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भारी उद्योग एवं लोक उद्यम मंत्रालय  
MINISTRY OF HEAVY INDUSTRIES AND PUBLIC ENTERPRISES  
भारी उद्योग विभाग  
DEPARTMENT OF HEAVY INDUSTRY  
(AEI Section)

उद्योग भवन  
Udyog Bhavan  
नई दिल्ली - 110011  
NEW DELHI-110011


**Dated: 14.09.2012**

**Ref. No. 12(89)/2009-AEI**

**OFFICE MEMORANDUM**

**Sub: Minutes of the 1<sup>st</sup> Meeting of the National Council on Electric Mobility (NCEM) held on 29.08.2012 in New Delhi - regarding.**

The undersigned is directed to forward herewith a copy of the minutes of the 1<sup>st</sup> Meeting of the National Council on Electric Mobility (NCEM) held under the Chairmanship of Minister (HI&PE) on 29.08.2012 in Nirman Bhavan, New Delhi, for information and necessary action.

  
(V.S. Yadav)

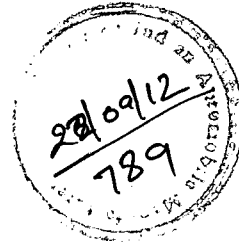
Under Secretary to the Government of India.  
Tele/Fax: 2306 3347

To,

As per list (copy enclosed)

Copy also forwarded to:

- (i) Director (Ops), NATRiP with request to circulate the agenda for the meeting to the members of NBEM
- (ii) PPS to SHI
- (iii) PS to JS(S)
- (iv) PS to Dir. (NK)



## List of invitees

1. Shri Praful Patel, Minister, Ministry of Heavy Industry & Public Enterprises
2. Dr. M. Veerappa Moily, Minister, Ministry of Power
3. Dr. Farroq Abdullah, Minister, Ministry of New and Renewable Energy
4. Shri Kamal Nath, Minister, Ministry of Urban Development
5. Dr. C.P. Joshi, Minister, Ministry of Road Transport & Highways
6. Shri Jaipal Reddy, Minister, Ministry of Petroleum & Natural Gas
7. Dr. Montek Singh Ahluwalia, Deputy Chairman, Planning Commission
8. Shri Vayalar Ravi, Minister, Ministry of Science & Technology
9. Smt. Jayanthi Natarajan, Minister of State, Ministry of Environment & Forest
10. Shri Namo Narain Meena, MOS, Ministry of Finance
11. Dr. V. Krishnamurthy, Chairman, NMCC
12. Dr. R. Chidambaram, Principal Scientific Adviser to the PM
13. Shri Anand Mahindra, Vice Chairman & MD, Mahindra & Mahindra
14. Dr. Surinder Kapur, Chairman, Sona Group of Industries
15. Dr. V.K. Saraswat, Scientific Adviser to the Defence Minister & Secretary,  
DRDO
16. Prof. V.S. Ramamurthy, Director, National Institute of Advance Studies
17. Dr. Pawan Goenka, President, Automotive Sector, Mahindra & Mahindra
18. Shri S. Sandilya, President, SIAM
19. Shri Arvind Kapur, President, ACMA
20. Shri Naveen Munjal, President, SMEV

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**Minutes of the First Meeting of the National Council for Electric Mobility (NCEM) on 29<sup>th</sup>**  
**August, 2012 at Room No. 123, Conference Hall, Nirman Bhawan, New Delhi.**

The first meeting of the National Council for Electric Mobility (NCEM) was held under the Chairmanship of Shri Praful Patel, Minister for Heavy Industry & Public Enterprises on 29<sup>th</sup> August, 2012, at Room No. 123, Conference Hall, Nirman Bhawan, New Delhi. The list of participants is placed at **Annexure I**.

