TRANSPORT

Action Plan

Urban Electric Mobility Initiative

Provisional copy

CLIMATE SUMMIT 2014

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Action Plan

Partners

1. Mahindra Reva,
2. BYD,
3. The Wuppertal Institute of Climate, Energy and Environment;
4. Michelin
5. Siemens AG
6. Clean Energy Ministerial/ Electric Vehicles Initiative;
7. International Energy Agency/ Hybrid and Electric Vehicle Agreement;
8. UN Global Compact;
9. Partnership on Low Carbon Transport (SloCAT);
10. University of California Davis/ World EV Cities and Ecosystems (WECE);
11. UITP
12. World Business Council for Sustainable Development (Project Mobility 2.0)
13. The International Finance Corporation and C40 Cities (Transportation Initiative)

Objective

UN-Habitat has developed the Urban Electric Mobility Initiative with the specific objective of achieving the widespread adoption of electric vehicles in cities to reach a target where travel by electric vehicles makes up 30% of total urban travel by 2030.

UEMI will be implemented in the overall context of better urban planning and a balanced Avoid-Shift-Improve scenario, where *accessibility* is at the core of urban mobility and *access* for all to services, amenities and goods is considered as the overall goal of all transportation (UN-Habitat: Global Report on Human Settlements 2013: Planning and Design for Sustainable Urban Mobility).
The initiative will contribute significantly to:

- Reducing emissions from transport and limiting the increase in global mean temperature to two degrees Celsius;
- Reducing local air pollution and improving health;
- Delinking economic growth and prosperity from GHG emissions.

UEMI will have global coverage targeting at-least 100 cities in an incremental manner.

UEMI Actions

The UEMI calls for complementary actions by “supply side” and “demand side” actors. The supply side actors comprise Electric Vehicle, battery and automotive component manufacturers. Energy suppliers and distributors are also important supply side actors since the widespread transition to Electric Mobility should be accompanied also by the transition to cleaner energy sources. “Demand side” actors comprise city and national governments, people and also businesses. Multilateral Financial Institutions such as the World Bank and the Regional Development Banks are also important demand side players due to the potential investments they can make in EV infrastructure.

International organisations including UN-Habitat, other UN agencies, the International Energy Agency and other knowledge and research based organisations will play a facilitating role through knowledge sharing, capacity building and support through UEMI demonstration initiatives. A " CEO Electric Mobility Mandate" formed amongst industry leaders under the aegis of the UN Global compact will enable knowledge sharing to increase the market penetration of EVs within a sustainable development framework.

Examples of Actions by the demand and supply side Actors and international agencies are illustrated in the figure below:

UEMI : Complementary Actions by partners

Demand Side Actors (National and City Governments)	Supply Side Actors (EV Industry, Battery manufacterers, Energy suppliers and distributors)	International Organisations (UN-Habitat, IEA, Wupertal Institute)
•Set national targets for transitioning to Electric Mobility e.g percentage of fleet •Set national targets for moving to clean/renewable power sources; •Develop policies for greater support to the EV and related industries (e.g fiscal incentives for investments in production capacity and research); •Develop national urban policies to promote compact city planning , public transport and non- motorised transport; •Provide concessional access and local regulatory incentives e.g free parking and access lanes for E-Vehicles •Phase out oil subsidies and reduce tariff barriers for import of technology/E-Vehicles •Join the UEMI; •Support the UEMI by contributing to the "UEMI Seed Fund Facility"	•Invest in research and development for E-Mobility •support and implement joint demonstration projects with city and national government; •join the UEMI and "CEO Electric Mobility mandate (under the UN Global Compact ; meet other private sector organisations on an annual basis); •Promote /advertise e-mobility to guide and inform public preferences •Report annualy on progress on UEMI; • Contribute to the " UEMI Seed Fund Facility"	•Facilitate knowledge exchange and capacity building; •Function as a "matchmaker" bringing together Governments, Citites and industry; •Advocate for sustainable urban mobility including Electric Mobility; •Monitor progress on UEMI; •Support implemenation of demonstration projects; •Establish a UEMI secretariat (UN-Habitat)

At the Climate Summit, the Action Platform for the "Urban Electric Mobility Initiative" (UEMI) will be initiated by a set of pledges to be made by the industry (supply side) and National, City Governments and Multilateral Development Banks (demand side) as presented below:

Urban Electric Mobility: Mutually Supportive Pledges by Demand and Supply Side Actors at Climate Summit 2014

Commitment/Pledge by Industry and Cities

Industry (Supply Side); CEO Urban Electric Mobility Mandate

Industry leaders (car and battery manufacturers, energy producers, distributors, renewables) pledge that in pursing the goal of sustainable development, with particular reference to transport and mobility they will strive to increase the global market share of electric vehicles in cities to reach at least 30% of vehicle sales by 2030, which equals about 15% vehicle stock (currently EVs represent only 0.02% of the passenger car stock).

Demand Side

Cities: Government and City representatives pledge that in pursuing the goal of sustainable urbanisation, they will strive towards a goal of: "by 2030 at least 30% of the individual motorised travel will be by Electric Vehicles". (This relates to the 15% stock share via higher travel per EV in cities – an urban e-mobility share of 30% can be achieved via planning efforts to encourage maximum use of available electric vehicles and modes).

Multilateral Development Banks: Will pledge to respond to requests from Member countries for investments in infrastructure to support cities in attaining the goal of 30% of the LDV fleet being comprised of Electric Vehicles.

UEMI Partners and Running Mates

UN-Habitat has been seeking and forming alliances with a range of partners. Current and prospective UEMI running mates include prominent industry groups like BYD, China, Mahindra REVA, India, Siemens, A.G, Nissan –Renault, Michelin, France, Tesla USA; Knowledge and facilitation partners like the International Energy Agency, the Clean Energy Ministerial/ Electric Vehicle Initiative, the Wupertal Institute for Climate, Energy and Environment and investment partners such as the International Finance Corporation.

Implementation and Monitoring UEMI

UEMI will be implemented over the period 2014-2030 in a phased manner. Key Actions immediately after the Summit include:

- Establish the UEMI platform/ forum with a secretariat in UN-Habitat to facilitate knowledge exchange, advocacy and gather more commitments from Governments and Industry; and monitor and report progress against commitments; The secretariat will be responsible for

coordinating the overall alliance structure comprising knowledge, investment, industry and city partners;

- Establish a “seed fund” with a corpus of $ 50 million to be contributed by Governments and Industry for undertaking innovative Electric Mobility demonstration projects and capacity building;

- Continue global advocacy on Electric Mobility making E-Mobility a pillar of the new urban agenda during Habitat III.

