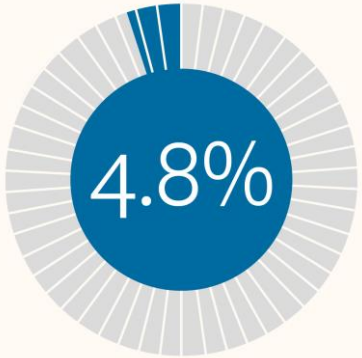
The EIU: Supporting a Clean & Resilient Recovery

The role of energy efficiency and cooling

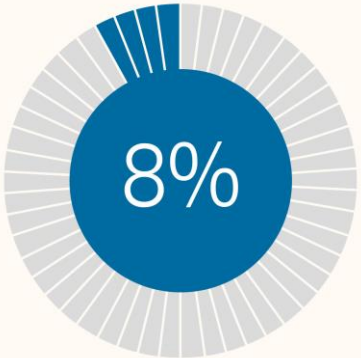
The Economist Group

COVID-19 has cut economic growth and emissions but it has far from solved the climate crisis



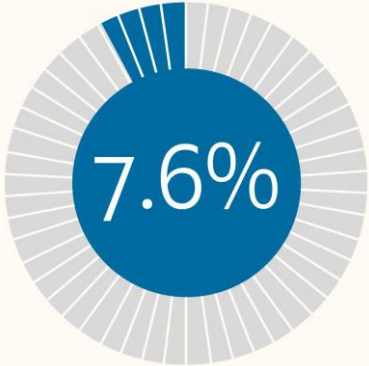
The EIU forecasts that global output will contract by 4.8% this year.

Source: EIU



Global CO^2 emissions are expected to be about 8% lower in 2020 than in 2019.

Source: IEA



But global greenhouse gas emissions would have to fall by 7.6% every year from 2020 to 2030 to keep temperature increases to less than 1.5°C.

Source: UNEP

Economic crises present an opportunity for governments to take action on climate

1

Mass unemployment

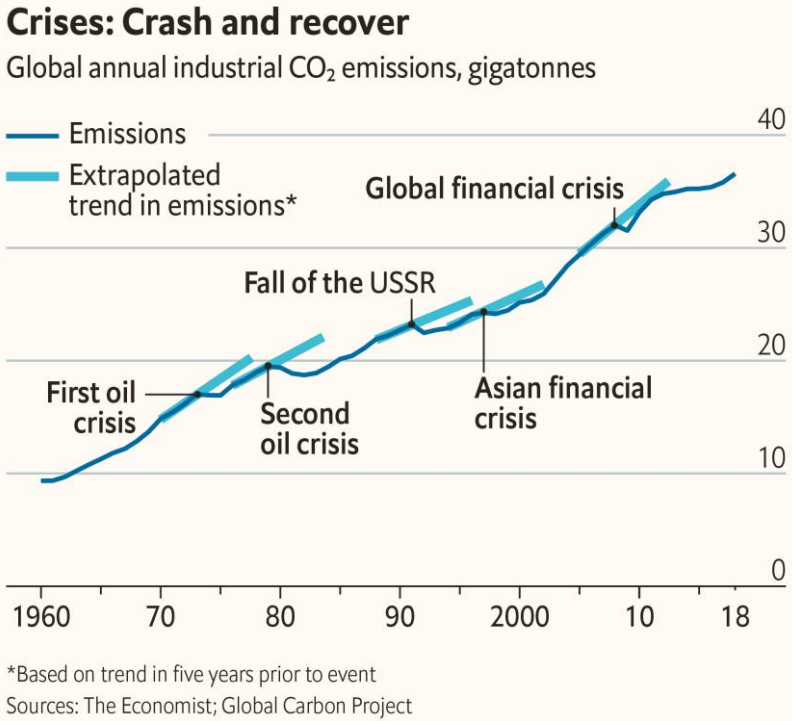
2

Lower political cost

3

Lower financial cost

Similar pleas were made in 2008, but by the end of 2010, annual emissions were greater than they had ever been

