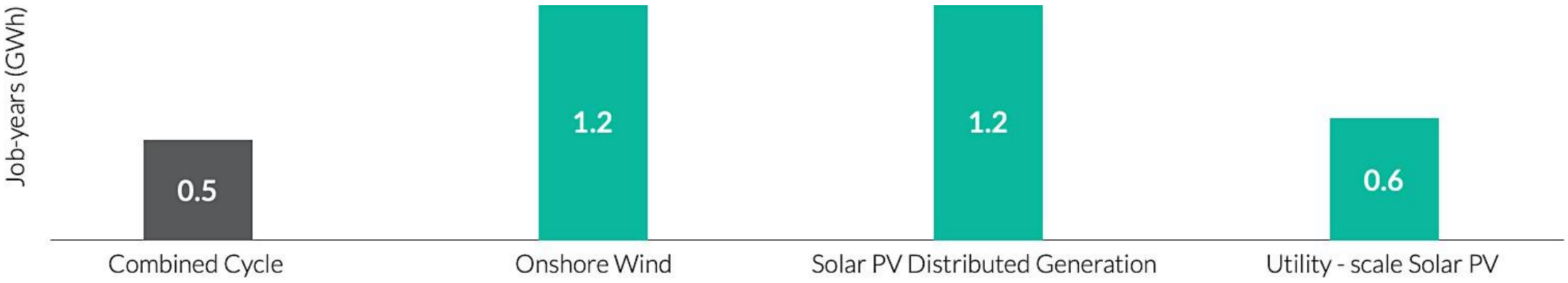


Figure 3.6 Direct job creation per unit of electricity generation (GWh) from new capacity under the NDC Scenario in Mexico

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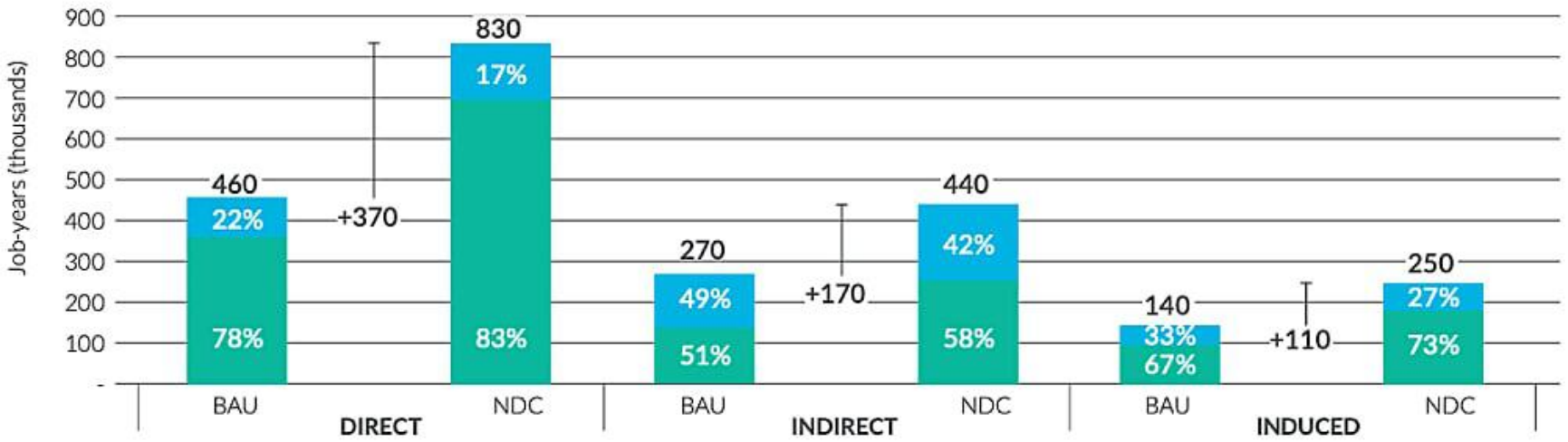


Figure 3.5 Direct, indirect, and induced job creation per type of expenditure for each scenario for Mexico

GGGI Technical Report 12
June, 2020

GGGI's study suggests that **reaching the NDC renewable energy target by 2030 creates about 1.5 million total job-years**, that consists of 830 thousand direct, 440 thousand indirect, and 250 thousand induced job-years.