A results framework of the UEMI is presented below:

UEMI: Results framework

Results Statement	Indicators	Baseline	Target	Data Collection:Sources and Methodology
Outcome: Reduced Emissions from Transport	Global CO_2 Emissions	23% from transport (2010)	Total 2030 transport emissions no higher than 2010 emissions	(i) Direct and Indirect measurements in cities; (ii) fuel consumption
Objectives: (i)Urban Travel by Electric Vehicles make up 30% of all Urban Travel; (ii) the global market share of electric vehicles in cities to reach at least 30% of vehicle sales by 2030, which equals about 15% vehicle stock (currently EVs represent only 0.02% of the passenger car stock).	(i) Passenger KM travelled on EV as percentage of total passenger KM travelled in urban areas; (ii) EV sales and stock as a percentage of vehicle stock	TBD; (ii) Current EV stock :0.02% of LDV vehicle stock	30% of passenger KM travelled 30% of sales / 15% of stock of all vehicles.	City assessments; surveys; vehicle registration records; industry sales records; CEO E-Mobility Mandate Annual reports.
Activities				
1) Establish UEMI Secretariat; 2) Undertake UEMI demonstration projects; 3) undertake outreach and advocacy activities; 4) Undertake UEMI capacity building/ knowledge sharing	2) Nos. of demonstration projects; Investment in EV infrastructure	TBD	2)Demonstration projects in 10 cities by 2015; 30 by 2016; progressively to 100 cities by 2028; investments in EV infrastructure reach $ 13 billion by 2020 3) 05 UEMI training events for city managers/year; 05 exchange visits between cities per year;	UEMI progress reports (Responsibility UN-Habitat/UEMI Secretariat); CEO E-Mobility mandate reports; City partner reports

Annex 1, attached presents the overall UEMI concept.

Annex 1: Project Concept: Action Platform: Urban Electric Mobility Initiative (UEMI)

Problem Statement

The transport sector, in 2010, was responsible for approximately 23% of total energy-related CO_2 emissions. Greenhouse Gas Emissions from the transport sector have more than doubled since 1970 - increasing at a faster rate than any other energy end-use - to reach 7.0 Gt CO_{2eq} in 2010. The final energy consumption for transport reached 27.4 % of total end-use energy, of which a large (though uncertain) share was urban. In a business as usual scenario, transport emissions could increase at a faster rate than emissions from other energy end-use sectors and reach about 12 Gt CO_2 a year by 2050 (IPCC 2014)[1]. Increasing emissions from the transport sector, reflecting growing transport demand, have serious implications for global warming, endangering the goal of limiting the increase in global temperatures to two degrees Celsius above pre-industrial levels. However, the increasing mobility experienced in cities all over the world brings enormous benefits to society and also provides the essential means by which a city can function effectively[2]. As highlighted by the IPCC working group III on Mitigation of Climate Change, reducing global transport GHG emissions will be challenging since the continuing growth in passenger and freight activity could outweigh all mitigation measures unless transport emissions can be strongly decoupled from GDP growth. Thus a key problem that the world urgently needs to address is: **How can reductions in Global Transport emissions, as well as local pollutants, and improved road safety be achieved while also ensuring better mobility and economic growth in cities around the world?**

Objective

This project will contribute significantly to the overall goal of limiting the increase in global mean temperature to two degrees Celsius above pre-industrial levels by decreasing urban CO_2 emissions globally. The specific objective of the Project is to achieve widespread adoption of electric vehicles in cities, reaching a target where urban travel in electric vehicles makes up **30%** of total urban vehicle travel by 2030. This e-mobility target can be achieved by increased electrification of private vehicles (light-duty vehicles and 2-wheelers) accompanied by a significant increase in the uptake of electric mobility in public transportation systems (e.g., Light Rail Transit, Metro and Bus Rapid Transit Systems) combined with a reduction in personally operated internal combustion engine (ICE)

[1] IPCC : Final draft report of Working Group III contribution to the IPCC 5th Assessment Report " Climate Change 2014 Mitigation of Climate Change"
[2] UN-Habitat: Planning and Design for Sustainable Urban Mobility; Global Report on Human Settlements 2013.

vehicles in cities around the world. This objective is also aligned with a vision where innovative technologies (such as car-sharing systems, bus rapid transit and others) provide avenues for less carbon intensive travel growth; i.e where economic growth and prosperity are decoupled from GHG emissions.

Rationale for Electric Mobility

The rationale for promoting the widespread uptake of Electric Mobility is based on three principal factors:

- Reduction of GHG emissions;
- Decoupling economic growth and GHG emissions from transport;
- Reducing localised air pollution to protect health.

Reduction of GHG Emissions: The IEA's Energy Technology Perspectives and other recent publications have suggested that if transport is to contribute to a CO_2 target consistent with a 2 °C stabilization pathway, technologies such as plug-in hybrid (PHEV), battery electric vehicle (BEV) and fuel cell vehicles (FCEV) will have to increase their market shares substantially over the coming years (Figure 1). These three technologies combined, would have to reach a market share in annual sales of about 30% of global light-duty vehicles (LDV) sales in a balanced Avoid/Shift/Improve 2 Degrees scenario by 2030 (Figure 1) and similar developments are needed for heavy duty vehicles. An important aspect that is also highlighted in the figure below is the relationship between electromobility - which shows ranges from 50% to 100% of new LDVs in 2050, and 25% to 50% in 2030 - and other, primarily urban mobility measures, such as modal shift strategies and compact urban form that avoids or reduces the need for travel. This indicates that technology uptake needs to be complemented by the Avoid strategies such as compact urban planning and Shift measures that encourage the use of public transport, walking and cycling.

