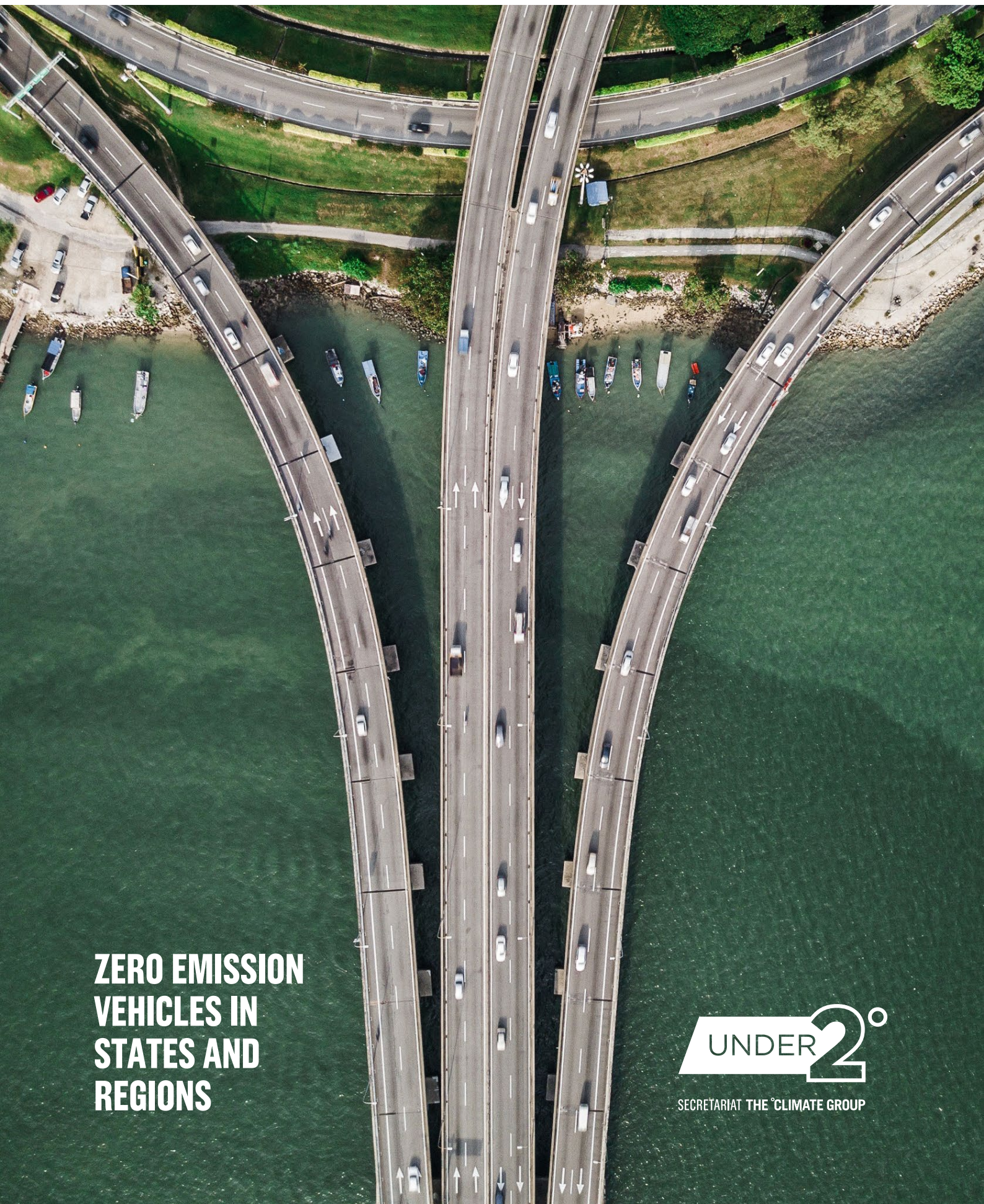


THE °CLIMATE GROUP

**ZERO EMISSION
VEHICLES IN
STATES AND
REGIONS**

UNDER 2°
SECRETARIAT THE °CLIMATE GROUP



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“THE SCOTTISH GOVERNMENT IS DELIGHTED TO HAVE PARTICIPATED IN THE ZEV PROJECT, WHICH ILLUSTRATES A SHARED COMMITMENT FROM GOVERNMENTS ACROSS THE WORLD TO PIONEERING A LOW CARBON FUTURE AND SUPPORTS OUR AMBITION ON ELECTRIC VEHICLES”

– Scottish Government spokesperson

STATES AND REGIONS ARE LEADING ON ZERO EMISSION VEHICLES

States and regions are taking a lead role in the global transition to zero emission vehicles (ZEVs), recognizing the wide-ranging advantages that ZEVs will bring to their communities. Simply put, zero emission vehicles are better for the climate, our health and can have economic benefits.

