



Road transport electrification



Road transportation accounts for 18% of global GHG emissions today.⁴

In our 1.5°C compatible pathway, EVs⁵ in 2030...

Represent nearly two thirds of new car sales and hold a 23% share of existing car stock.⁶



Reduce GHG emissions by more than two-thirds compared to an equivalent internal combustion engine (ICE) vehicle fleet.⁷



In our 1.5°C compatible pathway, a cumulative amount of \$1.1 trillion to 2030 would be invested in EV production and supporting infrastructure like charging stations, translating into:

Additional GDP increase: **\$460 billion** jobs supported: **6.6m** (direct and indirect)



EV production would account for 78% of the total investment, or \$855 billion.

As announced investments in electric and hybrid vehicles by major automakers to 2030 already exceed \$500 billion,⁸ as much as \$350 billion more would be invested in the global automotive sector to advance electric mobility in a 1.5°C compatible pathway.



Supporting infrastructure would account for 22% of total road transport electrification investment, or \$238 billion, while contributing 39% of new jobs created or saved.

Share of total investment **22%**



Share of job creation **39%**



Case study

Research design for COP26 summit

Economist Impact

In collaboration with COP26 and Race2Zero, Economist Impact gathered expert analysis on clean energy's economic opportunities, and asked us to design a report, infographic, and supporting assets.

nwcdesign

Intelligent design
for thought leadership,
research and visual content.

A high-profile project with an extremely tight deadline, the client presented us with a real challenge – and we took it head-on. By effectively combining the skills within our team, **we delivered a suite of quality assets** right when they were needed.”

Non Wood,
Founding Director, NWC Design

Scaling the energy transition

Higher investment, more jobs, and economic growth in a 1.5°C pathway



When it comes to clean power, probably the greatest economic impacts are concentrated in Asia. In China and India, the share of renewable energy generation will expand rapidly to reach about two-thirds by 2030 (from less than a third today).



employment effects. New renewable energy sources, like solar and wind, generate more jobs than well-established ones. For instance, the hydro-power sector, despite using the largest source of renewable electricity in the world (accounting for 44.6% of total capacity in 2019), employs about half as many people as the solar sector.¹⁰

More than a third of clean power investments will go to electrolysis networks rather than cables or hardware, with annual investments more than tripling to US\$32.2 billion in 2020. Two-thirds of network investments will take place in developing economies.¹¹ On a cumulative basis, CC-2030, we calculate the US\$35.4 trillion will be needed in clean energy investments, of which US\$5.2 trillion goes to grids and networks (Figure 2) and underpins up to 5 million jobs globally.

Yet not all clean energy sources, or even renewables, are equal when it comes to

Figure 2. Cumulative investments in clean power by 2030, worldwide



¹⁰ Global Energy 2019, 'Investment in power generation: comparing the employment and energy efficiency of renewable energy additional base using the break-even power cost'.

¹¹ Global Energy 2019, 'Investment in power generation: comparing the employment and energy efficiency of renewable energy additional base using the break-even power cost'.

¹² Global Energy 2019, 'Investment in power generation: comparing the employment and energy efficiency of renewable energy additional base using the break-even power cost'.

¹³ Global Energy 2019, 'Investment in power generation: comparing the employment and energy efficiency of renewable energy additional base using the break-even power cost'.

¹⁴ Global Energy 2019, 'Investment in power generation: comparing the employment and energy efficiency of renewable energy additional base using the break-even power cost'.

¹⁵ Global Energy 2019, 'Investment in power generation: comparing the employment and energy efficiency of renewable energy additional base using the break-even power cost'.

¹⁶ Global Energy 2019, 'Investment in power generation: comparing the employment and energy efficiency of renewable energy additional base using the break-even power cost'.

Scaling the energy transition

Population growth, changing lifestyles and the need for reliable modern energy access will double demand across the continent, and power demand multiples at least tenfold under a net-zero compatible scenario. Renewable energy will be key based on IEA's Sustainable Development Scenario¹⁰ projections. We estimate that in South Africa alone renewable generation grows from 8.6GW in 2019 to nearly 60GW in 2030, a significant increase with the potential to add 80,000 jobs across both clean generation and power networks.

Opportunities and challenges in clean power

In its size and contribution to emissions, the power sector presents arguably the greatest economic opportunity and challenge for limiting global temperature rise. The financial opportunities while the uneven distribution of costs within and between countries poses a major challenge.

Energy efficiency: Reducing power intensity and creating economic value

Although we do not explicitly estimate the value of energy efficiency in this paper, the sector will play a major role in emissions reductions, and will also create significant employment opportunities across both the appliances and building sectors. Due to its cost-effectiveness, energy efficiency is the 'clean technology' of choice for stimulating the economy in a 1.5°C-compatible transition.