EMPLOYMENT ASSESSMENT OF RENEWABLE ENERGY:

Power sector pathways compatible with NDCs and national energy plans

Country Assessed: Mexico

GGGI

Indonesia's Low Carbon Development Initiative

GGGI will continue to support the Government of Indonesia to implement the Low Carbon Development Initiative (LCDI), a set of development policies contributing toward achievement of desired mitigation and adaptation objectives while maintaining economic growth, poverty alleviation and sector-level development targets, and while simultaneously, preserving and improving the environment and the natural resources carrying capacity.

In 2017, the Government of Indonesia declared its goal of integrating climate action into the country's development agenda. The Low Carbon Development Initiative (LCDI) was launched at Indonesia's Ministry of National Development Planning (BAPPENAS).

Korea's $35 Billion Green Plan Skirts Zero-Carbon Target

- The Republic of Korea revealed a 42.7 trillion won ($35 billion) plan to ramp up its commitment to renewable energy and environmentally friendly infrastructure. (energy-efficient smart grids, renewable energy sources and clean vehicles)
- President Moon Jae-in announced a framework on July 14 to expand energy efficiency, boost low-carbon power sources and foster green industries amid an effort to triple renewable power output by 2025.
- The green power plans are part of President Moon's broader 160 trillion won "New Deal" program, one of his biggest economic initiatives since coming to power in 2017.

The Korean New Deal is centered on two pillars – digital and environmental – with an added emphasis on bolstering the social safety net.

10 key projects under Korean New Deal

Project	Contents	Spending (in trillion won)
Green mobility	promote EV and hydrogen cars, convert old diesel cars	20.3
Database	strengthen platform to accumulate, process, trade data	18.1
Green smart school	create green, digitally-focused primary, secondary schools	15.3
Digital safety SOC	digitize disaster & safety management systems	14.8
Green energy	invest in renewable energy R&D and related facilities	11.3
AI government	upgrade state system with 5G, blockchain technologies	9.7
Green remodeling	adopt solar panels and green heating in public buildings	5.4
Smart grid sites	help industrial complexes go digital and green	4
Digital twin	create roads, ports, dams in virtual spaces	1.8
Smart healthcare	build digital medical infrastructure	0.2

(Source: The Ministry of Economy and Finance)

Graphics by Kim Hyo-jin and Song Ji-yoon

Korea's Digital and Green New Deal announced June 1, 2020

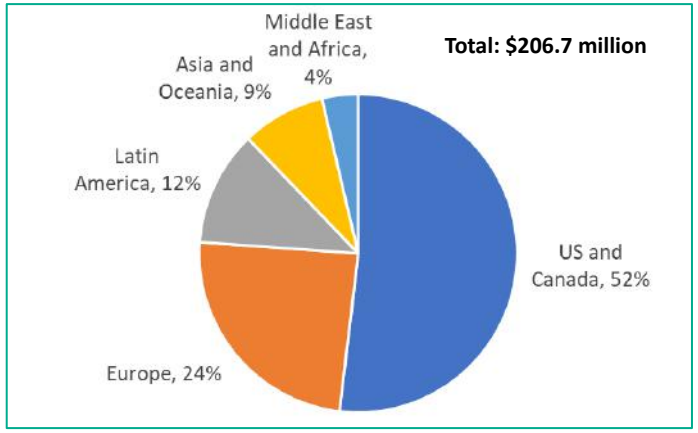
Elements of Korean Digital and Green New Deal (total 550K jobs, KRW76 T) *Digital and Green New Deal are each about 25% of the total COVID-19 Recovery Package*	Cost of Digital and Green components (KRW trillion)	Digital /green measure as share of digital/ green component (%)
Digital New Deal – 3300,000 jobs	13.4	100%
• Data, network AI infra /ecosystem (222K jobs)	6.4	48%
• Digital inclusion (15K jobs)	0.8	6%
• Online systems (education, businesses) (28K jobs)	1.4	10%
• Digitizing public infra (65K jobs)	4.8	36%
Green New Deal – 133,000 jobs	12.9	100%
• environmental infrastructure (89K jobs)	5.8	45%
• innovative green companies / green industry (11K jobs)	1.7	13%
• residential energy efficiency (33K jobs)	5.4	42%