With regulatory authority over vehicles, buildings and roads, state and regional governments are uniquely placed to accelerate zero emission vehicle adoption. Compared to national governments, states and regions have more opportunities to be innovative, agile and reactive and in their policy approach. States and regions can also help provide an enabling environment to boost action at the city and business level.

Because of this many state and regional governments from around the world are now working on a wide range of policies to increase the number of ZEVs on their roads. These range from public awareness campaigns, to financial incentives, to comprehensive action plans.

In 2018, policies to support the uptake of zero emission vehicles were a key theme of the Global States and Regions Annual Disclosure Report. Sixty governments reported taking action to install electric vehicle infrastructure. This includes at home, in the workplace, on highways or other locations. Fifty-nine governments reported they are switching to electric or hybrid vehicles in public fleets.

Businesses are also recognizing the benefits of zero emission vehicles. The Climate Group's [EV100 initiative](#) is an example of this, with 35 major companies now committed to making electric transport the new normal by 2030. These companies represent over US\$0.5 trillion in combined revenue. By working together with business, states and regions can make greater progress towards the ZEV transition.

States and regions can align policies with business opportunities, and work with businesses to co-create innovative solutions to joint problems.

There are still a number of barriers to zero emission vehicle adoption. Key barriers are the upfront costs and availability of ZEVs, convenience including infrastructure charging and consumer awareness and culture. State and regional governments can help overcome these barriers by implementing the right policies.

HOW STATES AND REGIONS CAN TAKE ACTION



THE UNDER2 ZERO EMISSION VEHICLE PROJECT

One of the best sources of information for states and regions looking to take action is their fellow governments. So in May 2018, The Climate Group, in its role as Secretariat of the Under2 Coalition, launched the [Under2 Zero Emission Vehicle \(ZEV\) Project](#). The Under2 ZEV Project enables state and regional governments to share insights on leading policy measures to support ZEV roll-out. Over the past year, more than 50 governments around the world have been networking with other subnational leaders, sharing experiences, and identifying innovative policies to accelerate the uptake of zero emission transport. Governments have come together to share details of their different policy approaches to ZEVs, including insights on barriers, achievements and lessons learned.

The opportunity for governments to learn from each other is highly valuable. Peer learning helps overcome uncertainty, boost collective confidence and technical knowledge, and create the partnerships needed to succeed. Participation in learning networks can increase a state's

propensity to launch new policy solutions to outstanding problems.

The Under2 ZEV Project has been supported by the Scottish Government, who recognize that policy action on zero emission vehicles needs to take place at both the national and subnational government level. Scotland is taking ambitious action on zero emission vehicles, with the aim to phase out the need for new petrol and diesel cars and vans by 2032.

The Scottish Government's roadmap, Switched on Scotland sets out a long term vision and strategic approach to advance widespread adoption of zero emission vehicles.



WHY STATES AND REGIONS HAVE A CRITICAL ROLE IN THE ZEV TRANSITION

State and regional governments are in a unique position to accelerate action on zero emission vehicles. They work at a level that allows for quicker action and greater experimentation than national governments.

They can support national governments to meet their climate targets and give them confidence to raise their ambition and go further and faster.

For business, the commitment of states and

regions gives them the certainty they need to make investments and the combined result is a shift which shows the transition to a low carbon economy is not only possible, but already happening.

States and regions are banding together for greater impact by joining the Under2 Coalition. The Under2 Coalition is driven by a group of ambitious state and regional governments committed to keeping global temperature rises to well below 2°C.

HOW STATES AND REGIONS ARE TAKING ACTION

1

GETTING THE PUBLIC ONBOARD

For many states and regions, raising awareness on zero emission vehicles is an essential part of a plan to increase their uptake.