**Opening Remarks.**

2. Chairman, NCEM welcomed the distinguished members to the first meeting of the NCEM and acknowledged the strong support and guidance provided by the stakeholder Ministries, Departments, industry and the academia for the finalisation of the NEMMP 2020. Chairman, NCEM also thanked Shri Kamal Nath, Hon'ble Minister for Urban Development for hosting the meeting. At the outset, it was informed that the Government last year had approved the National Mission for Electric Mobility (NMEM) and the setting up of a high level apex structure in the form of the NCEM and the National Board for Electric Mobility (NBEM) for faster adoption of electric vehicles (including hybrids) and their manufacture in India.

3. Chairman, NCEM informed that the Indian automotive industry has made tremendous progress in the last decade and has today emerged as the 6<sup>th</sup> largest vehicle manufacturer globally. This sector is important for India's economic growth and development because of its high contribution to the national GDP, employment generation, and as it meets the needs of the logistics and transportation industry, which is the life line of the nation's economy. It was felt that the growth of the auto industry which, at present, contributes 22% to the manufacturing GDP and 21% of the excise duty collections will be critical for realizing the target, envisaged in the new manufacturing policy, of increasing the share of manufacturing in overall economy from the present 16% to 25% by 2022.

4. Chairman, NCEM indicated that all projections point to a continued high level of growth for the Indian automotive industry in the future. As a result, it is expected that, by 2020, the annual demand for passenger vehicles, commercial vehicles and two wheelers in India will be 10 million, 2.7 million and 34 million units respectively, thereby making India the third largest vehicle market in the world. Chairman, NCEM observed that while this is great news for our economy, however, such high levels of growth will also throw up the associated challenges of fast depletion of traditional energy sources, rising energy costs, ever increasing oil import bill and the impact of mobility on the environment. As continued high level of growth of the Indian economy and the transportation sector is a must for improving the lives of millions of Indians. It

is, therefore, essential that we must immediately invest in interventions that can help mitigate these challenges.

5. Chairman, NCEM emphasized that the National Mission for Electric Mobility (NMEM), which has national energy security and growth of domestic manufacturing capabilities in full range of electric vehicle technologies as its two inter-related key objectives, promises to be amongst the most significant interventions of the Government that has the potential to change the automotive paradigm of the future through lessening the dependence of the sector to single source of primary energy thus paving the way for the ultimate objective of renewable energy generation powering the transportation sector of the future. This intervention will also help encourage the Indian industry to shift to newer, cleaner technologies so that it builds its future competitive advantage around environmentally sustainable products, high end technologies, innovation and knowledge.

6. Minister for Urban Development, Shri Kamal Nath viewed that it is important not to restrict this mission to 4-Wheelers (4W), 2-Wheelers (2W), 3-Wheelers (3W), Buses & LCVs, and it should also integrate with urban mass transportation system like monorails etc. which also have electric propulsion.

7. Following this, Chairman, NCEM requested Shri S. Sundareshan, Secretary, Department of Heavy Industry (DHI) & Member Secretary, NCEM to introduce the agenda for the 1<sup>st</sup> meeting of NCEM and also present the report on approach followed for NEMMP 2020, progress made so far, and the way ahead.

**Agenda item 2: Report on approach followed for National Electric Mobility Mission Plan (NEMMP) 2020.**

8. Shri Sundareshan informed the members that the genesis of NMEM was the recommendations from Prime Minister's Group on Technology for fast tracking the introduction and manufacture of full range of electric vehicles, including hybrids, in the country.

9. It was explained that in order to assess the present day ground realities, the future possibilities for introduction of electric mobility in the country, for setting the Mission targets and for finalizing the roadmap for NMEM, a detailed study based on consumer feedback and extensive stakeholder consultations were undertaken by DHI in partnership with the Industry. It was further informed that the study was carried out with a reputed consultant, as the knowledge partner, who brought with them extensive knowledge of developments around the world and robust forecasting models. The study took advantage of wide-ranging deliberations and consultations involving all stakeholders from Government, Industry, academia and research institutions. The study findings were finally presented to the NBEM, in their second meeting

held on 3<sup>rd</sup> Jan, 2012, wherein the broad general principles, guidelines and framework for finalizing the National Electric Mobility Mission Plan (NEMMP) 2020 were approved. Shri Sundareshan highlighted that fact that the draft NEMMP 2020 document has been shared with all NBEM members, including stakeholder Ministries and Departments and that strong support from all members was received along with some very useful suggestions, which have also been duly incorporated.