Entrepreneurship is critical for effective long-term response to climate change

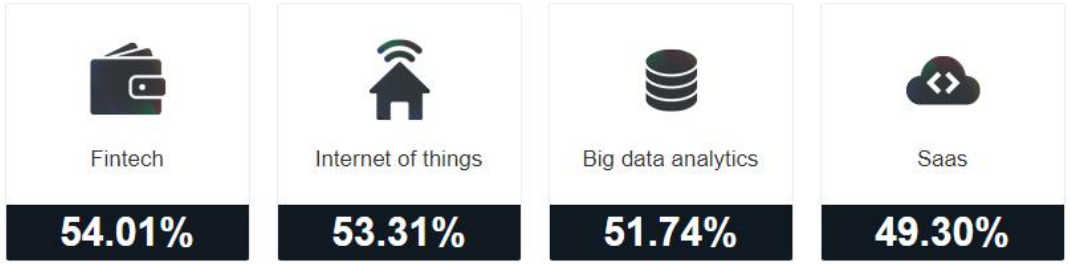
- Need for green innovation in developing countries is getting more urgent—most future growth in emissions is projected to be from developing countries
- Investment in green sectors in developing countries is expected to reach $6.4 trillion over the coming decade
- Small- and medium-sized enterprises are often the dominant form of economic activity in developing countries and are the main provider of jobs
- Startup ventures are most often the channel through which new and disruptive technologies reach the market

Current entrepreneurship programs like accelerators tend to focus on developed countries and technology markets