- British Columbia's (Canada) electric vehicle outreach programme Emotive developed a variety of innovative approaches to spread awareness on the benefits of electric vehicles

(EVs). The 'Ride and Drive' component gave people opportunities to test drive EVs. Another involved recruiting EV Ambassadors – EV enthusiasts who volunteered their time to talk about EVs with members of the public. The high levels of credibility and enthusiasm of the EV ambassadors provided a foundation for positive conversations on EVs with the public.



SPOTLIGHT SCOTLAND'S ROADMAP FOR THE EV TRANSITION

The Scottish Government's Switched On Scotland Roadmap sets out a comprehensive electric vehicle strategy to increase the number of electric vehicles on Scotland's roads. The roadmap has provided an enabling framework for the design and implementation of a range of comprehensive programs targeting public fleets, charging infrastructure, business and consumers. The roadmap establishes a clear case for Scotland to promote widespread uptake of EVs as an alternative to fossil fuel vehicles and how this can support Government aims across several important policy areas, including climate change, air quality, energy and economic development.



The second phase of the roadmap identifies ten outcome-focused actions to accelerate the growth of the ZEV market up to 2020. The outcomes will collectively deliver three positive impacts: decreased costs; enhanced convenience; and a change in culture so that EVs are preferred to fossil fuel vehicles.

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2

ELECTRIFYING PUBLIC FLEETS

Governments are ideal early adopters of zero emission vehicles as they hold significant purchasing power. By converting their own fleets, they can raise awareness and enhance demand for zero emission vehicles. They can also gain first-hand experience with ZEVs and obtain insights to help develop more informed policy.

- Catalonia (Spain) set a target to have a 100% zero emission fleet by 2030 and developed a guide on purchasing electric vehicles for public fleets.
- New York State (USA) used aggregate purchasing power to purchase a variety of ZEVs, resulting in significant savings.

- Santa Fe's (Argentina) Bio Bus project uses locally generated solar electricity to power city bus lines.
- Queensland (Australia) has committed to increasing the number of electric vehicles in its public fleets through the QFleet Electric Vehicle Transition Strategy. The strategy has six focus areas. One focus area includes cross-subsidizing electric vehicle lease rates, making high emission vehicle leases more expensive and discounting electric vehicles with no net financial impact.



SPOTLIGHT

NAVARRA'S NEW PUBLIC-PRIVATE INITIATIVE

Navarra (Spain) has set up a private-public initiative (NaVEAC) on electric mobility which brings together participants from the public and private sectors. It aims to build on the technological strengths of its local industry and includes research centers, local and regional authorities and over 60 companies. The initiative found it was important to consider the needs of the citizens as well as integration with the energy system. Results so far include:

- fiscal incentives for the purchase of electric and hybrid vehicles and installation of charging infrastructure, combined with a public awareness campaign on the economic and environmental advantages of electric vehicles.
- the development of fleet conversion plans for companies through Total Cost of Ownership (TCO) analyses, based on vehicle types and uses.
- company visits to original equipment manufacturers (OEM) to identify collaboration opportunities.



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3

ROLLING OUT ZEV CHARGING INFRASTRUCTURE

One of the most commonly raised concerns about zero emission vehicles is the availability of charging infrastructure. While most charging is expected to take place at home, a comprehensive public charging network is necessary to extend travel distances and help alleviate consumers' range anxiety. The International Council on Clean Transportation (ICCT) has shown that having infrastructure in place is linked with electric vehicle uptake.

- Québec (Canada) provides rebates for purchasing and installing charging stations both at home and in the workplace.
- Navarra (Spain) outlined priority actions to improve charging infrastructure. This includes carrying out a study on the optimal location of public fast charging points, and developing

charging points and systems suitable for industrial companies.



California's Zero Emission Vehicle Action Plan calls for 5 MILLION zero emission vehicles by 2030



SPOTLIGHT QUEENSLAND'S ELECTRIC SUPER HIGHWAY



Queensland (Australia) is rolling out the new Queensland Electric Super Highway (QESH). Rapid charging stations – that can recharge a Nissan Leaf to 80% in 20-30 minutes – have been installed in 17 locations along the Queensland coast.

The public's reaction to the QESH has been overwhelmingly positive and a next phase project of AU\$2.5 million has been approved. The QESH is a joint project and its success relied on different stakeholders working together to understand the electrical network impacts, transport system requirements and community needs.


