Enabling Policy to Increase Demand for E-mobility

FRANCIS ROMANO
Knights Energy

KNIGHTS ENERGY | DRIVELECTRIC KENYA Powering the Future

WHO WE ARE

- Renewable Energy company with a strong focus on Clean Mobility
- Support | Advice| Plan| Sell and Service Electric Vehicles and Charging stations
- Integrate Photovoltaic systems with or without storage
- Provide Energy Management plans

OUR FOOTPRINT

- Installation of over 200+ Solar projects with and without storage both for Residential and C&I
- Promotion awareness & partnerships on E-mobility development
- Business study on E-mobility adoption for Urban transport
- Sales and installations of 15+ EVs in Kenya
- Regional reach-out and survey in Kenya, Uganda and Rwanda
- EV leasing to customers in Nairobi that lead to Direct Sales coupled with Solar power systems.
- Development of the Eco- Hub Concept - Solar powered Residential or Business case-
- Partnership for goals: Strategic partnerships - with product manufacturers, business partners, policy makers development partners, utility partner

Strategies to accelerate EV deployment

All over the world, governments attempt to support the transition to e-mobility. The introduction of electric driving is a complex and unpredictable process that is not likely to occur all by itself.

AWARENESS

- EV showcases and demonstration zones.
- Youth education and professional development.
- Awards and recognition
- Highly visible signage.
- Informational Websites
- National Drive Electric Week promotional events
- Encourage elected officials to drive EVs.

INFRASTRUCTURE

- Providing direct financial incentives for setting up of infrastructure
- Investing in government-owned infrastructure.
- Partnering with EV stakeholders to ensure charging stations are accessible to the public.
- Adopting accredited standards to allow and encourage installation of charging stations throughout the city.

POLICY

- Lower import duties and road tax for electric vehicles
- Preferential access and exemption from congestion fees in urban areas
- Adopt EV-friendly zoning and parking ordinances.
- Identify other policies and incentives that may promote EV use, such as free parking for EVs, or tax credits for businesses that offer EV charging.