Accelerator investments in 2016 by geography

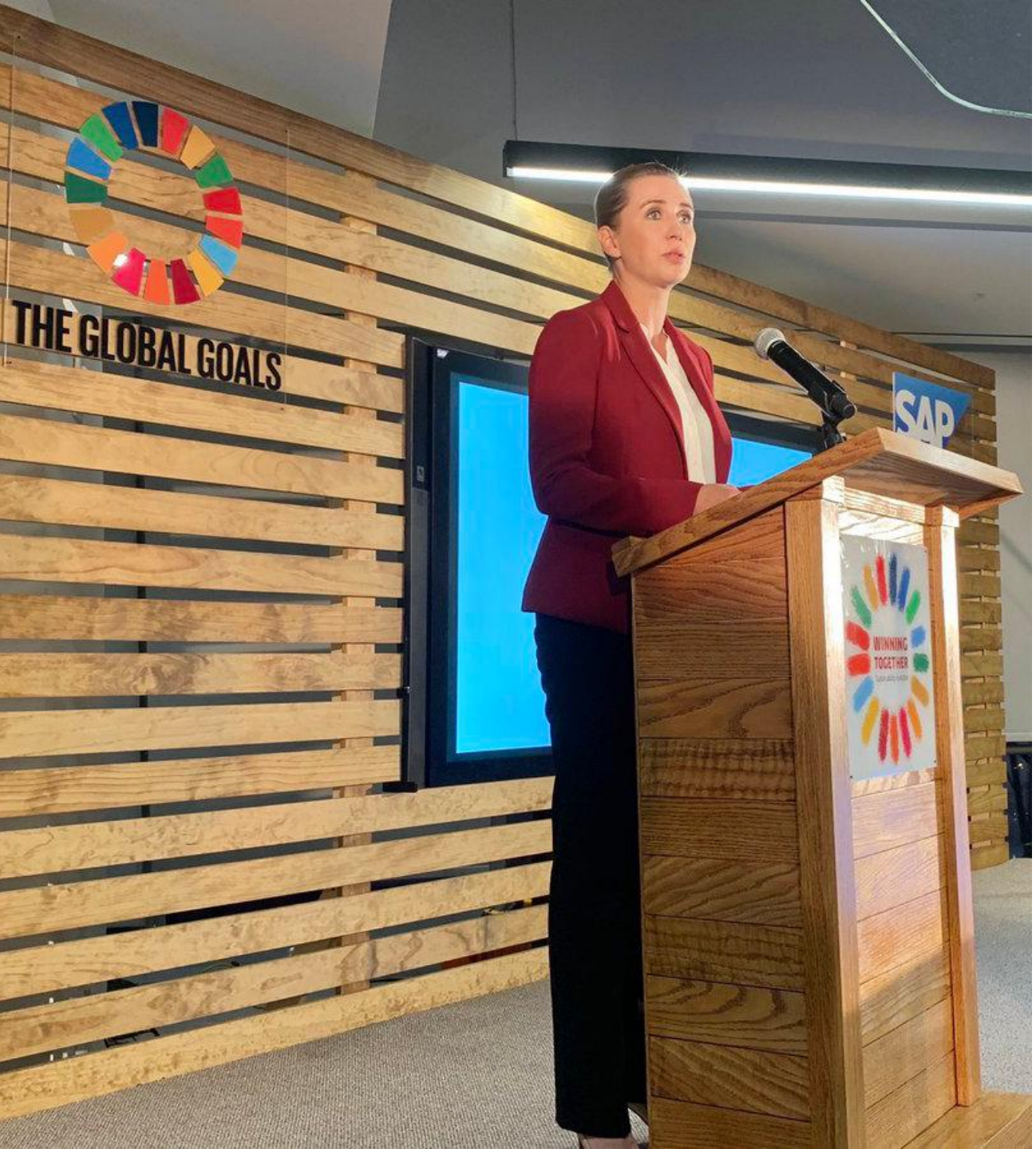


% of accelerators with an interest in the following markets:



Source: Gust Global Accelerator Report 2016

Challenge: *Entrepreneurs in developing countries with innovative green growth business ideas often lack access to technical training, networks, mentorship, and seed capital to effectively grow and scale up their businesses*



NetZero Leadership

- At UNGA 77 countries committed to NetZero2050
- Danish Prime Minister Mette Frederiksen pledged to work to achieve Denmark's ambitious 70% cut in CO2 emissions by 2030.
- Danish Pensionfunds invested $15Bn in renewable energy to date and pledged to invest another $50Bn by 2030

Source: World Resources Institute

Partnering for Green Growth & Global Goals: 2nd P4G Summit in Seoul

- **P4G:** brings together business, government, and civil society organizations in innovative public-private partnerships to advance solutions for green growth.
- **2nd P4G Summit will be held in Seoul in 2021!**

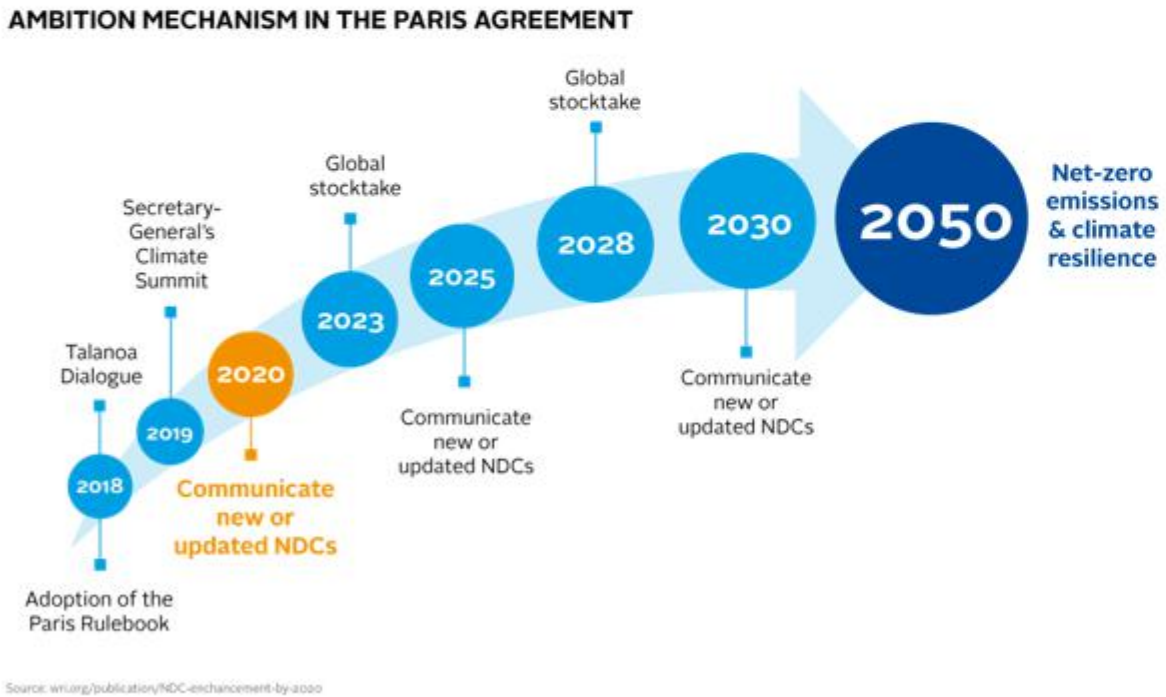
GGGI recommendations for Green New Deals: green recovery from COVID-19

