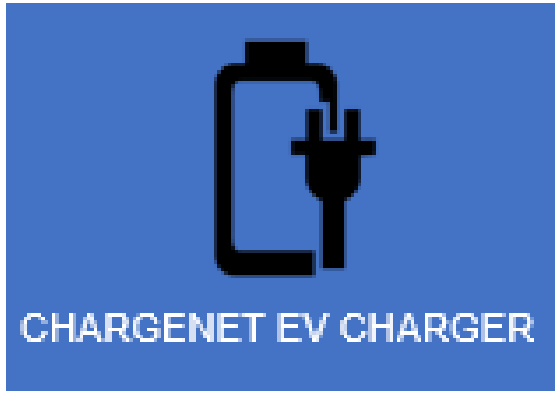
chargeNET

All Electric. Super Smart.

Sri Lanka’s First EV Smart Charging Network

- **Sri Lanka’s First Smart Charging Network**
- **100% Sri Lankan Solution**
- **Charge Sessions Completed:** Over 50,000
- **chargeNET Users:** Over 2000
- **chargeNET Mobile App Downloads:** Over 1130
- **No of chargeNET chargers:** 40
- **Average fossil fuel saving per year:** 50,000 liters
- **Expansion Plan:** Over 55 chargers by March 2018
- **Research and Development** Investment



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LEVEL 3 / LEVEL 2 CHARGERS

FAST CHARGER 30KW / 50KW

L2 CHARGER 3.3KW / 6.6KW

TIME BASED TARIFF

Why Time-based Tariff was Implemented :

1. chargeNET EV chargers are operated through RFID cards based on cashless transaction system at the charger point.
2. The customer is charged based of the charger usage time.
3. The time-based tariff is used since it is the common practice of many countries for EV charging and the previously raised regulation matters in Sri Lanka against energy reselling.
4. The EV charging is provided as a service to the consumer where the user is charged based on the time of EV charger usage.
5. Fast charger process and loss for the service provider

EV USER CURRENT SITUATION

- EV users do not have adequate charging locations even In the main cites
- The EV users in the suburbs and rural localities are forced to limit themselves to home charging
- EV users are forced to comply with any pricing mechanism that is given by the merchant for charging
- Different rates apply at different locations where the charger Is located.

SERVICE PROVIDERS

Rate L2 Charger – Slow Charging

1. L2 charger rate - Rs. 125/= per hour for 3.3kW and Rs. 250/= per hour of 6.6kW.
2. When calculated per unit cost, Rs. 37.87 per kWh for L2 charge.
3. This rate was decided based on the industrial tariff rate of Rs. 23.50 per kWh. This is the maximum tariff applied on the peak hours. When considered a 10 hour EV charging with 3.3kW per day, the payback period of the unit is 12 months which is reasonable for a station owner.
4. This is also less than the tariff rate for domestic usage > 180kWh which is Rs. 45.00 per kWh which would be an incentive to EV users to charge at commercial L2 chargers.

Power	Revenue per hour	Cost per hour	Profit per hour	Profit for 5 hour	Profit per 30 days	charger Cost	Payback months
20kW	750	376	374	1870	56100	1,250,000	22.28
30kW	1125	564	561	2805	84150	1,500,000	17.83

SERVICE PROVIDERS

Rate L3 Charger – Fast Charging

1. Fast charger rate – Rs. 375/= per 30min for 20kW and Rs. 562.50 per 30 minutes for 30kW.
2. When calculated per unit cost, Rs. 45.00 per kWh for Fast charge.
3. When considered a 5 hour EV charging with the payback period of the unit is 22 months for 20kW charger and 18 months for 30kW charger which is reasonable for a station owner.

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20kW	750	376	374	1870	56100	1,250,000	22.28
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LIMITATIONS – Service Maintenance

Service and Maintenance

- No regulations on equipment standards and maintenance
- Downtime and turnaround time is very high
- Service Providers of EV charging are not registered or monitored for safety, standards etc.
- No proper part replacement, maintenance if the equipment fail, when the products are imported freely.

Due to the above, it is vital to ensure that local service and maintenance presence is import, where the end user is not disappointed and is given access to the EV charging equipment with convenience.

LIMITATIONS – High Cost in Certification

- The J1772 and CHAdeMO standard and protocol must be followed
- But, enforcing the requirement of certification will hinder the establishment of an EV friendly country
- Local products can be produced at the same standard, 4 times less in terms of cost, with the same efficiency and effective deployment capabilities
- 90% of the chargers in Sri Lanka are not certified but follows production protocol

IMPLICATIONS:

A. The ROI will take over 6 years (more if the location Is rural) and 4 times

B. High investment will be transferred to the end EV user with higher EV charging costs

THE WAY FROWARD

In order for Sri Lanka to be ready to face the inevitable change in the automobile and transportation sector, both public and private sector stakeholders should work together in achieving a win-win solution;

A. SAFETY

B. ACCESSIBILITY

C. RELIABILITY

D. VALUE FOR MONEY

E. SERVICE

RECOMMENDATIONS

- PUCSL may define the per unit rate pricing based on the following pricing structure;

  i. DC fast charger 0-80% (SOC) : Rs. 50
  ii. DC fast charger 81-90% (SOC) : Rs. 60
  iii. DC fast charger 91-100% (SOC) : Rs. 80
  iv. AC J1772 charger : Rs. 40

- Define a set of standards for the service provider of EVSE

- Define the seller of EV charging units and or the solution (reseller and or manufacturer)
- Issue a subsidized rate for EV charging stations as announced previously (13/- per unit) to all respective service providers
- Second meter to be permitted for EV charging stations / locations
- Fixed unit price for second meter procurement

ESTABLISHING LOCAL MANUFACTURING PARTNERSHIPS

100% LOCAL PRODUCT

Collaborative move to establish a solid base for EV infrastructure in Sri Lanka

- The products can be mass produced for the country – reducing imports and supporting local products that are export ready
- If Sri Lanka's EV market is expected to grow with the collaboration of multiple investors – operating their own stations, chargeNET can act as a manufacturer

HOW WE CAN HELP

chargeNET's IoT technology and fully automated system;

- Provide the software solution for chargers that are semi-automated or manually operated – to be fully automated reducing cost, labor and ensuring accessibility to all users 24/7/365

- With the use of the chargeNET system to seamlessly connect all chargers (chargeNET and other) to create a cohesive network centrally managed and monitored by the PUCSL or government authorities

- Help introduce a transparent system with integrated backend accounting and reporting mechanisms

- Consultation for regulation formulation and implementation by the PUCSL

chargeNET

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A smart solution for everyday use.

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