10. NCEM members were informed that in order to operationalize the NEMMP 2020, various schemes, interventions, policies and projects will be finalized and approved for roll out by the Government. These will be based on the approach enunciated in NEMMP 2020. In order to expedite this process, the collaborative structure of various Working Groups and Sub-Groups is being effectively utilized, so as to ensure maximum participation of all the stakeholders at all stages.

#### **Presentation on the current status of Electric Mobility NEMMP 2020.**

11. Shri Ambuj Sharma, Joint Secretary, DHI made a presentation to the NCEM, a copy of which is at Annexure II. At the outset, Shri Sharma emphasized that the National Mission for Electric Mobility is an investment for our future generations. It was explained that faster growth of the automotive sector in countries like India is inescapable and strongly interlinked to economic growth. This will, however, lead to immense challenges associated with fast depletion of fossil fuels, rising energy costs, national energy security and environmental impact of transportation. Further, it was informed that the strong connection between future National energy security concerns and automotive sector is on account of the fact that the transportation sector in general and road vehicles, in particular, are utterly dependent on a single source of primary energy, i.e. liquid fossil fuels. This makes the road transportation sector most vulnerable to any increases in fossil fuel costs and at the same time also places this sector on high priority for measures to lessen the dependence of the economy on liquid fossil fuels.

12. JS, DHI informed that studies by International Energy Agency (IEA) indicate that 3/4<sup>th</sup> of the projected increase in oil demand (from 2006-2020) will be from the transportation sector and that China & India will account for 45% of this increased demand. Shri Sharma stressed that this coupled by the fact that India's dependence on fossil fuel imports is likely to increase sharply in the future, makes it essential to take steps immediately for mitigating this trend. Shri Sharma emphasized that the only way to achieve this is by transforming the existing transportation paradigm. It was viewed that while traditional measures such as increasing the fuel efficiency of vehicles, encouraging modal shift to public mass transportation, better infrastructure & urban planning, use of technology will help improve the situation. However, these interventions can at best only provide incremental improvements as the strong sectoral dependence on oil will still remain. Further, with the large future demand for mobility these

measures alone will not be enough. As such transformational change is required to disrupt the present status quo by addressing the fundamental issue of reducing sectoral dependence on oil. Shri Sharma explained that faster adoption of electric vehicles can transform the automotive sector by shifting to a new road transportation paradigm that is highly efficient & compatible with sustainable renewable energy future.

13. JS, DHI explained that world over greater adoption of electric vehicles (including hybrid vehicles) is being strongly encouraged with Governmental support in view of the very significant benefits of liquid fuel savings and lowering of emission, including Carbon dioxide. It was apprised that the main objectives of NMEM are to ensure future energy security for the country and to encourage manufacture of full range of electric vehicles (xEV), including hybrid based on latest technology in the country.

14. JS, DHI briefed the NCEM members that high latent demand for environmentally friendly electric vehicle technologies exists in the country. It is estimated that 6-7 million units of new vehicle sales of full range of electric vehicles, along with resultant liquid fuel savings of 2.2 – 2.5 million tonnes can be achieved in 2020. This will also result in substantial lowering of vehicular emissions and decrease in CO<sub>2</sub> emissions by 1.3% to 1.5% in 2020 as compared to a status quo scenario. However, it was informed that strong upfront & continued support by Government would be essential to realize this demand. The Government will need to provide the initial impetus through demand support measures that facilitate faster consumer acceptance of these expensive newer technologies. In addition, Government will also need to facilitate automotive R&D and put in place charging infrastructure. It is estimated that the Government will need to provide support to the tune of Rs 13000 – Rs 14000 Crores over the next 7-8 years. The industry will also need to match this with a much larger investment for developing the products and creating the manufacturing eco-system. However, this is essential as most advanced countries have already put in billions of dollars for ushering in electric mobility. We cannot afford to be left behind.