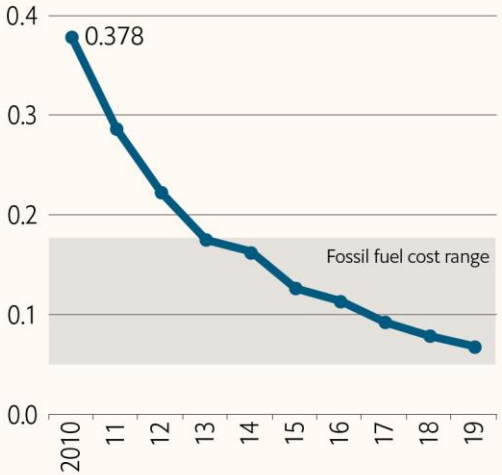


Today though is different to 2009

The cost of renewables has fallen

Falling costs: Solar pholtovoltaic

Global weighted average LCOE prices, 2010-2019
USD/kWh

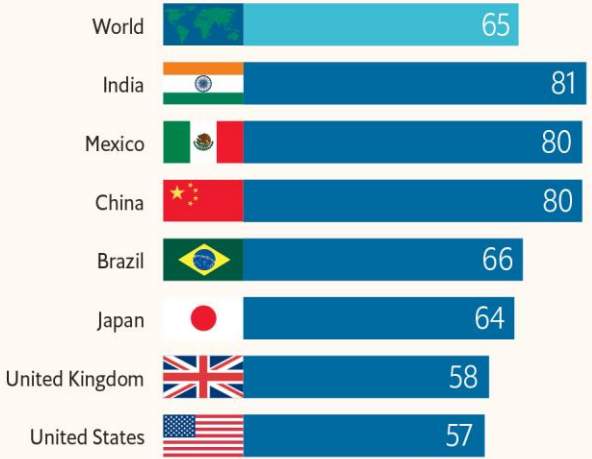


Source: IRENA

Political and consumer sentiment is favourable to a green recovery

Support for a 'green' economic recovery

% who agree that government actions should prioritize climate change



Source: Ipsos MORI

The need to address the climate crisis is even more urgent than before

Example: Cooling

- **Income growth**
- **Urbanisation**
- **Heatwaves**

There is a host of opportunities for policymakers to consider when designing green recovery packages

Sector-specific opportunities

Including:

- Power sector and its end users:
  - Transport
  - Buildings
  - Industry

Cross-sector opportunities

Including:

- Infrastructure
- Energy efficiency
- Innovation
- Education

Different methods of implementation

- Funding
  a) Incentivise markets
  b) Support financing
  c) Provide directly
- Regulation

To ensure maximum economic growth, policymakers must assess options against 4 key criteria

Key criteria for economic success

0 Climate benefit

1 Job creation

2 Multiplier effect

3 Time to impact on the economy

4 Ability to implement

Which policies are the most successful for the climate?

Outside of global treaties, energy production and China's one-child policy, energy efficiency has the largest scope to reduce emissions

Emission reductions by policies/actions, bn tonnes CO_2 equivalent

Catogories: Global treaties · Energy production · Transport · Land and forests · Other regulations · Other · Energy efficiency is a core focus

Category	Policy/Action	Cumulative emissions	Period	Annual emmissions*
	Montreal protocol	135.0bn	1989-2013	5.6bn
	Hydropower worldwide	2.8bn	2010	2.8bn
	Nuclear power worldwide	2.2bn	2010	2.2bn
	China one-child policy	1.3bn	2005	1.3bn
	Other renewables worldwide	600m	2010	600m
	US vehicle emissions & fuel economy standards†	6.0bn	2012-25	460m
	Brazil forest preservation	3.2bn	2005-13	400m
	India land-use change	177m	2007	177m
	Clean Development Mechanism	1.5bn	2004-14	150m
	US building & applications codes	3.0bn	2008-30	136m
	China SOE efficiency targets	1.9bn	2005-20	126m

Category	Policy/Action	Cumulative emissions	Period	Annual emmissions*
	Collapse of USSR	709m	1992-98	118m
	Global Environment Facility	2.3bn	1991-2014	100m
	EU energy efficiency	230m	2008-12	58m
	US vehicle emissions & fuel economy standards‡	270m	20014-18	54m
	EU renewables	117m	2008-12	29m
	US building codes (2013)	230m	2014-30	10m
	US appliances (2013)	158m	2014-30	10m
	Clean technology fund	1.7bn	project lifetime	na
	EU vehicle emissions standards	140m	2020	na

* Annual emissions are cumulative emissions divided by the relevant period. The estimate for the current emissions avoided under the Montreal protocol is eight billion tonnes of CO2e. The annual figure for the collapse of the USSR refers to the years 1992-98.
† Cars and light trucks. ‡ Heavy trucks