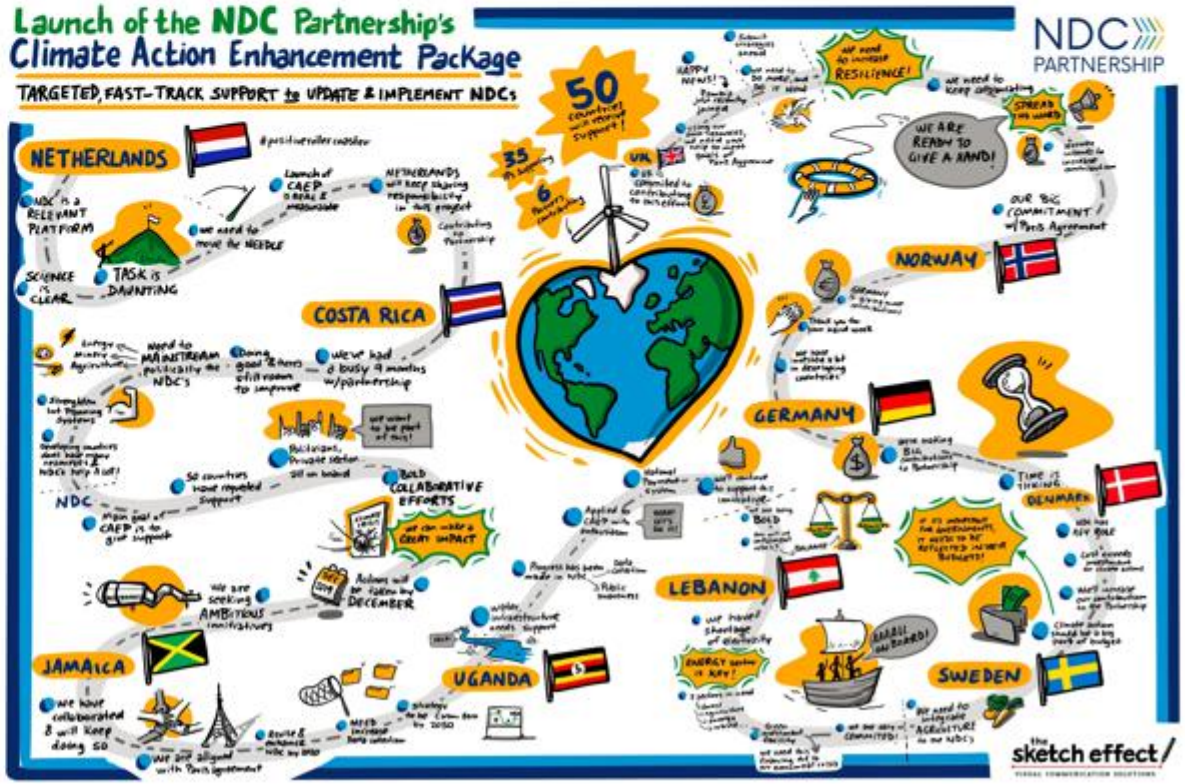
- **Green investments greater than brown:**
  1. Renewable energy, solar-powered irrigation, e-mobility, increased access to sustainable energy
  2. Green building renovation for energy efficiency – including public buildings, schools, hospitals
  3. Employment-based social assistance programs focused on nature-based solutions (reforestation, mangrove restoration) and climate smart agriculture / bioeconomy

- **Fast-track ongoing climate action and green growth policies:**
  1. Accelerate planned climate action in NDCs / green growth policies with green jobs potential
  2. Assess health and employment co-benefits in all planned climate action

- **Combine enabling green growth policies with investments:**
  - Replace fossil fuel subsidies with renewable energy subsidies / feed in tariffs
  - Remove rooftop solar caps and adopt net-metering schemes
  - Bioeconomy, natural capital, and reforestation policies
  - Introduce green public procurement rules for everything from recycled paper to electric cars

COP26, Glasgow
the moment of truth for the Paris Agreement – will new NDCs be more ambitious? #NetZero2050





JOIN US!

BLUE SKIES & NETZERO 2050 CAMPAIGN

- Encourage the Korean government to take ambitious climate action in your engagement with government.
- Show your support by listing your organization / logo in the Campaign materials.
- Organize one or more event under the overall banner of the campaign – using the campaign branding.
- Support the Campaign financially, if you can, with $10K (covering out of pocket for Campaign materials, communication and some events)

ORGANIZATIONS THAT ARE INTERESTED IN JOINING THE CAMPAIGN ARE INVITED TO CONTACT US AT COMMUNICATIONS@GGGI.ORG.

Campaign Secretariat co-hosted by:

GGGI

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