Global spending on energy efficiency nearly doubled by 2020 under net-zero scenarios, with almost half allocated to reducing residential consumption in buildings (resulting in 10% less emissions in building energy by 2030).¹⁶

Box 1: Key supporting actions to decarbonize the power sector

- Commitment to 2030-unabated coal phase-out in OECD countries. Commitment to halt new coal projects in emerging economies, (especially China and India) with targeted financial support from developed countries for early coal retirement (eg, in India)
- Immediate commitments by financial institutions not to finance new coal power plants, new coal mines or coal mine extensions, and to cease financing companies in coal mining during the 2020s
- Government-led quantitative targets for growth of net-zero-carbon generation and reduction of global carbon intensity (corporate commitments to increased procurement of renewables for example, through RE100)
- Introducing and extending effective carbon pricing
- Immediate shift to fossil fuel subsidies



Scaling the energy transition

significant source of growth, with EV's accounting for 90% of battery demand. Wood Mackenzie also estimates that about 700 battery manufacturing plants will be operational by 2030, with Asia-Pacific comprising 60% of global manufacturing capacity. Supporting infrastructure (such as charging networks) will also be an important enabler allowing capacity to reach 100% of global manufacturing capacity by 2030. The 2019-2020 EV market is expected to grow by 100% in 2020, with 2021 expected to grow by 100%.

Figure 8: Battery demand in the EV sector

Meet the client

Part of the Economist Group, Economist Impact (EI) is a powerhouse for inspiring and activating positive change in the world.

Through expert analysis and intelligent debate, they empower a wide range of organisations to enable progress and make a real difference. Sustainability, health, and new globalisation are their main areas of focus, and they work with leading corporations, foundations, NGOs, and governments to help them contribute to a better tomorrow.

EI's outlook and ethos make them the perfect partner for us at NWC Design, and we've proudly worked with them for over 8 years now.

Our challenge

With COP26 fast approaching, our client knew they could rely on us for high-quality design at an even higher speed. Though the timelines were tight, we weren't deterred and got to work right away.

The project itself investigated the expected size of the clean energy market in G7 countries in 2030 in relation to their net-zero emissions targets, and how that might impact both the economy and employment. Our visuals needed to incorporate the three main subjects: people, green energy, and GDP.

The NWC approach

This project had a lot of moving parts, and we worked closely with EI teams and stakeholders around the world to make the magic happen.

Our first step was to put together some very early design scamps and creative approaches. By getting client approval for the design direction as soon as we could, we were already ahead of the game. This was really key given the tight turnaround time EI needed.

Next, we used the established visual style to create a draft skeleton of the report and infographic, bringing the key data to life clearly and concisely.

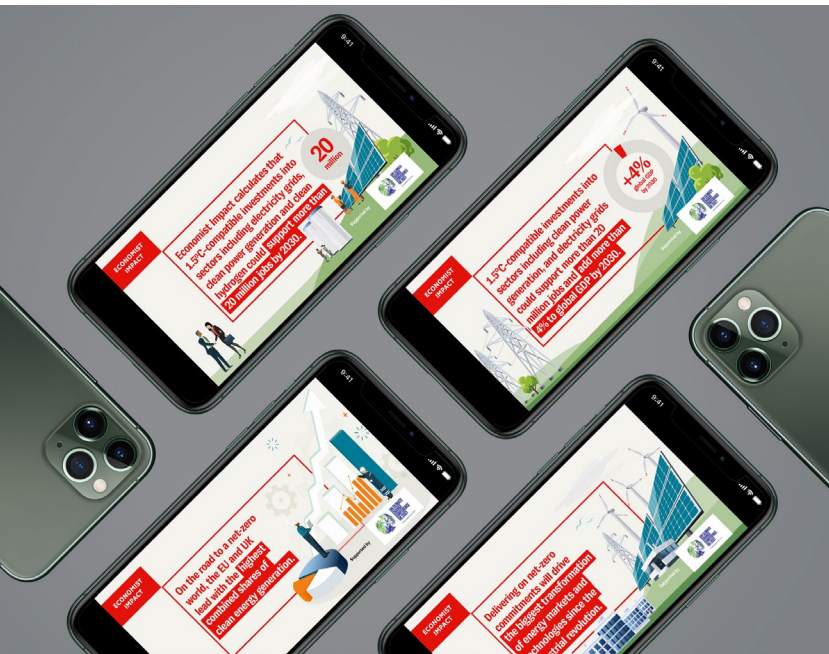
Collaboration is really important to us – it's one of our core values – and we checked in regularly with the EI digital staging team throughout the project so they could add visuals to the content hub as we were creating them.



This project really is top-notch! Thank you so much for your hard work and flexibility throughout the process."

Yuxin Lin,
Senior Manager of Policy & Insights,
Economist Impact





Our work

Once we were done, the client had a comprehensive suite of content to support their research.

We produced:

- A 44-page report
- A detailed infographic
- Supporting social assets
- Advertorial assets
- Paid media assets (e.g. social media ads)
- Digital hub graphics



The impact

Armed with a suite of easily digestible assets, Economist Impact could communicate their findings to organisations everywhere. Like with any EI initiative, the aim was to encourage positive change, and our work gave them everything they needed to raise awareness in all the right circles.

Yuxin Lin, Senior Manager of Policy & Insights was thrilled with the results: "This project really is top-notch! Thank you so much for your hard work and flexibility throughout the process."

A pleasure as always, Yuxin!

nwc design

Intelligent design

for thought leadership,
research and visual content.



44 (0)1606 276176



workwithus@nwc.design



[nwc-design](https://www.linkedin.com/company/nwc-design)

NWC Design is the trading name of NWC Information Design Ltd.

Company registered office is 34 All Saints Street, Bolton, UK, BL1 2ER. Company is registered in England and Wales, no. 11327280