BACKGROUND- Drivelectric Study: 3 year study of e-Mobility

YEAR 1

- Test a Used EV
- Energy Economy: EV vs ICE
- Capex Vs Opex study

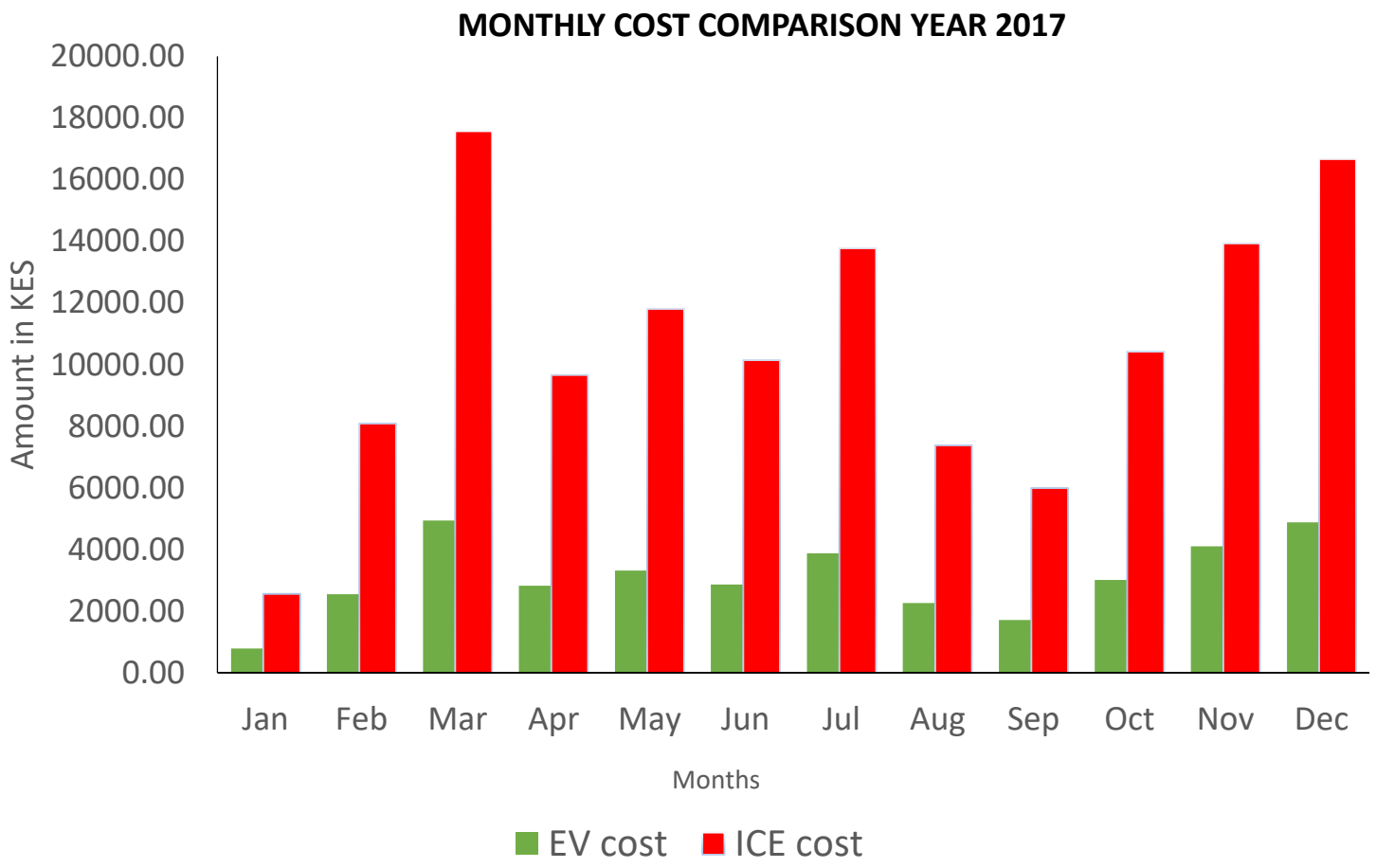
YEAR 2

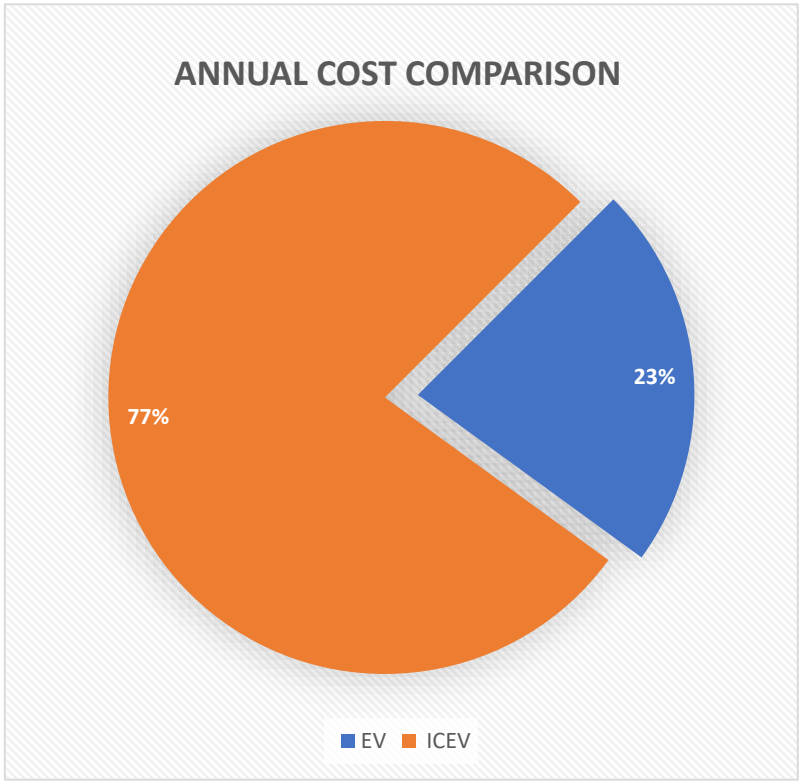
- Test of new EV – ENV-200
- Targeted Sampling of Evs
- Study of market potential
- Driving pattern sampling

YEAR 3:

- Study of policy framework
- Who are key Stake holders
- Barriers to adoption

RESULTS AND FINDINGS





Strategies for Accelerating the Market - **ECO-HUB**

STRATEGY FOR INITIAL INFRASTRUCTURE DEVELOPMENT

Staff/School Bus

EV Bus for staff or students

Delivery Bike

EV motorbike for errands or and deliveries

Personal Car

EV for personal utility

PERSONAL | SCHOOL | AIRPORT| OFFICE | HOTEL | COMPANY

Delivery Van

EV vans for errands or and deliveries

E-mobility– The Development

- Scoping of Early Adopters - Personal Transport, Commercial Fleets, Manufacturing, Public transport
- Handling the curves :

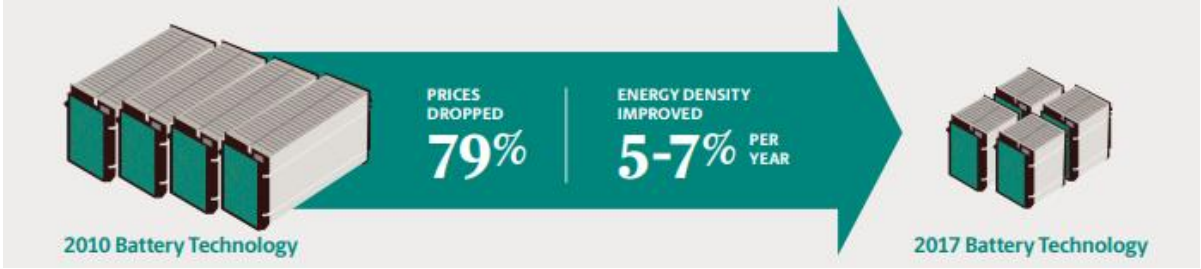
MOTIVATORS

› Sustainability goals
› Lower cost of ownership
› Financial incentives
› Policy changes

BARRIERS

› Limited product availability
› High purchase price
› Inadequate facility charging

