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# The new energy vehicle which customer needs

ICA Transportation project  
Wellington, 19<sup>th</sup> June, 2012



# Objectives for the meeting

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The model needs to be improved. **The further works are primarily defined**, which are far from comprehensive.

Thus, we need:

**a. Seeking for inputs, comments and recommendations from experts;**

**b. Can we have a cooperative platform to address the issues?**

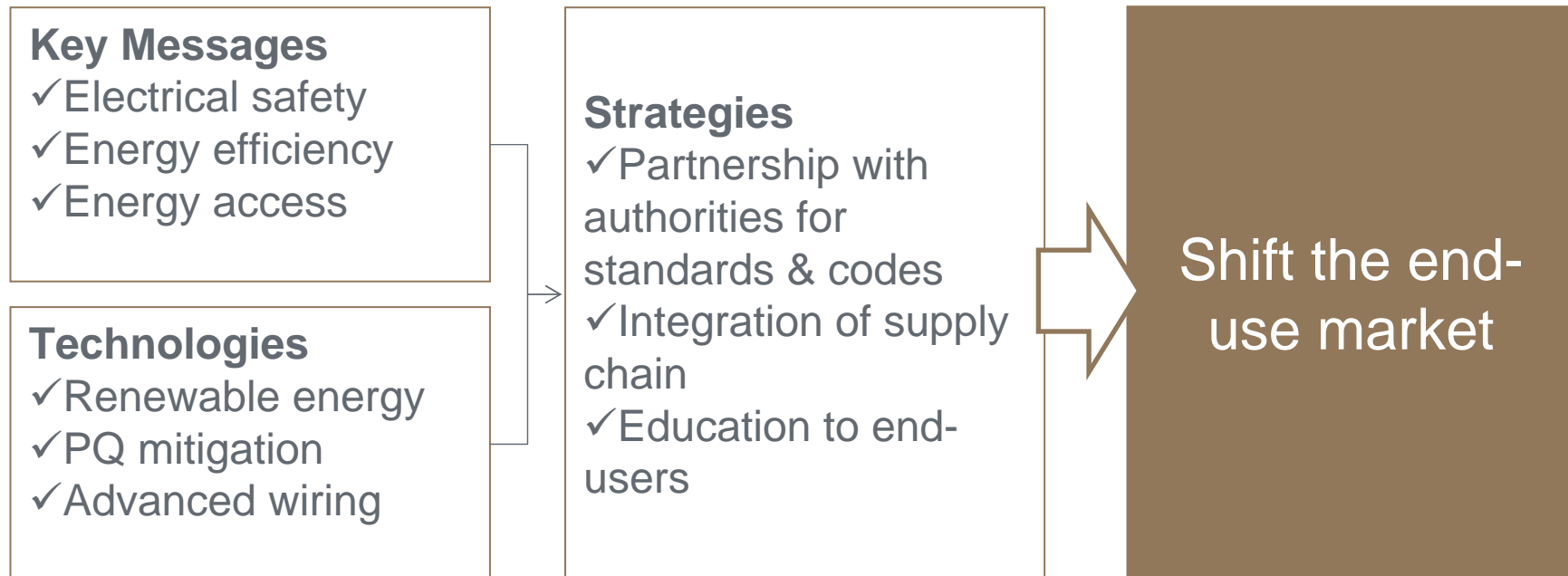
1. Introduction of Transportation project of ICA
2. Current EV promotion situation in China
3. ICA marketing analyzing model

# Our Vision:

## Keeping the target market sustainable

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By keeping the target market sustainable, Copper industry will be able to maintain its own sustainability.



# Chinese government strategies

## Current status in China

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### Ministry of Science and Technology

The '12<sup>th</sup> five year plan' strategy for EV technology development

- BEV is core.
- "Three technology, Three Platforms"
- Priority for e-buses and electric small cars
- Three steps

### Ministry of Industry and Information Technology

The energy saving and new energy vehicle industrial strategy  
2012 – 2020

- Four persistence
- Eight tasks

# Chinese government goals

## Current status in China

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- **Short term target – Until 2015:**

- Total holdings reach 500,000
- Battery power density over 120 wh / kg
- Motor power density more than 2 kw / kg
- Battery cost below 2 RMB / wh
- Cycle life more than 2000 cycles
- Motor cost less than 200 RMB /kw

- **Long term target – Until 2020:**

- Total holdings reach 5,000,000
- Battery power density over 120 wh / kg
- Battery cost below 1.5 RMB / wh

- '10 cities, 1000 EVs' started
- 6 consumer pilot cities identified
- The subsidies policy from central and local governments
- Grid companies building charging infrastructures
- Central government strategies launched
- New energy vehicles all over motor-shows
- Li-ion battery is a hot topic.
- Government support funding for new energy vehicle development

- '10 cities, 1000 EVs' not accomplished well so far
- EV self-ignition accidents all over news paper headlines
- Consumer anxiety of EV range and cycle life.
- Charging or Swapping
- Few vehicle being seen in charging infrastructures
- Few consumer buying EV
- Battery recycling and step utilizing?

**Are the goals too far to reach?**



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➤ **It is a multi-purpose program.**

- Emission reduction
- Energy security
- Industrial upgrading

➤ **It is a cross industry program.**

Electricity and Automotive

➤ **It is a multiple governments managing program.**

- NDRC
- MIIT
- MEP
- MOST
- MOF

# The principles that consumers care

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**Economy**

**Convenience**

**Safety**

**Image**

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**Economy here means ‘Value of Money’, it should combine the returning value for consumer’s spending in purchasing, using and maintaining.**

- Initial cost
- Operating cost
  - Charging cost
  - Energy consumption per Km
  - Battery replacement cycle
  - Maintenance cost

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**Convenience should allow consumer to drive, utilize and charge the EV easily.**

- Charging convenience
- Battery power volume
- Power backup
- Heating / Air conditioning

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**Safety for new energy vehicle is mainly concerning avoiding hazards of firing and electricity leakage from battery defeat.**

- Battery heat management
- Over charging / discharging
- Anti-flaming
- Electricity leakage protection

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**Image refers to the social recognition that driving an EV may bring to the owner.**

- Environmental caring
- Resource saving

# Works to be done to fill 'The Gap'

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## Consumer needs for an EV:

- Initial price
- Battery durability
- Fuel consumption
- Charging price
- Charging convenience
- Battery power volume
- Power backup
- Heating / Air conditioning
- Battery heat management
- Over charging / discharging
- Anti-flaming
- Electricity leakage protection
- Environmental caring
- Resource saving

## The Gap:

- Study on potential consumer's needs
- Analysis on the charging / battery rental price vs. electricity companies benefit
- Battery swap interface standard
- The charging / battery swap station distribution analysis
- Investigation of running pilot of EV applications in specific areas for government
- Analysis of the strategy for EV development under the situation of high traffic and limited parking lot cities
- Study on EV charging with Renewable energy

## Policies

- Technical
- Industrial
- Environmental
- Financial

## Industrial methods

- Grid
- Automotive
- Batteries
- Integrators
- Recycling
- Resources
- Logistic
- Developer

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# Thank you very much for your attention!

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