15. It was explained that the study also indicates that the savings from the decrease in liquid fossil fuel consumption as a result of shift to electric mobility alone will more than offset the support provided thereby making this a highly economically viable proposition. It was informed that NEMMP-2020 implementation will involve finalization and roll out of comprehensive array of interventions schemes and projects involving all stakeholders, both in and out of the Government.

16. Shri Kamal Nath, Minister for Urban Development desired that this initiative should be synergized with all existing initiatives, including the National Urban Transport Policy. It was viewed that setting up of mass transportation systems like the monorail is important to provide connectivity at a much lower investment as compared to metro systems. It was highlighted that

the running cost of monorail is lower as compared to buses and metros as such this system is fast being adopted in many countries, including China, as an important public transportation mode. NCEM members were informed that MoUD is also considering introduction of mono rail projects. It was felt that all these measures should be linked. ***After deliberations, NCEM recommended to consider this suggestion.***

17. Shri Kamal Nath, Minister for Urban Development enquired about the level of global sale of electric cars and two wheelers. Chairman, NCEM informed that currently, majority of electric cars sold worldwide are hybrids, and their sales is approx 1 million per year. Further, it was informed that currently about 17 million pure electric two wheelers are sold, mainly in China. Shri Munjal further added that in the case of China, 70% of 2W sold every year are electric in view of Government policy and support. As far as India is concerned, it was indicated that approximately 400,000 electric two wheelers are currently on the roads and that Mahindra REVA, which is amongst the largest manufacturer of electric four wheelers has sold approx. 4500 cars so far. It was informed that currently, major barriers for adoption of electric vehicles exist, which includes higher price of acquisition of electric vehicles as compared to traditional IC engine vehicle, consumer concerns with regard to charging (for pure electric vehicles), existing limitations with battery technologies, etc. Further, it was informed that hybrid today available in India, but it's not picking up momentum due to cost and other factors.

**Introduction of an interim scheme on the lines of the erstwhile MNRE scheme for central financial assistance for purchase of electric vehicles.**

18. Secretary, DHI informed that consequent to the discontinuance of MNRE subsidy scheme for incentivizing sales of electric vehicles w.e.f. 31<sup>st</sup> March, 2012; the sale of electric 2W & 4W has been drastically affected. In addition, it understood that approx Rs 31 crores remain to be released for the vehicles sold by 31<sup>st</sup> March, 2012. NCEM was informed that it is essential that the support provided to the xEV industry continues in the interim period till the NMEM demand creation schemes get finalized, approved and launched. This is a must for maintaining the momentum achieved so far and protecting the fragile electric mobility ecosystem created so far with significant investments. For example, the electric two wheeler electric industry has invested over Rs 1200 crores for setting up capacity of approx 400,000 vehicles.

19. ***The NCEM after due deliberation recommended that an interim scheme may be finalized for introduction by NBEM (after taking due Govt. approvals) on the lines of the erstwhile MNRE scheme (which was lapsed in March, 2012) for central financial assistance for purchase of electric vehicles till the full demand creation scheme under NMEM are introduced. Further, for this purpose, NBEM was delegated the powers to decided on the optimal methodology and finding mechanism to be adopted.***

**Agenda item no 3: Adoption of National Electric Mobility Mission Plan (NEMMP) 2020.**

20. *The Council after due deliberation, approved the National Electric Mobility Mission Plan (NEMMP) 2020 and adopted as the National Mission document for Electric Mobility.*