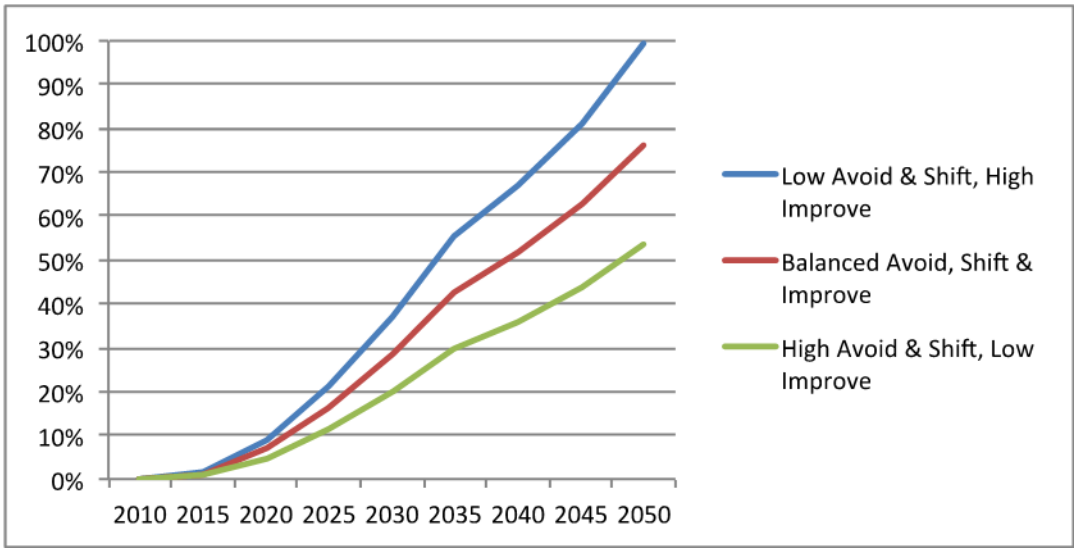

Figure 1: Combined battery electric vehicle (BEV), plug-in hybrid vehicle (PHEV), Fuel cell sales share in three versions of a 2 Degrees stabilisation scenario (Fulton, Lah, Cuenot 2013 based on the IEA Energy Technology Perspectives).

Decoupling Growth and Emissions from Transport: The Electric mobility industry involves an array of industry sectors. These include the automotive and component industries, battery manufacturers, energy producers and distributors, and transport service operators. Innovations in technology such as more efficient batteries, automotive and component design can give a new impetus to economic development and contribute to the de-carbonising of development. Considering the whole value chain including energy generation and distribution, fuelling, battery and components, and Electric Vehicles sales, a World Bank study indicates a total value chain greater than $250 billion worldwide as depicted in the figure 2 below: (though it must be noted that EVs represent a disruptive technology that may lead to job loss from the ICE value chain globally).

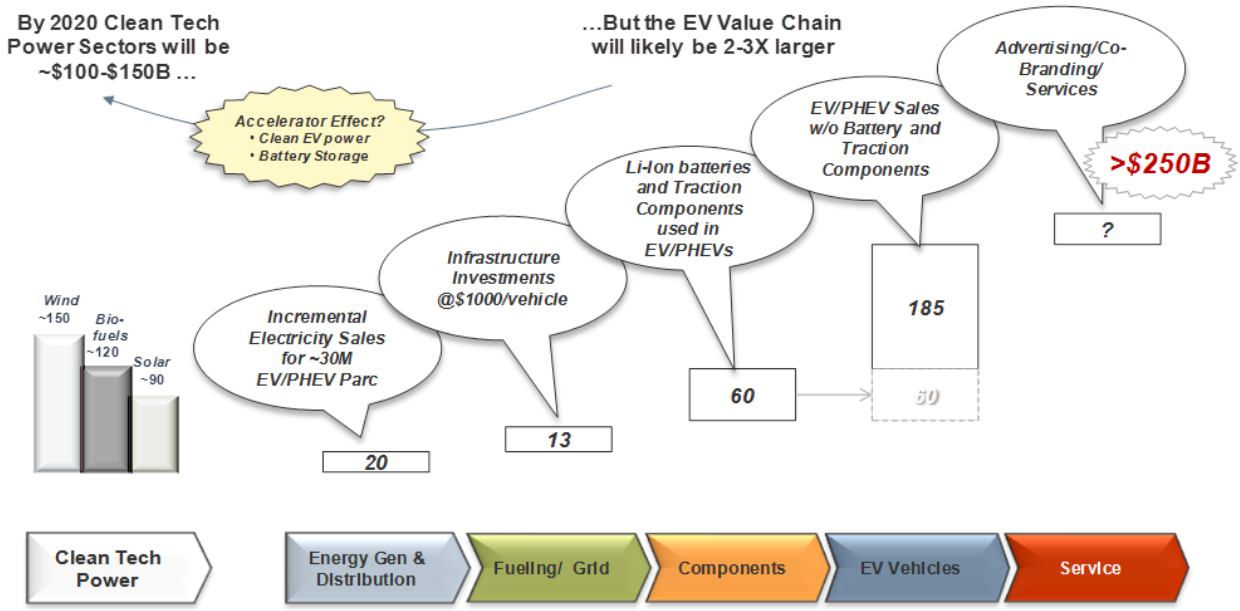

Figure 2 : Global EV Value Chain in 2020 : World Bank

Reducing localised Air Pollution and other negative impacts: According to the World Health Organisation (2014), outdoor or ambient air pollution causes 3.7 million premature deaths across the world. Most of these deaths (88%) are in developing countries. Pollution from small particulate matter of 10 microns or less in diameter (SMP_{10}), of which transport is a significant source, is the cause of this mortality. Increasing uptake of electric mobility, together with Avoid and shift measures can reduce local air pollution and the associated disease burden.

The rationale outlined above provides a basis for developing the post-2015/ post MDG development agenda. Presently, a Result Framework for Sustainable Transport is being developed to promote the integration of sustainable transport in the post 2015 development agenda.[3] The draft results framework identifies targets to be achieved in respect of urban and rural access, road safety, Green House Gas Emissions and Air pollution and human health. All of these proposed targets are set to be achieved by 2030. For example:

[3] http://www.slocat.net/resultsframework

- Urban Access Target : Secure Universal access by sustainable transport for urban populations by 2030;
- Greenhouse Gas Emissions Target: Total world transport-related GHG emissions peak no later than 2020 then begin to decline at a 2% per year rate, with 2030 transport- related emissions no higher than 2010 emissions.

Targets for air quality and road safety can also be developed and linked to this initiative. This should include targets for reductions in the average pollutant and carbon intensity of electricity generation to ensure that electric vehicles are increasingly clean over time.

How the Initiative will Work

To achieve a high market penetration by electric vehicles while ensuring that the resulting increased mobility does not come at the cost of increased emissions from the generation of electricity, concerted action is required at the "supply side" by EV and battery manufacturers and the energy supply, transmission and distribution industries. This action by industry must go together by "demand side" management the main leaders of which are National and City Governments who can create the enabling conditions for greater uptake of EV through appropriate policy and regulations. These groups should work together to identify individual and combined, synergistic strategies to reach the combined targets of the initiative. Financing institutions such as the World Bank, Asian Development Bank and other MDBs can give a boost to demand by increasing their investments in electric urban infrastructure, including infrastructure for smart energy systems and for recharging. The uptake of EV should however not be in isolation but in the context of an overall Avoid-Shift-Improve strategy implemented by governments to secure the benefits of sustainable urban mobility.

