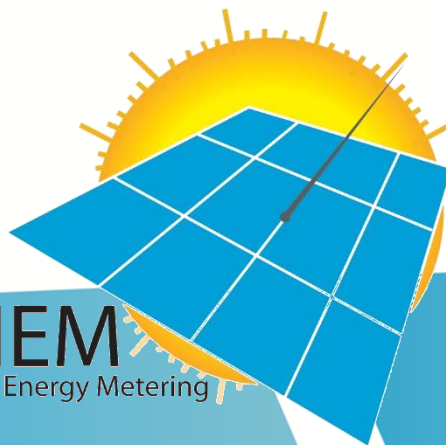




Sustainable Energy Development Authority (SEDA) Malaysia



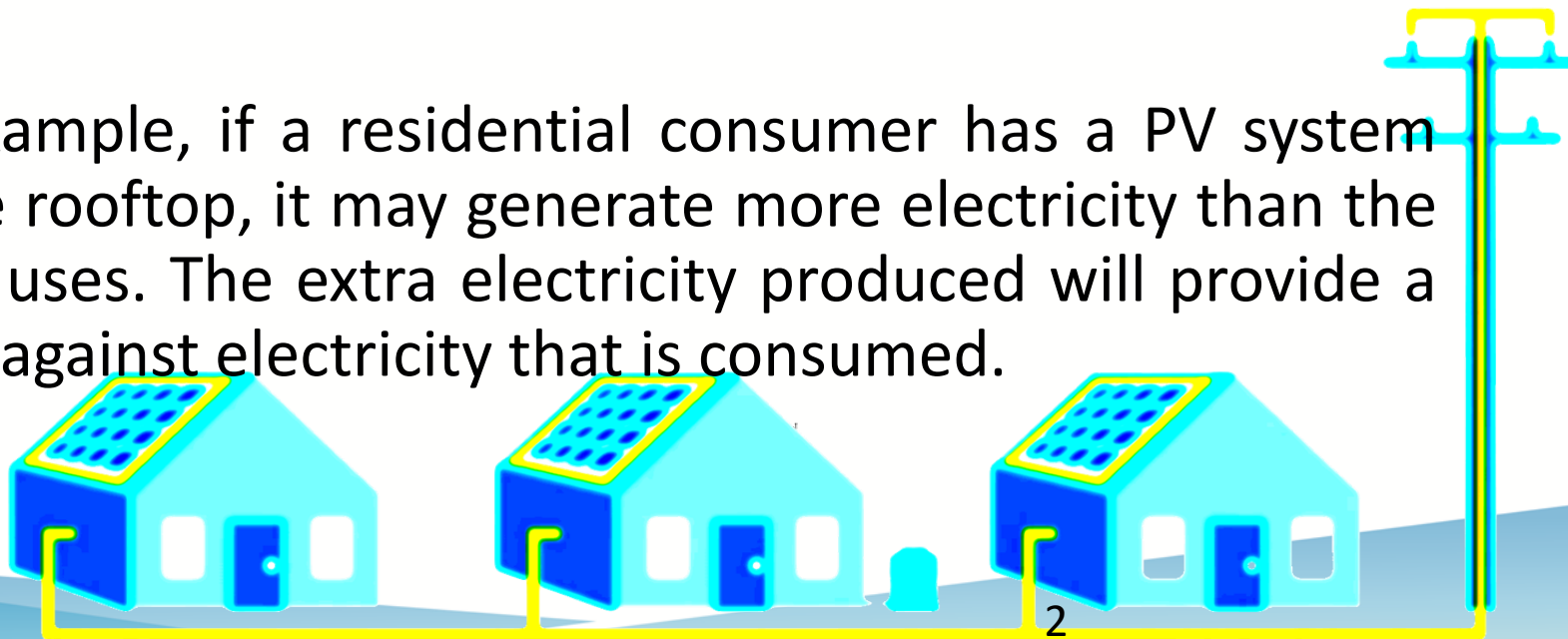
NEM
Net Energy Metering

FAQs
As at 1st Nov 2016

What is Net Energy Metering (NEM)?

A mechanism where an eligible consumer installs a solar PV system primarily for his own use and the excess energy to be exported to the grid for which credit to be received that may be used to offset part of the electricity bill for energy provided by the Distribution Licensee (TNB/SESB) to the electricity consumer during the applicable billing period.

- For example, if a residential consumer has a PV system on the rooftop, it may generate more electricity than the home uses. The extra electricity produced will provide a credit against electricity that is consumed.