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ENABLING BUSINESS TO THRIVE

As electric vehicle adoption increases, vehicle manufacturers, charging manufacturers, and a range of supply chain and service companies will also grow. There are opportunities for states and regions to support business and build these industries in their region.

- Québec's Transportation Electrification Action Plan includes measures focused on building an industrial base. The aim is to boost research potential in an emerging technology base and develop an innovative electric transportation manufacturing sector.
- Scotland provides support to businesses to increase their zero emission vehicle use, for example by offering six year interest-free loans for vehicle purchases and raising employee awareness through Switched on @Work.

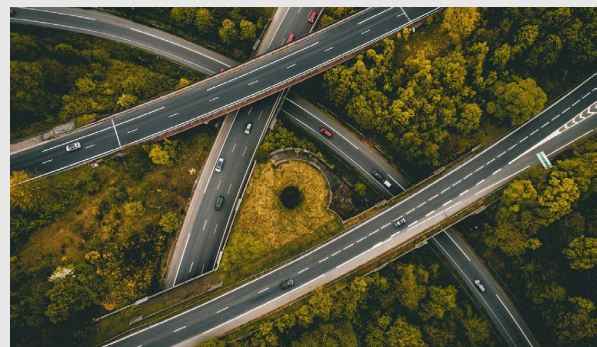


South Australia has a target of **30%** low emission vehicles by 2019 for its government fleet of **7,500** vehicles



SPOTLIGHT: NEW EHIGHWAYS IN HESSE AND SCHLESWIG-HOLSTEIN

Hesse and Schleswig-Holstein (Germany) are piloting the construction of eHighways to electrify truck transport. The eHighways use overhead lines known as catenaries to electrify truck transport, significantly reducing noise and air pollution and resulting in fuel savings. Trucks can either automatically or manually attach to the catenaries, allowing them to charge while travelling at speeds of up to 90km/h.



In Germany, 60% of the emissions from heavy duty vehicles occur on just 2% of the network, so even electrifying only the busiest roads will make a huge contribution to emissions reduction. The project developed solutions to overcome challenges with infrastructure approval processes, obtaining specialist skills and expertise, and environmental issues.

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SPOTLIGHT: BADEN-WÜRTTEMBERG'S ALLIANCE FOR E-MOBILITY INNOVATION

Baden-Württemberg (Germany) has established an innovation alliance called the Cluster Electric Mobility South-West to connect stakeholders from industry and research centers. The cluster aims to hone new technologies and develop innovative mobility solutions by bringing together industry players with science and politics.

By connecting the different stakeholders involved in the mobility ecosystem, the cluster members can exchange ideas with partners outside of their specific industry or field of technology. Ultimately, the goal is to develop capabilities for new products and services, generating new potential for value creation in Baden-Württemberg and a cleaner automotive future to help reduce emissions.

A comprehensive strategy, an interdisciplinary network, and professional management were all found to be key components to the success of the cluster.

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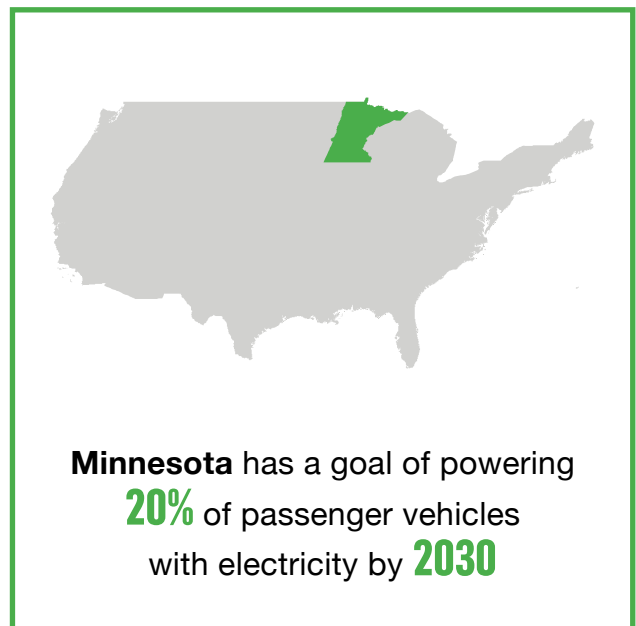
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JOINING FORCES ON ZEVS ON THE GLOBAL STAGE

At the Global Climate Action Summit (GCAS) in September 2018, states and regions in the Under2 Coalition joined forces with cities and business to call for the end of the internal combustion engine.