Pledge Making at Climate Summit 2014

At the forthcoming Climate Summit in September 2014, the Action Platform for the "Urban Electric Mobility Initiative" (UEMI) will be launched by a set of pledges to be made by the industry (supply side) and National, City Governments and Multilateral Development Banks (demand side) as presented below:

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Commitment/Pledge by Industry and Cities

Industry (Supply Side); CEO Urban Electric Mobility Mandate

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Demand Side

Cities: Government and City representatives pledge that in pursuing the goal of sustainable urbanisation, they will strive towards a goal of: "by 2030 at least 30% of the individual motorised

travel will be by Electric Vehicles". (This relates to the 15% stock share via higher travel per EV in cities – an urban e-mobility share of 30% can be achieved via planning efforts to encourage maximum use of available electric vehicles and modes).
Multilateral Development Banks: Will pledge to respond to requests from Member countries for investments in infrastructure to support cities in attaining the goal of 30% of the LDV fleet being comprised of Electric Vehicles.

It should be stressed that while the pledge and commitments specifically target the uptake of electric vehicles across different vehicle types (2 wheelers, cars, buses, trucks), the initiative seeks to integrate this into a broader sustainability plan to promoting public transport and inter-modal integration between public transport and better integrate PT with individualised motorised and non-motorised transport. These synergies will amplify the reductions in emissions making it easier to hit a 30% e-mobility target. Accordingly the UEMI will also promote greater uptake of PT including electrified rail, buses, e-bikes and trikes, facilitating collaborations between cities and industries by obtaining pledges from the cities themselves to encourage and support these E-mobility options.
It is also noted in this connection that the European Union has adopted a target of halving the use of 'conventionally-fuelled' cars in urban transport by 2030 and phasing them out in cities by 2050 (EU White Paper on Transport 2011).

Operationalizing the UEMI Action Platform

After the launch at the Climate Summit, the UEMI platform will function as an open forum for knowledge transfer and support for the take-up of e-mobility solutions by linking with e-mobility initiatives around the world. Cities will play a key role in attaining the pledges. Planning and urban management policies in cities have to evolve in providing a suitable EV ecosystem, comprising a combination of charging infrastructure and other incentives. Cities thus will be prominent participants in the Action platform that will include national governments, academic and research institutions, UN agencies, civil society, businesses and financing institutions. With a secretariat established in UN-Habitat, UEMI will continue to gather commitments from local and national governments as well as businesses on e-mobility targets. The Action Platform will be established with a work programme setting out international, national and city targets on e-mobility such as total number of passenger kilometres travelled on e-vehicles, with accompanying data collection and analysis systems. While these targets will be voluntary in nature, a global monitoring system will be developed to track progress on implementation. International groups such as the Electric Vehicles Initiative and World EV Cities and Ecosystems (described further below) can play important roles in facilitating national and city efforts.

Following the initial pledge making at the Climate Summit 2014, by "starter" companies and cities, UN-Habitat in collaboration with partners will support partner cities to develop perspective plans for increasing the uptake of electric vehicles in their areas. These plans will include incentives for e-mobility such as concessional parking, public charge-points, reduced taxes, Creative low-cost funding and technical support for private taxi or bus owners to use EVs; safe dedicated routes for electric assist bicycles; EVcar sharing scheme support; or other geo-politically appropriate encouragement preferential access for e-vehicles. The plans will be developed in the context of overall improvement of urban mobility in the cities and thus will address modal integration and improvement of facilities

for walking and cycling. This process will be supported by the exchange of information and experience with cities who have successfully adopted such plans. Based on the perspective plans, cities will invite expressions of interest from industry and private sector to join a city "action platform" to develop specific PPP initiatives aimed at greater adoption of E-mobility including demonstrative projects.

A "Seed Fund" for UEMI will be established with an initial corpus of $50 million. The fund will be applied towards developing and implementing demonstration projects to promote e-mobility within the context of sustainable urban mobility. For example, establishing public charging stations incorporating renewable energy and smart grid infrastructure. The fund will also be applied towards capacity building of city and national officials. Activities under capacity building will include support for perspective planning for increasing the proportion of EVs in cities, city-city exchanges to share experience and good practice including a small working group round table in one of the world's more proactive EV cities; advocacy towards policy makers and the public and targeted training of city and national officials. The experience from demonstrative projects will feed into capacity building and conversely, capacity building will support in scaling up and replicating demonstration projects. Together, capacity building activities and demonstration projects through an iterative process, will lead to policy and regulatory actions at the city and national levels. The resulting conducive policy and regulatory framework will in turn spur public investments in city infrastructure and also encourage the industry and the private to ramp-up activities in research, manufacturing and supply chain development for the greater uptake of Electric Vehicles. This iterative process is outlined in Figure 3 below:

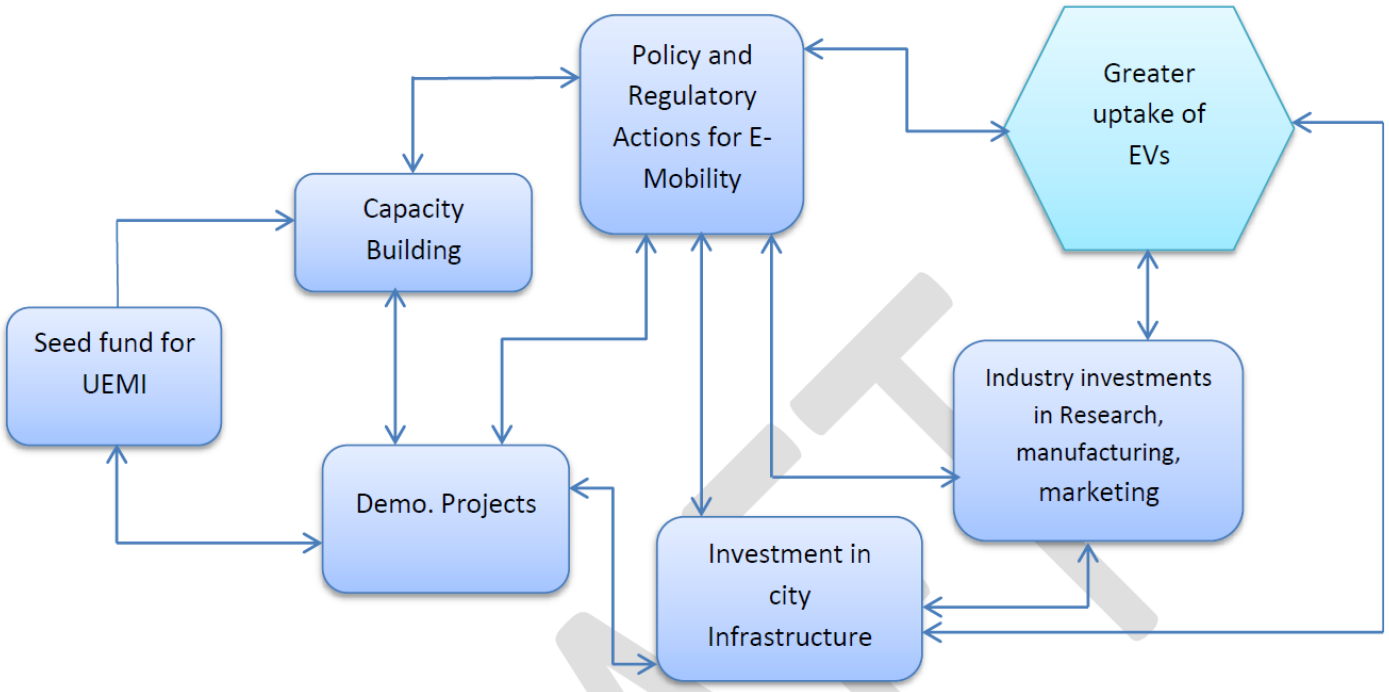

Figure 3: Operationalising UEMI; Seed Funding for Capacity Building and Demonstration Projects leading to greater uptake of Electric Vehicles.

UEMI Results Framework

An outline results framework for the UEMI is presented below:

UEMI: Results framework

Results Statement	**Indicators**	**Baseline**	**Target**	**Data Collection:Sources and Methodology**
Outcome: Reduced Emissions from Transport	Global CO_2 Emissions	23% from transport (2010)	Total 2030 transport emissions no higher than 2010 emissions	(i) Direct and Indirect measurements in cities; (ii) fuel consumption
Objectives :(i)Urban Travel by Electric Vehicles make up 30% of all Urban Travel; (ii) the global market share of electric vehicles in cities to reach at least 30% of vehicle sales by 2030, which equals about 15% vehicle stock (currently EVs represent only 0.02% of the passenger car stock).	(i) Passenger KM travelled on EV as percentage of total passenger KM travelled in urban areas; (ii) EV sales and stock as a percentage of vehicle stock	TBD; (ii) Current EV stock :0.02% of LDV vehicle stock	30% of passenger KM travelled 30% of sales / 15% of stock of all vehicles.	City assessments; surveys; vehicle registration records; industry sales records; CEO E-Mobility Mandate Annual reports
Activities:				
1) Establish UEMI Secretariat; 2) Undertake UEMI demonstration projects; 3) undertake outreach and advocacy activities; 4) Undertake UEMI capacity building/ knowledge sharing	2) Nos. of demonstration projects; Investment in EV infrastructure	TBD	2)Demonstration projects in 10 cities by 2015; 30 by 2016; progressively to 100 cities by 2028; investments in EV infrastructure reach $ 13 billion by 2020 3) 05 UEMI training events for city managers/year; 05 exchange visits between cities	UEMI progress reports (UN-Habitat/UEMI Secretariat); CEO E-Mobility mandate report

Partners and Stakeholders

The process outlined above requires the concerted engagement of multiple partners. Broadly, these partners fall into the following categories:

- Knowledge and Facilitation Partners;
- Investment partners
- Industry Partners; and
- City Partners

Knowledge and Facilitation Partners

1. **The International Energy Agency:** IEA is an autonomous organisation, which works to ensure reliable, affordable and clean energy for its 29 member countries and beyond. Founded in response to the 1973/4 oil crisis, the IEA's initial role was to help countries co-ordinate a collective response to major disruptions in oil supply through the release of emergency oil stocks to the markets. While this continues to be a key aspect of its work, the IEA has evolved and expanded. It is at the heart of global dialogue on energy, providing authoritative statistics, analysis and recommendations.

   The IEA has developed a Technology Roadmap on Electric and Plug-in Hybrid Vehicle (BEV/PHEV), collectively called Electric Vehicles (EV) (June 2011). This identifies a scenario for the evolution of these type of vehicles and their market penetration from an annual production volume of a few thousand to over 100 million vehicles by 2050. It also highlights the next decade as a crucial phase for governments, industry, electric utilities and other stakeholders to work together for the uptake of these vehicles by the market. By 2020, the Roadmap envisions a market penetration of sales of 6.9 million units of EV/PHEV vehicles per year - increasing from a total sales of 113,000 units in 2012 with a total number of 20 million electric vehicles on the road by 2020.

   Possible role in the platform: The IEA is playing a crucial role in developing pathways for global electromobility deployment and is a key stakeholder for the Action Platform. IEA's analysis, targets and scenarios and in particular its Mobility Model – (MoMo: http://www.iea.org/topics/transport/mobilitymodelling/) can provide a basis for commitments and actions, while also informing cities and national governments on the type of policy environment required for bigger role of electric mobility in a wider concept of sustainable transport. IEA have plans to analyse energy issues relating to cities and also the prospects of adopting electric mobility for public transport and will also provide insights on how Avoid and Shift strategies can complement technological improvements. The work of the IEA will provide a strong analytical basis for the UEMI.

2. **The Clean Energy Ministerial and the Electric Vehicles Initiative:** CEM is a high-level global forum to promote policies and programs that advance clean energy technology, to share lessons learned and best practices, and to encourage the transition to a global clean energy economy. CEM was formed after the UNFCC Conference of Parties in December 2009, with

the U.S Secretary of State hosting the first ministerial. The CEM membership comprises 23 member countries including USA, Brazil, China, India, Russia, South Africa, Several European Countries, the European Commission, Australia and Canada. Currently, it is the only regular meeting of energy ministers at which they exclusively discuss clean energy. The CEM includes EVI and engages closely with the private sector.

The Electric Vehicles Initiative (EVI)[4] is a multi-government policy forum dedicated to accelerating the introduction and adoption of electric vehicles (EVs) worldwide. It is one of several initiatives launched in 2010 under the Clean Energy Ministerial. EVI currently includes 16 member governments from Africa, Asia, Europe, and North America, as well as participation from the IEA. The initiative seeks to facilitate the global deployment of 20 million EVs, including plug-in hybrid electric vehicles and fuel cell vehicles, by 2020.

