

World of EV: LDC Perspective



CCRE Energy Leaders Workshop

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Impact of EVs on LDC: TOP 5 QUESTIONS



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1. Will EVs bring down the power grid?

- Given forecasted penetration of EVs ~ 5-10% of TIV, electrical load is manageable
 - Forecast 340K PEVs in Ontario by 2020, demand ~ 2GW
- Large scale roll out of EVs will not happen overnight
- Renewables integration to help balance load on grid



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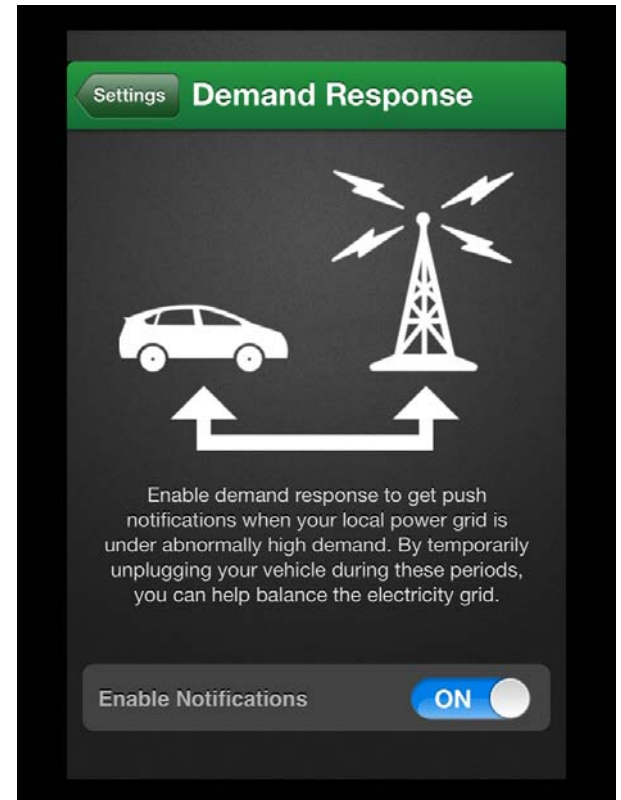
2. Will a few EVs bring down the lights in a neighborhood?

- Dependant on health of distribution assets
- Certain clusters may require asset upgrade
- Mitigation plans:
 - Smart grid to help identify asset overload
 - Smart chargers to toggle and throttle charging to the vehicles
 - Encourage off peak charging



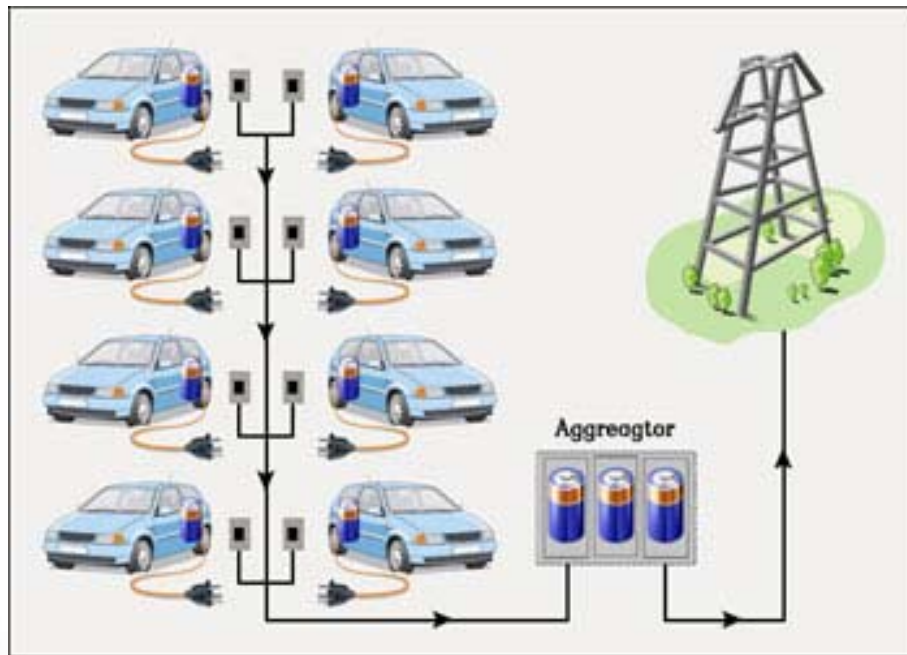
3. Can EVs help with energy smoothing?

- Charging at night, when excess power supply
- Encourage off peak charging
- EV specific DR program



4. Can EVs become power stations?

- Vehicle-to-home technology: 4s response time
- Aggregate EVs to form an energy trading centre



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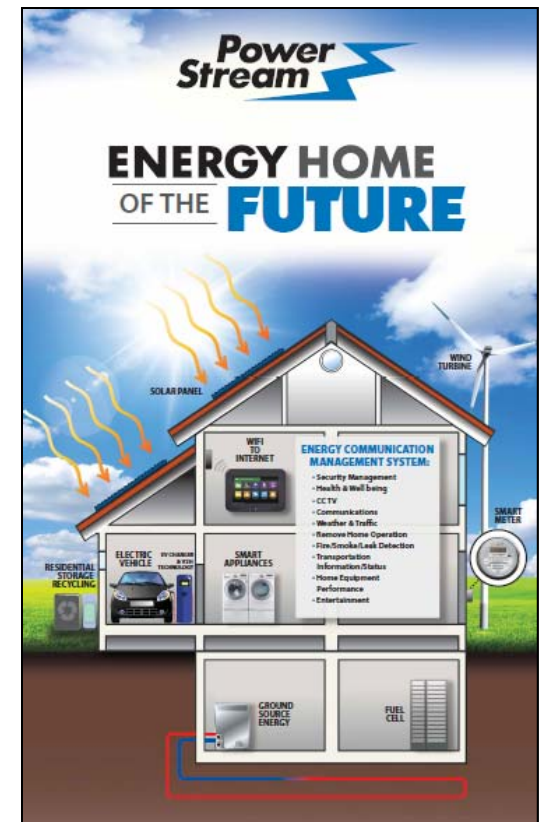
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5. Can EVs lead to new revenue streams?

- Integration with renewables, storage and home energy management systems
- Charging infrastructure related



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