Together, more than 60 state and regional government leaders, Mayors and CEOs joined the ZEV challenge and committed to signal an endgame for fossil-fuel vehicles.

Alongside the Global Climate Action Summit, state and regional governments from across the Under2 Coalition got together at the annual General Assembly and held a special session on ZEVs during which 15 governments discussed clean transport policies in their respective jurisdictions.



HOW STATES AND REGIONS CAN ACCELERATE THE ZEV TRANSITION

States, regions, cities and businesses need to come together to use their purchasing and policy influence to accelerate the transition. Switching to zero emission vehicles is crucial not only to achieve the objectives of the Paris Agreement, but also to tackle air pollution. With a diverse range of policy options possible, states and regions can tailor their policy approach so that it meets their needs and goals.

“THE ZEV PROJECT DEMONSTRATES HOW AMBITIOUS PUBLIC POLICIES CAN ACCELERATE THE ELECTRIFICATION OF TRANSPORT AND MITIGATE GHG EMISSIONS. QUÉBEC WAS PROUD TO PRESENT ITS SUCCESSFUL INITIATIVES IN THIS AREA.”

- Benoit Charette, Minister of the Environment and the Fight Against Climate Change, Québec

TAKE ACTION THROUGH THE UNDER2 COALITION

LEARN AND NETWORK THROUGH THE ZEV COMMUNITY

The opportunity for states and regions to exchange knowledge on zero emission vehicles is only getting bigger, with the upcoming launch of the ZEV Community. Building on from the success of the Under2 ZEV Project, the ZEV Community is an international learning and networking exchange that will bring together global networks leading on zero emission vehicles.

The ZEV Community is co-hosted by the Under2 Coalition and the ZEV Alliance Secretariats, in partnership with C40 Cities and the U.S. Climate Alliance. The ZEV Community will enable best practice exchange between different levels of governments to support their ambitions and accelerate vertical integration of policies. By exchanging information and experiences, ZEV Community members can develop their knowledge and create the partnerships needed to succeed.

Members of all networks will be invited to attend regular webinars, learn about global ZEV successes and ask questions. There will be opportunities to connect with business leadership, for example by linking with The Climate Group’s [EV100 initiative](#).

COMMIT TO THE ZEV CHALLENGE

States and regions can generate momentum by making a public commitment on ZEV action. The ZEV Challenge invites states and regions to commit to 100% zero emission passenger vehicle purchases before 2050. For this purpose, they will commit to public sector ZEV adoption by either converting all appropriate public fleet vehicles to ZEVs by 2030, or procuring only ZEVs for appropriate public fleets by 2030. They will provide incentives for the purchase of ZEVs by consumers and businesses and promote the roll out of ZEV charging infrastructure and fuel stations.

Details on ZEV Community events and participation will be shared with all Under2 Coalition members. If you would like to get involved, support the project or receive further information contact Alice Ryan, Under2 Coalition Transport Policy Manager at aryan@theclimategroup.org



This report is part of the Under2 Zero Emission Vehicle (ZEV) Project, which supports state and regional governments to increase the number of zero emission vehicles on their roads. The Under2 ZEV Project is implemented by The Climate Group, as part of the Under2 Coalition, with the support of the Scottish Government.



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THE UNDER2 COALITION

[The Under2 Coalition](#) is driven by a group of ambitious state and regional governments committed to keeping global temperature rises to well below 2°C. The coalition is made up of more than 220 governments who represent over 1.3 billion people and 43% of the global economy.

The Climate Group is Secretariat to the Under2 Coalition and works with governments to accelerate climate action. The coalition consists of signatories to the Under2 Memorandum of Understanding, an initiative founded by the governments of California and Baden-Württemberg in the lead up to the Paris Climate Conference in 2015. The Climate Group's role builds on more than a decade of work with the former States & Regions Alliance, the world's first climate leadership forum for state and regional governments.

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[The Climate Group](#)'s mission is to accelerate climate action to achieve a world of no more than 1.5°C of global warming and greater prosperity for all. We do this by bringing together powerful networks of business and governments that shift global markets and policies. We focus on the greatest global opportunities for change, take innovation and solutions to scale, and build ambition and pace. We are an international non-profit organization, founded in 2004, with offices in London, New Delhi and New York.



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