21. *Further, given the fact that the NMEM is the most important initiative of the Government for the automotive industry with a potential to transform the automotive paradigm of the future in the country; NCEM also decided that it would be appropriate that NEMMP 2020 is formally launched and unveiled by the Hon'ble Prime Minister.*

**Agenda item no 4: Discussion and agreement on the way ahead**

22. The Council members were informed the specific schemes for demand creation and R&D are currently being developed through the various Working Groups / Sub Groups under the NBEM and are proposed to be submitted to the NBEM for consideration by December, 2012. It was informed that the work involved is huge, and these timelines are quite stiff. It was also suggested that all efforts would be made to work out the pilot project proposals by March, 2013 for electric vehicles infrastructure. It was requested that these need to be considered in the Government on fast track basis.

23. Shri Kamal Nath, Minister for Urban Development viewed that since there is already a lot of R&D that has already been conducted abroad in this field, and as the technology in this area is perhaps now very well established, no major R&D efforts may be required to be taken up under the NMEM.

24. Dr. K. Kasturirangan, Member, Planning Commission, mentioned that 50% of the electric car, both in terms of the value and technology, is contained/captured in the battery (Lithium-ion battery). It was emphasized that still a lot of research needs to be undertaken in this field. It was highlighted that the major element of research that needs to be carried out would be battery, battery management systems, motor development and with respect to vehicle itself (vehicle integration). It was apprised that India has one of the largest numbers of electro chemists in the world who are the key people required for developing latest battery technology. It was also informed that currently laboratories in India like the Central Electro Chemical Research Institute and DRDO laboratories are carrying out research in this particular area, but the focus of direction can come only when there is an ultimate end user. As such it was viewed that R&D effort by the Government, and the Industry would be a critical component of the Mission, which will yield tremendous results.

25. Further, it was suggested that there is a need to have synergy between the different interventions of the Mission plan. It was viewed that both the demand creation scheme and the



scheme for encouraging R&D in electric vehicles need to run concurrently so that as demand gets created the outcomes of the R&D efforts can be used to not only deliver better products but also to bring down the costs.

26. Dr. R. Chidambaram, Principal Scientific Adviser to the Prime Minister agreed with the views of Dr. Kasturirangan. He also highlighted that besides battery, electric motors, power electronics, etc. have to be developed in order to create the market in India. It was also advised that electric vehicles should be developed on Indian technology based on the available domestic expertise and infrastructure. Dr Chidambaram viewed that by the end of the Mission plan, domestic product and component development that are the outcomes of R&D efforts will be very important as the Government cannot end up supporting Chinese or other imported products continuously in the future. Therefore, localization efforts supported by R&D efforts and investments will be very important for the Mission objective.

27. Shri Sundareshan, Secretary, DHI submitted that the research would be done by the industry, and the Government will facilitate this in various ways, including collaborative R&D, funded R&D, etc. from the allocated funds for this purpose. It was further mentioned that with the limited funds, DHI had already launched two research projects through ARAI and industry. These are creation of a hybrid simulator and a project for light weighting of buses, both of which are aligned to the mission. It was mentioned that these projects were funded from the automotive cess funds that are allocated to the Department. Secretary, DHI informed that the allocations made so far to the department from the Cess funds is far less as compared to what is collected. It was informed that as per the act, these funds are required to be used for the auto industry only. As such, it was requested that the allocations made to DHI from the Cess funds need to be increased to match the requirements of this important mission.

28. Dr. Kasturirangan mentioned that Government support to private initiatives in R&D can be done through sharing of costs either on 50:50 basis or in some other ratio and stated that this approach is planned to be followed for the 12<sup>th</sup> plan, which would be applicable for this kind of research program.

29. Dr. Farooq Abdullah, Minister for New & Renewable Energy mentioned that as far as charging stations are concerned; renewable energy should be used instead of conventional energy to the extent possible, as the mission focuses on environmental benefits. JS, DHI informed that this is a very important point that has also been included in the mission plan – NEMMP 2020.