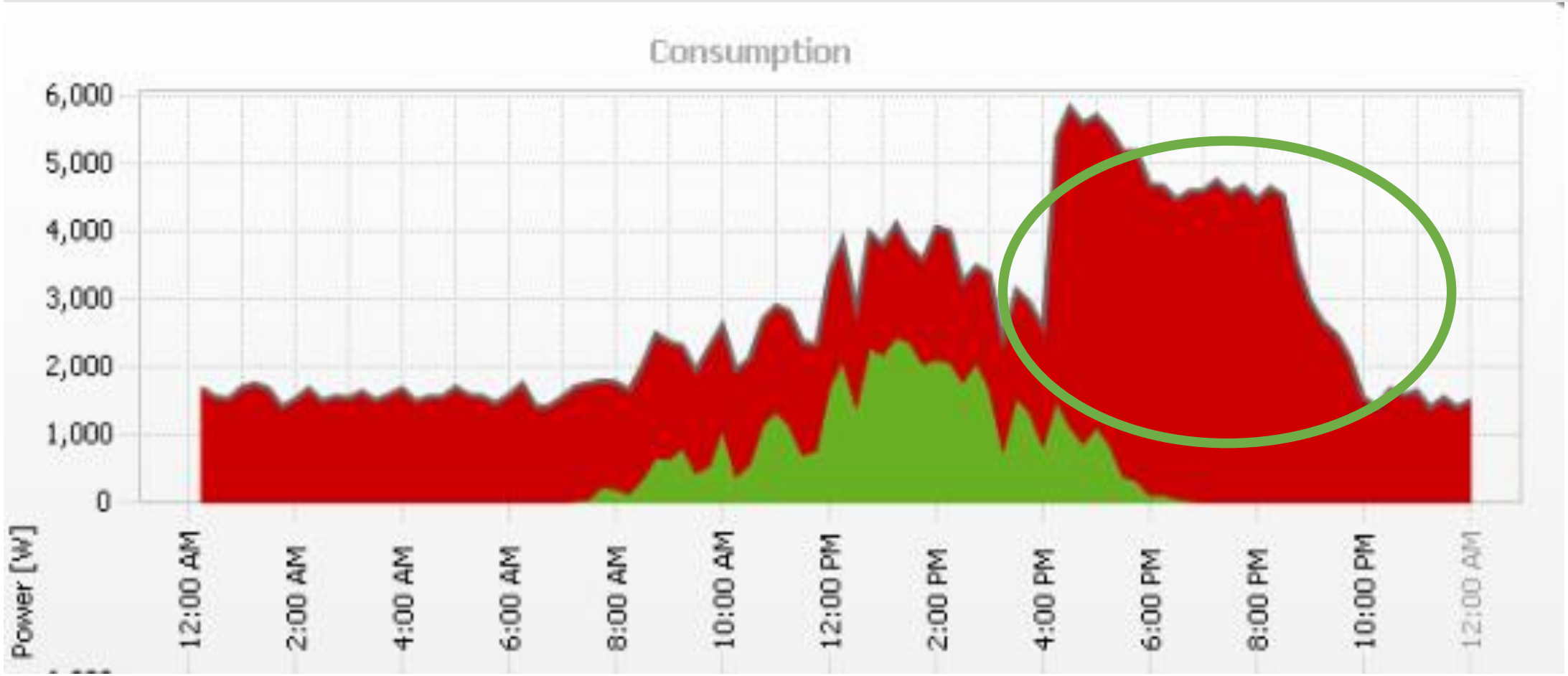
- Technology and policy changes



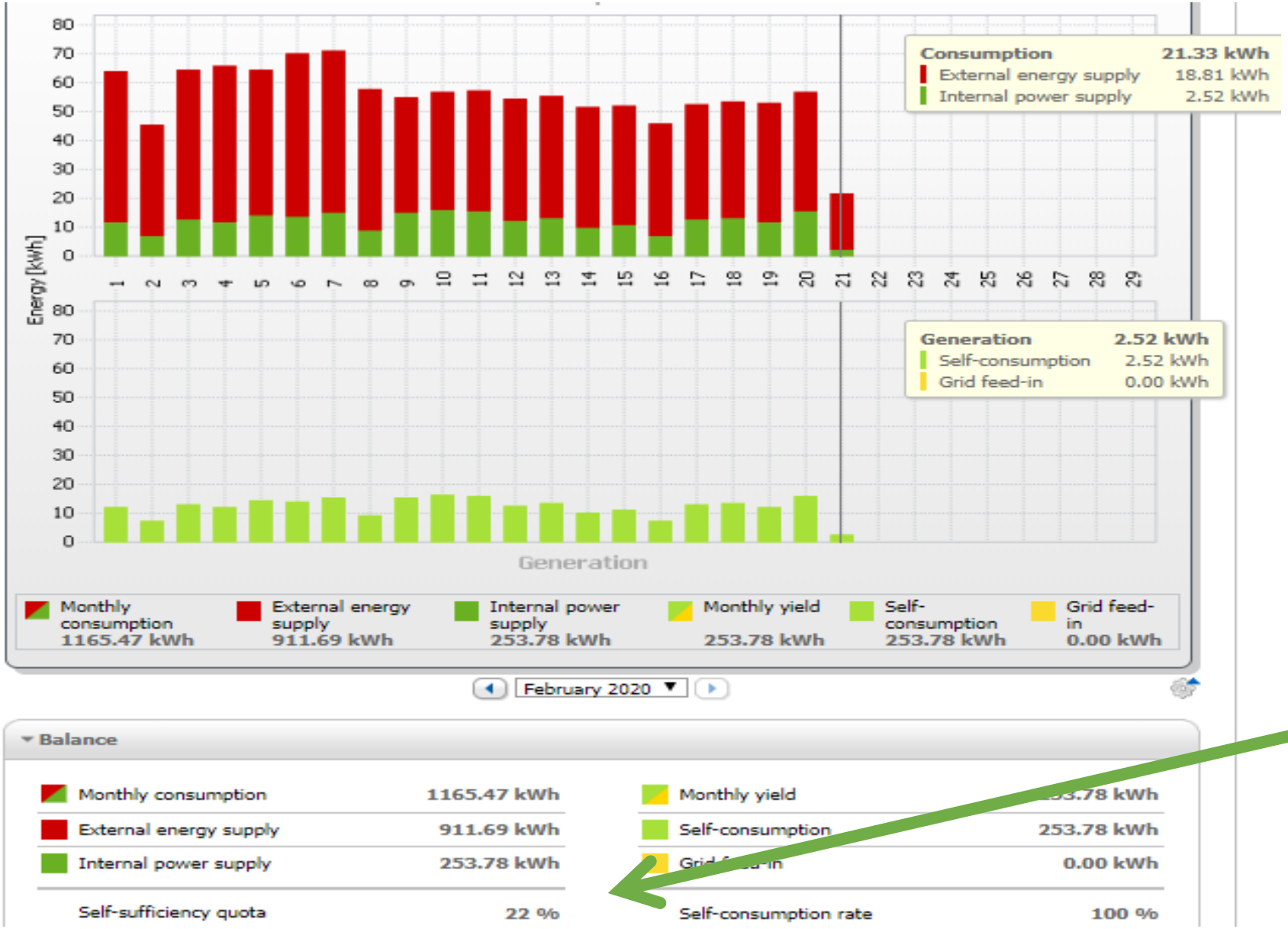
- Growing interest from Industrial players and Manufacturers

