

# *EV Technology a Regulatory Perspective*



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# *Issues*

- The Promise of EV
- Special EV Characteristics
- Challenges posed by the Extant Legal & Regulatory Framework
- Questions for Determination
- Conclusion

# *The Promise and Possibilities of EV*

- According to Bloomberg Electricity vehicle (EV) outlook 2017 –  
*“The EV revolution is going to hit the car market even harder and faster than predicted a year ago. EVs are on track to accelerate to 54% of new car sales by 2040. Tumbling battery prices mean that EVs will have lower lifetime costs, and will be cheaper to buy, than internal combustion engine (ICE) cars in most countries by 2025-29.”*
- *Price of lithium-ion battery to fall by more than 70% by 2030*
- *Displace 8 million barrels of transport fuel per day, and add 5% to global electricity consumption.*

# *Promise and Possibilities of EV*

So if you believe the pundits EV, inter alia:

- is the new clean technology of the future;
- will give a second wind to the electricity grid
- reduce fossil fuel dependence
- revolutionize electricity demand pattern

# *Promise and Possibilities of EV*

A number of possible Modes of Operation:

1. Non-Commercial Charging – at home or residence- from grid or self-generation;
2. Commercial Self-generation Charging - similar to a gas station i.e. electricity not purchased from the grid;

# *Promise and Possibilities of EV*

3. Commercial Redistribution Charging  
– charging at stations from grid electricity (JPS)
4. Commercial Battery Replacement – grid or self generated electricity
5. Monopoly Utility Charging Stations – grid/JPS electricity

# *Special EV Characteristics*

- Storage – the motor vehicle essentially becomes a battery
- Electricity supply become mobile;
- Delinking of consumption from generation
- Peak shifting – greater flexibility
- Representing essentially greenfield consumption for the electricity sector

# *Special EV Characteristics*

- Opportunities for tariff arbitrage
- Implications of shifting load and access points
- Greater use of green energy sources
- Environmental consideration – lower emissions



# *Current Regulatory Framework*

Current regulatory framework imposes limitations –

Condition 2, Paragraph 4 (b) of the Electricity Licence, 2016 provides that:

*“the Licensee shall have the exclusive right to transmit, distribute and supply electricity throughout Jamaica from the effective date of this Licence (that is, March 30, 2001) until July 8, 2027.”*

# *Current Regulatory Framework*

Note that:

Save for 1 & 5 of the modes discussed earlier, all the other EV business models arguably present a challenge to Jamaica's existing regulatory framework i.e. exclusivity in the supply and distribution of electricity along commercial lines.

- Will this fetter progress in this area?

# *Policy Matters to be Determined*

- *1. What if any regulatory changes are required?*
- *2. Are there infrastructural pre-requisite and who should build it?*
- *3. What is the service offering – is offering ‘charging services’ the same as selling electricity in all situations?*

# *Policy Matters to be Determined*

4. Who can offer the service – utility, commercial charging services, car parks, sellers of batteries?
5. *Where is the service to be offered – given load implication and tariff classes (eg. residential versus commercial)?*

# *Policy Matters to be Determined*

6. *What is the Cost or more aptly who pays and how is cost to be allocated*
- The specific user;*
  - All on the network;*
  - Who should pay for upgrade, buildout and demand surge;*

# *Policy Matters to be Determined*

7. How should rates be configured to:
- incentivise best time of day consumption;
  - should the likely blurring of residential versus commercial charges be ignored?
  - how if at all should forex savings, environmental gains and fuel diversification factor into rates?

# *Policy Matters to be Determined*

8. In addition to all of the above, regulation will also need to consider:
- The extent of regulatory intervention required;
  - Timing of regulatory intervention;
  - Market development consideration;
  - Information/public education issues.

# *Conclusion*

So EV Beckons:

- Hold out possibilities of substantial gains;
- Has some peculiarities;
- May be limited by current legal framework;
- Hence the need to address our minds to a range of policy issues with a view to ensure that the resulting regulatory construct is:



# *Conclusion*

- Fair;
- Conducive to economic growth and development;
- Strengthen rather than weakens the electricity infrastructure;
- Promote productive and allocative efficiency; and
- Allows for innovation.



*Thanks*