DIGITALISATION OF CUSTOMER BILLING EXPERIENCE VIA TNB SMART METER DEPLOYMENT

DATIN SITI LAILA SRI ASIH S. GARIEB | TNB AMI PROJECT | 4TH SEPT 2019
TNB – An Introduction

Our Vision
To be among the leading corporations in energy and related businesses globally

Our Mission
We are committed to excellence in our products and services

Our background

1949 Central Electricity Board (CEB) was set up in the then Malaya for generating and distributing electricity

1965 renamed as National Electricity Board (NEB) to form Malaysia’s sole provider of electricity generation, transmission and distribution

1990 Following a corporatisation and privatisation exercise by the Malaysian Government, Tenaga Nasional was successfully listed on the Main Board of the then Kuala Lumpur Stock Exchange (KLSE)
Moving forward, TNB will install 9.1 million meters by 2026 to facilitate full AMI benefits to all customers.

We intend to completely deploy 9.1 million meters to all customers by 2026...

<table>
<thead>
<tr>
<th></th>
<th>RP2</th>
<th>RP3</th>
<th>RP4</th>
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<tbody>
<tr>
<td>No of OPC</td>
<td>1.5 mil</td>
<td>3.6 mil</td>
<td>4.0mil</td>
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<td>Area Of Deployment</td>
<td>Melaka, KL, Selangor, Putrajaya / Cyberjaya</td>
<td>KL, Selangor, Penang, Johor</td>
<td>Perak, N9, Kedah, Perlis, Kelantan, Pahang, Terengganu</td>
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<td>Meter Deployment (%)</td>
<td>266,752 (18%)</td>
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...facilitating the implementation of full AMI offerings to customers

**Benefits in RP2**

- **Auto-billing/ NEMS**
  - Reduction in estimated bill. Participation in NEMS
- **Energy Consumption Information**
  - Customer empowerment through mobile app/ web portal
- **Faster Power Re-connection**
  - Immediate supply connection that is done remotely

**Time of Use (ToU)**

- Time-based pricing options for all ordinary power customers

**High Consumption Alert**

- Alerts sent when consumption reaches customisable thresholds

**Power Outage Notification**

- Receive notification when outage occur

**Benefits Projected at the End of RP3**

- **Time of Use (ToU)**
  - Time-based pricing options for all ordinary power customers
- **Smart Payment (Pre-paid) Plan**
  - Prepayment plan options for customers
- **Facilitate retail switching**
  - Support multiple retailers
Conventional Vs Smart Meter Reading & Billing

Conventional Meter Reading

Smart Meter Reading & Billing

Customers can view their electric costs, consumption and environmental impact details on-line.
Digitalisation Of Customer Experience

DIGITISING
Process of digitising the customer energy consumption via Smart Meter

PROCESSING
Processing of the customer energy consumption data in relation to time, environmental, and tariff that will translate into customer usage profile and cost to customer

DIGITAL TRANSFORMATION
Presentation and delivery of these information into layman’s terminology, and easy for customers consumption
1. **Meter Data Management System (MDMS)**

MDMS holds the information on smart meter and its related events, as well as providing the functionality to execute specific smart meter functions e.g. disconnection or reconnection.

2. **Billing and Customer Relationship Management System (BCRM)**

BCRM holds all customer related information and tracks all the related interactions between TNB and its customers.

3. **Smart Meter Operation Center (SMOC)**

SMOC is responsible to monitor and oversee the health and operations of all smart meters that have been installed. It provides a “birds eye view” of the AMI operations and liaise with the rest of TNB operational teams to ensure services provided to the customers are at its best.
Key considerations to digitalizing customer billing information

- With AMI and smart meter, there will be a major change for TNB customers
- More detailed billing information will be made available to the customers
- They will be able to analyse this information and capitalise on the benefits

Educate the customer e.g. analyse their consumption data

- Need to provide accurate information to the customers
- Easy access e.g. designated web portal of consumption details and events notification

Transforming customer mindset to constantly review, analyse and take necessary steps to help manage their energy consumption.
- Ability to view, analyse and take control of their energy consumption for their own benefit.

Present impact of their energy consumption to the environment and the significance of it

Present Value Proposition e.g. analysing their consumption pattern to better manage the use of energy
<table>
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<tr>
<th>Challenges</th>
<th>Internal</th>
<th>External</th>
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<tbody>
<tr>
<td>Culture shock</td>
<td></td>
<td>Too much information</td>
</tr>
<tr>
<td>Willingness to accept changes</td>
<td></td>
<td>Skepticism / Trust in technology</td>
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<td>Fear to deliver</td>
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<td>Hungry for meeting expectation</td>
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THANK YOU

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