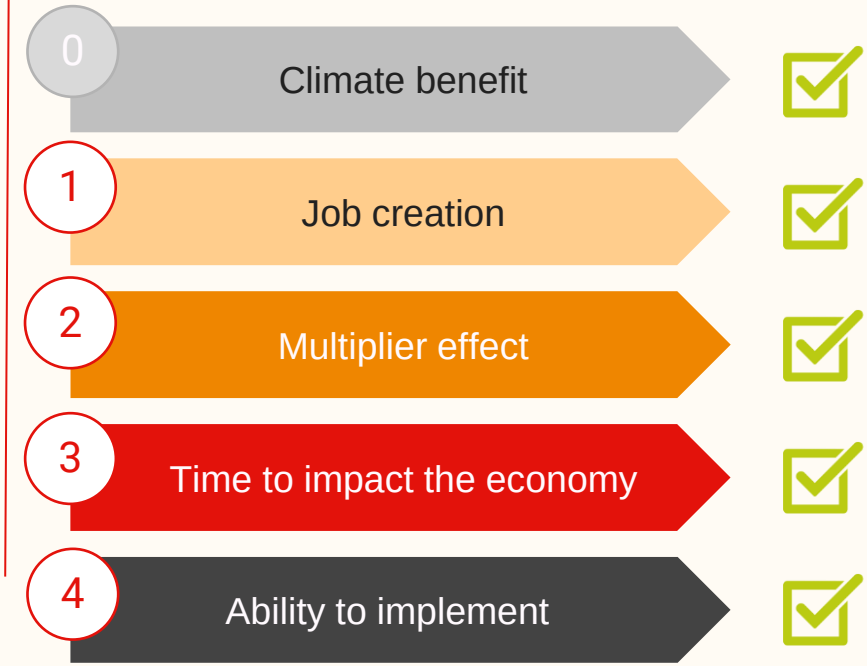
Source: The Economist 2014

How does energy efficiency compare against our criteria?

Policies on energy efficiency could look to:

- Improve industrial energy efficiency
- Retrofit buildings and commission new efficient constructions
- Roll out more efficient and connected household appliances – including smart systems

Assessment against key criteria



Investment in energy efficiency creates more jobs than fossil fuels and has a multiplier effect of around 2

1 Job creation

Spend and multiply

Job creation (direct and indirect) for every $10 million in spending

Sources: Heidi Garrett-Peltier

2 Multiplier effect

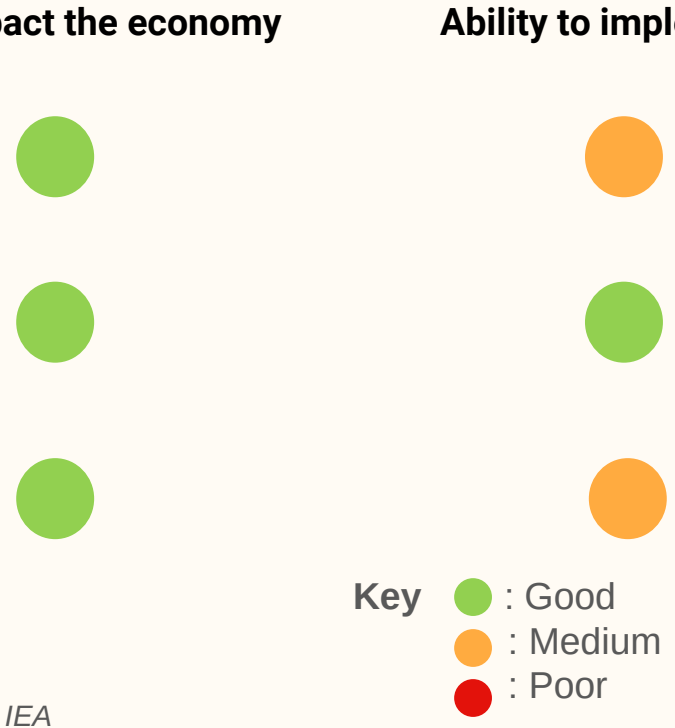
Stimulus measure	Gross-value-added multiplier
Improve industrial energy efficiency	2.1
Retrofit houses for energy efficiency	2.2
Install smart-building systems	1.9

Source: McKinsey & Company

Energy efficiency projects can be rolled out quickly and are relatively feasible to implement

3 4

- Improve industrial energy efficiency
- Retrofit buildings and commission new efficient constructions
- Roll out more efficient and connected household appliances – including smart systems



Source: IEA

How does efficient, climate-friendly cooling compare against our criteria?