Possible role in the platform: The environmental benefits of transitioning to EV based systems will be better realised if energy producers improve efficiencies of conventional power generation and move to cleaner/renewable sources of energy from conventional sources such as coal. CEM plays a key role in this transition and can bridge the gap between local and national actors. CEM can also facilitate joint action by member countries to improve the market conditions for EV penetration. For example, an agreement on custom tariff structures by member governments for EVs may lead to better demand. CEM can also foster the dialogue at the city level for better planning of supporting urban infrastructure, such charging stations and smart grid solutions. The participation of the CEM in the UEMI platform and the launch is likely to encourage greater interest and participation by private sector and industry.

3. **The UN Global Compact:** This is a strategic policy initiative for businesses that are committed to aligning their operations and strategies with ten universally accepted principles in the areas of human rights, labour, environment and anti-corruption. By doing so, business, as a primary driver of globalization, can help ensure that markets, commerce, technology and finance advance in ways that benefit economies and societies everywhere. The Global Compact has over 10,000 corporate participants and other stakeholders from over 130 countries and it is the largest voluntary corporate responsibility initiative in the world.

   Possible Role in the Platform: The Global Compact provides a strong connection with the private sector and can thus be an effective channel for advocacy to industry of a goal on the uptake of EVs. Of particular interest is the example of UN Global Compact's "CEO Water Mandate " which is a unique public-private initiative designed to assist companies in the development, implementation and disclosure of water sustainability policies and practices.
   The Mandate recognizes that the business sector, through the production of goods and services, impacts water resources – both directly and through supply chains. Endorsing CEOs acknowledge that in order to operate in a more sustainable manner, and contribute to the vision of the Global Compact and the realization of the Millennium Development Goals, they have a responsibility to make water-resources management a priority, and to work with

[4] http://www.cleanenergyministerial.org/Our-Work/Initiatives/Electric-Vehicles

governments, UN agencies, non-governmental organizations, and other stakeholders to address the global water challenge.

In similar approach a "CEO Urban Electric Mobility" mandate could be established, with a goal of creating more collaboration between industry members on the issue of e-mobility, addressing also, for example, and some environmental constraints such as the recycling of batteries.

4. **Multilateral Development Banks:** The World Bank has undertaken important analytical work on electric vehicles and low carbon transport. For example, in 2011 it published the "The China New Energy Vehicles Program: Challenges and Opportunities" which provides an overview of the state of the fast-growing industry in China in a global context. The World Bank Publication "*Turning the Right Corner Ensuring Development through a Low-Carbon Transport Sector*" (2013) examines the policy perspectives on achieving low carbon transport and among other things advocating a new composition for infrastructure and transport services for sustainable mobility. The MDBs are also financing investments in this area. For example, in the Philippines the Clean Technology Fund (CTF) is supporting a program on energy efficient electric vehicles (e-Trikes), industrial energy efficiency, and renewable energy by funding capacity building activities. The CTF investment plan was drafted under the leadership of the government of Phillipines in coordination with the Asian Development Bank (ADB), members of the World Bank Group (IBRD, IFC), and key stakeholders. The plan aims to catalyze large-scale investments in low carbon technologies by demonstrating their viability and addressing key investment barriers. CTF funds are expected to leverage up to US$2 billion to achieve transformative results, including a $250 million loan from the ADB.

   Possible Role in the Platform: The participation of the MDB's and their role in collaboration with governments will raise confidence of industry and mitigate investment risks, encouraging the industry to make ambitious commitments. They can provide supportive capacity building and in certain cases also financing for the development of supportive infrastructure. During Rio+20, the MDB's jointly made a Voluntary Contribution of $175 Billion to sustainable transport. It is expected that a significant portion of this support would be directed to Electric Mobility. Thus the MDB's also play a crucial role as **Investment Partners.**

5. **International Association of Public Transport (UITP):** UITP is a worldwide network to bring together all public transport stakeholders and all sustainable transport modes. UITP launched the Zero Emission Urban Bus System (ZeEUS) project in Brussels on 23 January, 2014. In this project, UITP is coordinating 40 partners to extend a fully electric solution to a wider part of European urban bus networks. Developing electric vehicles of large capacity and creating adequate charging infrastructure will facilitate the market update of electric buses in Europe. As part of the 42-month demonstration project, different innovative technological solutions for electric buses will be demonstrated in eight cities: Barcelona, Bonn, Glasgow, London, Münster, Plzen, Stockholm and one city in Italy.

   ZeEUS' analyses will be used to develop guidelines and tools to help stakeholders introduce electrified bus systems in other European cities. Leading manufacturers in bus electrification

will participate with plug-in hybrids or full electric buses using different charging infrastructure and strategies.

ZeEUS aims to be the main EU activity for monitoring experiences and developments of electric urban bus systems. As the coming years will see many pilots, demonstrations and the purchase of electric vehicles, an Observatory will be established to discuss the progress of bus system electrification in Europe and contribute to electric bus fleet deployment strategies.

Possible role in the Platform: Promoting public transport will also reduce total GHG emissions and should also be pursued. In addition there are potential synergies between bus and small passenger vehicle transport systems. For example, sharing of charging infrastructure and inter-modal connectivity. There are opportunities for learning from the monitoring of the experiences and developments of electric urban bus systems. Involving UITP in the platform and the launch will give encouragement to the Automotive and energy industries as a whole in pursuing the goal of e-mobility. A specific role envisioned for UITP is the monitoring of the uptake of electric mobility in public transport systems.

6. UC Davis and **The World EV Cities and Ecosystems (WECE) website:** UC Davis conducts a range of EV-related research relevant to this initiative, and hosts the WECE web portal. This has been developed in partnership between the University of California Davis, IEA, The Electric Vehicles Initiative and the Rocky Mountain Institute. The portal is facilitating cooperation, inspiration and sharing of data and practical experiences between cities and regions around the world that are encouraging clean, low carbon forms of transport.

   Possible role in Platform: UC Davis and WECE can play an important role in functioning as a facility to share information and best practice, supporting all members of the platform. It can work as a research partner and channel of outreach to several industry partners in securing early backing for the proposed pledge. It could also host an intercity workshop (of less than 50 people who are directly responsible for their cities' 'Urban E-mobilization') to share lessons learned, real-politik, and challenges in implementation and maintenance of EV infrastructure (both physical and cultural) at the practical "professionally local' level.