E-MOBILITY AND RE-ENERGY - **ECO-HUB**

Case Study: Greenspoon Ltd – Energy Demand with EV demand NET-OFF using Solar - Charging done at night at day – With Solar Offset during the sun hours



E-MOBILITY AND RE-ENERGY - **ECO-HUB**



QUESTIONS RAISED BY THIS ENERGY TREND

WHAT DOES IT MEAN TO:

- Utility providers
- Tariff regulators?
- Energy Usage trends Vs time of use- Oil vs Electricity renewable vs non renewable?
- From a storage perceptive - Where is the energy in transport currently stored and where will be stored?
- Carbon offset point of view
- Energy managers-
- What would 500,000 EVs do? The impact

POLICY AS A MAJOR INFLUENCES ON E-MOBILITY DEVELOPMENT

TARGET AREAS

- Adoption of EVs and charging standards. – Done - KEBS
- Procurement programs to kick-start demand and stimulate automakers to increase the availability of EVs-
- Impetus for an initial roll out of publicly accessible charging infrastructure.
- Fiscal incentives to bridge the cost gap between EVs vs (ICE)- Increase Demand- Excise duty to 10%

TARGET AREAS- CONT

- Economic incentives that increase the value proposition of EVs
  - Waivers to access restrictions,
  - Lower toll or parking fees
- Incentives to scale up Vehicle with low and zero tailpipe emissions
  - Eg Fuel Economy standards, Zero-emission vehicle mandates

TARGET AREAS- CONT

1. Regulatory measures related to charging infrastructure
    - Eg minimum requirements to ensure “EV readiness” in:
    - New or refurbished buildings and parking lots, Public Facilities, Road Infrastructure
2. Deployment of public chargers in cities/highway networks
3. Requirements regarding inter-operability and minimum availability levels for publicly accessible charging infrastructure.
4. Focus on how fuel and vehicle taxes are adjusted and their contribution to government revenue.

TARGET AREAS- CONT

- Standards for EVs and Chargers are a fundamental prerequisite for the development of E-mobility.

- Front running countries involved in E-mobility Initiative are already making progress from their initial phases of EV policy implementation (e.g. establishment of standards, public procurement and early charging roll out, economic incentives).

- Some advanced markets like Norway have started phasing out some aspects of their EV support policies

POLICIES AS A MAJOR INFLUENCES ON THE DEVELOPMENT OF E-MOBILITY

EV RELATED POLICIES IN DIFFERENT REGIONS

Regulations (vehicles)	Target	Canada	China	EU	India	Japan	US
	ZEV mandate	✓*	✓				✓*
	Fuel economy standards	✓	✓	✓	✓	✓	✓
Incentives (vehicles)	Fiscal incentives	✓	✓	✓	✓		✓
Targets (vehicles)		✓	✓	✓	✓	✓	✓*
Industrial policies	Subsidy	✓	✓			✓	
Regulations (chargers)	Hardware standards**	✓	✓	✓	✓	✓	✓
	Building regulations	✓*	✓*	✓	✓		✓*
Incentives -chargers)	Fiscal incentives	✓	✓	✓		✓	✓*
Targets (chargers)		✓	✓	✓	✓	✓	✓*

POLICY FOCUS

E-mobility policy Must be Focused towards Leap-frogging to Electric Vehicles Manufacturing:

IMMEDIATE ACTION

- ✓ Study of Patterns and Scenarios for Africa's Automobile Industry
- ✓ The positives considering Energy availability
- ✓ Potential for Industrialization

Drivelectric

THANK YOU

FRANCIS ROMANO
romano@knightsandapps.com