Policies on cooling could include:

- Equipment replacement in industrial processes
- Retrofits to incorporate cooling and introduce passive technologies
- Rolling out more efficient and connected cooling appliances, including smart systems
- Green shading

0 More efficient ACs cut CO2 emissions from space cooling in half by 2050.

1 Limited data on labour intensity.

2 Multiplier estimated similar to energy efficiency.

3 Expect time to impact on the economy to be similar to energy efficiency.

4 Training required for some policies but lower requirements for others.

Have stimulus packages launched to date included opportunities for energy efficiency and cooling?

A review by The EIU of over 350 national stimulus packages found that:

- 87% were short-term rescue packages over longer-term recovery strategies.
- No policies to date encourage cooling but nearly 7% could encourage energy efficiency depending on how they are rolled out.

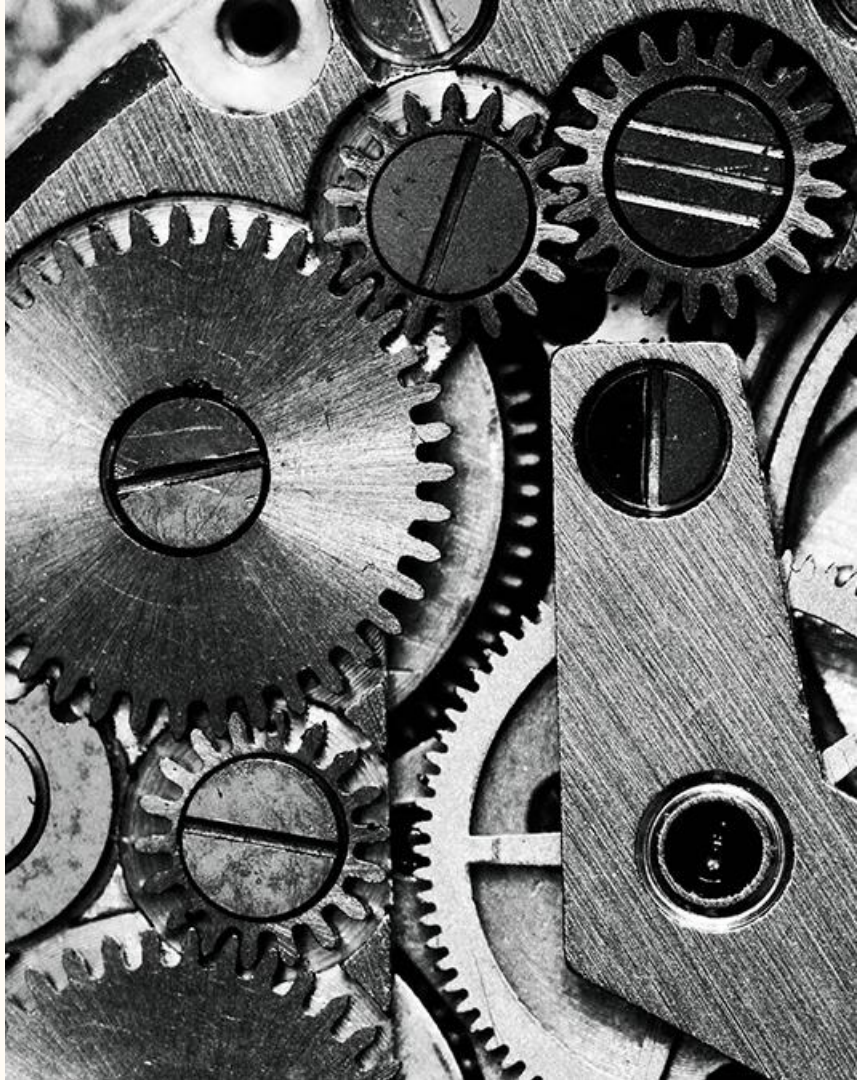
Example: Denmark - On May 19, an agreement was reached on green renovation of public housing (DKK 30.2 billion or 1.3 percent of 2019 GDP) during the period 2021-26.

- It is not too late. As countries release longer term recovery strategies, these can include energy efficiency opportunities.

Please note this research is in progress and is subject to change.

It is time to take action

1. Crises create a unique opportunity to steer the economy away from carbon.
2. Policymakers should prioritise climate-friendly investments that meet necessary economic criteria.
3. Energy efficiency and cooling score highly against these criteria and should be high on policymakers' priority lists.
4. While stimulus packages to date have not incorporated these opportunities, they still can and must in order to benefit both the climate and the economy.



Thank you!

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