7. **The Wuppertal Institute of Climate, Environment and Energy:** The Wuppertal Institute is a leading research organisation that undertakes research and develops models, strategies and instruments for transitions to a sustainable development at local, national and international level. Sustainability research at the Wuppertal Institute focuses on the resources, climate and energy related challenges and their relation to economy and society. The Wuppertal Institute currently coordinates the SOLUTIONS project, which brings together 28 partners from Europe, Asia, Africa and the Americas working together on sustainable urban mobility strategies, including public transport, freight, planning and infrastructure and electric mobility.

   Possible Role in the Platform: Along with other knowledge partners such as the IEA and WECE, Wuppertal Institute will support the analytical basis of the UEMI from the science, technology and societal perspective.

8. **Partnership on Sustainable Low Carbon Transport (SloCAT):** SloCAT is a network of over 80 organisations involved in sustainable transport.

   Possible role in the platform: SloCAT's role will focus on sharing of knowledge and experience between network members.

9. **C40 Cities; Transportation Initiative**: Has supported cleaner vehicle programs, including the Hybrid Electric Bus Test programme in Bogota, Rio de Janeiro, Sao Paulo, and Santiago de Chile; Autolib, the electric car sharing program in Paris; and electric taxi programs in Amsterdam and Bogota. Its Electric Vehicle (EV) Network is currently working with almost a third of C40 Cities and bringing cities together to discuss electric vehicle strategies, and convening and collaborating with key industry stakeholders, the network facilitates and accelerates the implementation of electric vehicle programs.

Possible Role in the Platform: A key partner with a focus on sharing experiences amongst cities and capacity building .

10. **The World Business Council for Sustainable Development (Project Mobility 2.0)**: The WBCSD is a CEO-led organization of forward-thinking companies that galvanizes the global business community to create a sustainable future for business, society and the environment. Together with its members, the council applies its respected thought leadership and effective advocacy to generate constructive solutions and take shared action. Members are made up of some of the globe's leading corporations spanning a wide range of sectors and geographies. Membership is open to companies committed to sustainable development and to promoting the role of eco-efficiency, innovation and corporate social responsibility.
    WBCSD"s new initiative " Sustainable Mobility Project 2.0" seeks to bring together a global and cross-sectoral group of mobility related companies and other stakeholders to accelerate progress towards sustainable mobility with the ultimate goal of accelerating and extending access to safe, reliable and comfortable mobility for all whilst aiming for affordability, zero traffic accidents, low environmental impacts, and reduced demands on energy and time. It combines global dialog with city specific analytical efforts.

    Possible Role in the Platform: WBCSD provides a strong connection to the private sector industry and can therefore be a channel for advocacy on a commitment by the industry on a goal for EV uptake.

11. **UN-Habitat:** Is the United Nations agency for human settlements and mandated by the UN General Assembly to promote socially and environmentally sustainable towns and cities. Governments oversee the work of the UN-HABITAT and every two years, UN-HABITAT's work and relationships with its partners are examined in detail by a Governing Council composed of 58 member countries of the United Nations. UN-Habitat has the specific mandate within the United Nation System to act as a focal point for local governments, including regional, provincial, federal and other territorial governments. UN-Habitat works with countries and cities through a number of projects and programmes. These operational activities are complemented by the normative work undertaken by the agency. For example,

UN-Habitat is mandated by the UN General Assembly to provide and up-to –date assessment of conditions and trends in the world's cities through publication of "Global Reports on Human Settlements". In 2013 a Global Report was published on the topic of "Planning and Design for Sustainable Urban Mobility". Every two years UN-Habitat also convenes the World Urban Forum – the World's premier conference on cities, which examines the most pressing issues facing the world today in the area of human settlements, including rapid urbanization and its impact on cities, communities, economies, climate change and policies.

Possible Role in the Platform: As noted by the IEA, increased use of Electric Vehicles is also dependent on transportation "eco-systems" which can integrate Electric Vehicle Technologies as a part of large transportation systems (e.g short distance shared ev transport to mass transit stations). Cities are characterised by large transportation networks. Cars, which contribute the largest proportion of CO_2 emissions (42.5%) amongst all categories of passenger transport, are also concentrated in cities[5]. It follows therefore that Cities can play a leading role in the adoption of Electric Vehicles. Working with other partners, and with an attention to political consensus building UN-Habitat will forge partnerships between industry and cities facilitating and securing the commitment of cities and private sector to a target for adoption of Electric Vehicles. It will function as the secretariat of the UEMI, coordinating with all partners and stakeholders.

Industry Partners

The industry groups that have a major role in the greater uptake of e-vehicles include a diverse array of automotive and component manufacturers; battery manufacturers; power producers and distributors; transport service operators, freight and logistics operators. These include companies like BYD, BMW, DHL, Jiangsu Aima, Mahindra-Reva, Nissan-Renault, Siemens, Tesla, UPS, VW. Some prominent companies are outlined in Appendix 1 attached.

City Partners

As presented in the " EV City Case Book" , a large number of cities have made great strides in promoting E-Mobility, these include : Amsterdam, Netherlands; Barcelona, Spain; Berlin and Hamburg, Germany; Helsinki, Finland; Kanagawa, Japan, ; Los Angeles and New York, USA and Shanghai, China. For greater global uptake of EVs at least 20 cities from developing and emerging economy countries will be targeted. These cities will represent a cross-section of city sizes in terms of population and socio-economic and geographic contexts. A tentative list includes: Addis Ababa, Ethiopia; Bangalore, India; Cairo, Egypt; Guangzhou, China; Jiangsu, China; Jakarta, Indonesia; Kathmandu, Nepal; Kampala, Uganda; Medellin, Colombia; Rio de Janeiro, Brazil and Vientiane, Lao PDR. UEMI will also work in partnership with the International Council for local Environmental Initiatives (ICLEI) and United Cites and Local Governments (UCLG).

Investment Partners

Financial institutions, Cities and the Private sector have overlapping roles with respect to investments for e-mobility. Cities and national governments can borrow from MDBs, other external and internal financial intuitions and also issue bonds. Private sector can access capital markets while

[5] UN-Habitat GRHS 2013 (Based on Newman and Kenworthy 2011)

actions by city and national partners and knowledge and facilitation partners create an enabling environment for e-mobility reduce investment risks.

Actions towards developing the Platform

To take forward the Urban Electric Mobility Initiative, UN-Habitat organised an event during the World Urban Forum in Medellin (April 2014) bringing together industry representatives and policy makers. This was followed by an International Expert Group Meeting held in Barcelona from 24-25 May. The (EGM) brought together 70 experts from national, regional and city governments, international organisations and academia and research and training institutions. The EGM resulted in a Communiqué issued by the experts and indicates the commitment towards the preparations and deliberations of the Climate Summit and provides key recommendations towards achieving the greater uptake of Electric Mobility. This is attached.