30. Dr. Kasturirangan was of the view that one critical agenda item that needs to be kept for the NCEM meetings should be related to status of Lithium-ion battery development in India, as there is an urgency to move it forward.

**31. The NCEM accepted the suggested timelines and also supported the request for fast track consideration of these schemes once by the Government.**

**Agenda item no. 5: Discussion and delegation of powers.**

**32.** It was informed that as per the cabinet decision II initiatives for electric mobility will be taken up under the NMEM and the NCEM has been created as the apex body for the mission. The NCEM is to be supported by NBEM and NATRIP / NAB (once set up) is required to provide the technical assistance and secretarial support to NCEM and NBEM. The cabinet note along with the notification giving the composition, roles and responsibilities of NCEM and NBEM are provided to the members in the agenda papers.

**33.** In order to take ahead the initiative, it was proposed that NBEM, with secretaries of all stakeholder Ministries as its members, may be delegated the following powers:

- a. To consider and approve projects to be funded through existing / new approved schemes and allocations.
- b. To consider and recommend to the Government the new schemes to be introduced under the NMEM.

**34. The NCEM after due deliberation approved the proposed delegation of powers to the NBEM.**

**Agenda item no. 6: Inclusion of NMEM in the NAPCC as the 9<sup>th</sup> mission.**

**35.** The Council was briefed that Government of India announced the National Action plan on Climate Change (NAPCC) on 30th June, 2008 for India's contribution towards combating climate change which is coordinated by Ministry of Environment and Forests (MoEF) with implementation through nodal Ministries. It was informed that there are currently 8 missions running through to 2017 launched as part of NAPCC.

**36.** The Council was explained that NMEM with a target of 6-7 million xEVs by 2020 will result in significant mitigation of CO2 emissions by 2020 (1.3 – 1.5% reduction over status quo by 2020) and is fully aligned to the NAPCC and also imbibes important principles of NAPCC. Accordingly, it was requested NCEM to consider recommending NMEM to be included as a mission under the NAPCC.

**37. The NCEM after due deliberation recommended for the inclusion of NMEM as the 9<sup>th</sup> mission under the National Action Plan on Climate Change (NAPCC).**

**Agenda item no 7: Unveiling of the logo for the National Mission for Electric Mobility (NMEM).**

**38. *The NCEM approved the logo proposed for the National Mission for Electric Mobility (NMEM).***

**39. Chairman, NCEM thanked the members for their participation and valuable suggestions. There being no other item on the agenda, the meeting concluded with vote of thanks to the Chair.**

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**List of the participants in the 1st Meeting of the National Council for Electric Mobility (NCEM) held on 29.08.2012**

1. Shri Praful Patel, Minister of Heavy Industry & Public Enterprises - Chairman
2. Shri Kamal Nath, Minister of Urban Development - Member
3. Dr. Farooq Abdullah, Minister of New and Renewable Energy - Member
4. Dr. C.P. Joshi, Minister of Road Transport & Highways - Member
5. Shri Vayalar Ravi, Minister of Science & Technology - Member
6. Shri Namo Narain Meena, MOS, Ministry of Finance - Member
7. Dr.V. Krishnamurthy, Chairman, NMCC -Member
8. Dr. R. Chidambaram, Principal Scientific Adviser to the Prime Minister - Member
9. Dr. K. Kasturirangan, Member, Planning Commission - Member  
(Represented Dr. Montek Singh Ahluwalia, Dy. Chairman, Planning Commission)
10. Shri S. Sundareshan, Secretary, Department of Heavy Industry -Member Secretary

**OTHERS PRESENT**

1. Shri Ambuj sharma, Joint Secretary, DHI
2. Shri Niraj Kumar, Director (Auto), DHI
3. Shri Vikram Gulati, Director (Ops), NATRiP
4. Shri S. Sandilya, President, SIAM
5. Shri Arvind Kapur, President, ACMA
6. Shri Naveen Munjal, President, SMEV