Potential partners who have already expressed an interest in the UEMI initiative include the International Energy Agency; Partnership on Sustainable Low Carbon Transport (SLoCAT); TRL; the Wuppertal Institute for Climate, Environment and Energy; and leading Private Sector Organisations Like Siemens AG, Michelin and the Mahindra Reva Company.

The UEMI initiative was presented at the Ascent meeting in Abu Dhabi from 4-5 May 2014. Following this meeting UN-Habitat is continuing to engage with companies and cities in gathering statements of intents of joining the UEMI platform. The Action Platform will be launched at the Climate Summit in New York in September 2014. Subsequently, it is proposed that it features in the COP 21 in Paris in 2015.

After the Summit, UN-Habitat will continue to engage with partners, including through the UN Global Compact. On establishing the “Seed Fund” and operationalizing the UEMI programme, UN-Habitat will engage with the range of partners as presented above, supporting the capacity building of cities, the sharing of experience, implementation of demonstration projects and monitoring of progress.

To secure widespread support, a resolution on the UEMI will be proposed in the UN-Habitat Governing Council in 2015. It will feature in other international Transport and Mobility events such as the Michelin “Challenge Bibendum” in Chengdu, China (November 2014); Regional Asian Environmentally Sustainable Transport Forum/Better Air Quality Conference, Colombo, Sri Lanka (November, 2014); Transport Day 2014 in the context of COP 20, in Lima, Peru; and CODATU 2015. In the Habitat III conference in 2016, Urban Electric Mobility Initiative will feature as pillar of the New Urban Agenda.

Appendix 1
Urban Electric Mobility Initiative Industry Partners

Company	Products/Activities
BYD Company Limited	BYD specializes in IT, automobile and new energy. BYD is the largest supplier of rechargeable batteries in the globe and has the largest market share for Nickel-cadmium batteries, handset Li-ion batteries, cell-phone chargers and keypads worldwide. BYD has developed green products such as solar farm, battery energy storage station and an electric vehicle. The BYD E6 electric car has a driving range of 300 kilometres, far exceeding the driving range of most electric vehicles in the world which is around 160 kilometres.
Chery Automobile	The top selling pure electric car in China for 2012 was the Chery QQ3 with 5,305 units sold. As of October 2013, the QQ3 EV continued as the top selling plug-in car, with 4,207 units sold between January and October 2013. Accounting for new energy vehicle sales between 2011 and 2013, a total of 38,592 units were sold during these 3 years, of which 81.8% (31,558 units) were pure electric vehicles.
Beijing New Energy Vehicle Company	A subsidiary of the Beijing Automotive Industry Holding Corporation. Beijing New Energy Vehicle Company has plans to manufacture 150,000 EVs by 2015.
Beijing Pride Power System Technology Company	Another subsidiary of the Beijing Automotive Industry Holding Corporation. The company manufactures battery power systems. Along with other Chinese companies they are boosted by the fact that the country has been pursuing an ambitious EV pilot program that will be supported by about US$ 15 million in government investments.
General Motors	The number one selling EV in the US. Sales of the 2011 Chevrolet Volt near the end of 2010. As of mid-January 2014, the Volt has global sales of about 70,000 units. The U.S. is the leading market with sales of over 54,500 Chevrolet Volts.
Nissan-Renault Alliance	The Nissan Leaf is is the world's first mass-produced 100% electric vehicle and the world's best-selling EV. Since Nissan Leaf first went on sale in December 2010, about 70,000 units have been sold globally as of the end of June 2013. The company's second all- electric vehicle, the e-NV200 will be introduced by the city of Barcelona as a pure electric taxi. The company believes that other municipalities will be keen to replicate this example. Renault SA which is France's second-largest automaker owns 43% of Nissan, has sold about 40,000 of its line of four EVs since 2011, led by the Zoe five-door mini and the Kangoo van.
Mahindra Reva	Sold about 4,600 vehicles worldwide by late 2013, and India was its main market, accounting for 55% of global sales. The UK was one of the

	leading markets, and the REVA G-Wiz (as it was marketed in the country) was the top selling electric car in Britain for several years. The company targets to sell 30,000 battery-run cars a year by 2015-16. The firm will start with rolling out 6,000 cars a year from its newly commissioned plant near Bangalore. With exports contributing a major share, Mahindra-Reva expects to achieve full capacity realization of 30,000 cars annually by 2015-2016.
Tesla	Tesla sold 20,600 units of the Tesla Model S EV. Tesla is continuing to expand production and is now producing 550 cars per week. The company has recently began selling its cars in China and plan to start manufacturing the cars within mainland China. The company also plans to build the world's largest battery factory in the US and to open 30 new service centers and stores in Europe.
BMW	The BMW i3 boasts a range of up to 160 kilometres (100 miles) thanks to the high-voltage lithium ion battery. A newer version the BMW i3 Range Extender adds to the achievable range. BMW have entered agreements with governments and municipal authorities which include rebates for buyers and exemption from fees/taxes such as London's congestion charge.
Siemens	In the field of e-mobility, the company manufactures charging infrastructure and systems and are also providing innovative solutions for electricity based road freight traffic systems. Siemens has recently developed a cost-effective alternative to the use of fossil fuels in freight transport on the road via the electrification of freight traffic with eHighway. eHighway represents as an efficient and resource-saving alternative to reduce environmental damage.
Doppelmayr Cable Car GmbH & CO	Doppelmayr is a leading company providing aerial ropeway solutions. Operated solely by electric power, aerial ropeways are emerging as an urban mobility solution in many cities particularly when integrated into larger public transport networks.
Jiangsu Aima Manufacturing & Technology Co., Ltd.	China's largest manufacture of e-bikes, e-scooters and e-bicycles.
DHL	Leading Freight and Logistics Company. As a part of the group's climate protection program ***GoGreen***, Worldwide DHL operates over 300 electric vehicles, more than 300 hybrids and almost 2,500 on bio fuel, gas, ethanol or dual fuel. A Recent project is implemented in Bonn/Germany: as the first in the industry, Deutsche Post DHL has set itself a CO2-efficiency target that aims to improve its companywide CO2-efficiency by 30 percent by 2020 on the basis of 2007. The company also invests in its network optimization, operations, and a sustainable use of energy in its buildings and business operations.
UPS	Leading Freight and Logistics company. The company has over 100 EVs operating in the USA.


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