NEM Implementation

Implementation of NEM

Suruhanjaya Tenaga
(Issuer of NEM Guidelines)

SEDA
(Implementing Agency)

DL
(Customer
Contract)

Domestic
Customer

Commercial
Customer

Industrial
Customer

NEM Quota (2016-2020)

Quota Allocation (proposed)

Location		Peninsular					Sabah				
Year		2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Category of Consumers	Domestic/Residential, MWp	20	20	20	20	20	4	4	4	4	4
	Commercial, MWp	35	35	35	35	35	4	4	4	4	4
	Industrial, MWp	35	35	35	35	35	2	2	2	2	2
Sum, MWp		90	90	90	90	90	10	10	10	10	10
Total, MWp (as at 1 st Nov 2016)		450					50				

Note: Quota allocation will be based on first come first serve basis.

Eligibility

- ✓ Registered consumers of Distribution Licensee in Peninsular Malaysia (TNB*), and Sabah & Labuan (SESB**) only

Delinquent consumers who have not paid their bills (blacklisted) are not eligible to apply for NEM scheme.

- ✓ Open to all categories of TNB/SESB consumers under the following tariff:
 - i. Domestic/Residential
 - ii. Commercial (inclusive of government buildings)
 - iii. Industrial
- ✓ The resources for producing electricity shall be from Solar Photovoltaic only.



* Tenaga Nasional Bhd

** Sabah Electricity Sdn Bhd

Installation Types and Capacity Limits

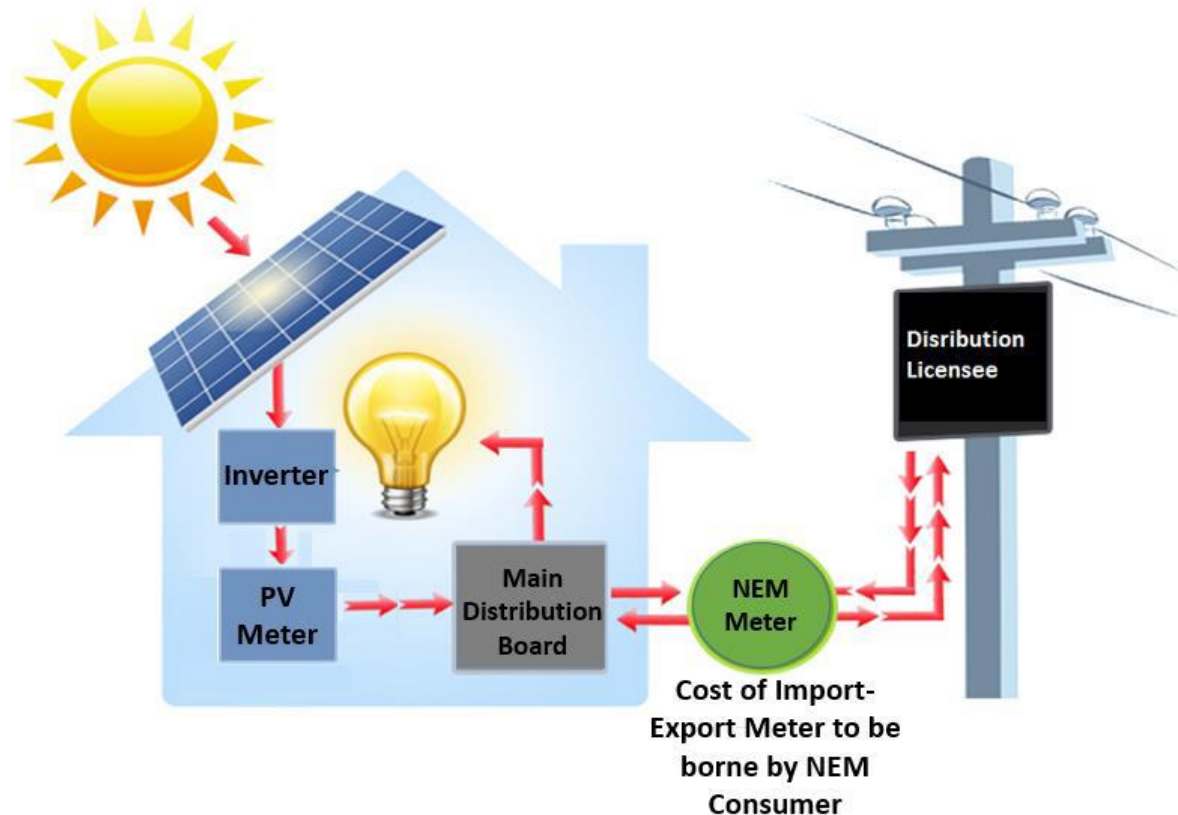
- ✓ Installation types:
 - i. on the rooftop of building; and
 - ii. on the garage, car park, and similar buildings

- ✓ Capacity limit:
 - For domestic or residential consumers, the maximum capacity of the PV system installed is ≤ 12 kWp for single phase or 72 kWp for 3 phase systems
 - For commercial and industrial consumers, the maximum capacity of the PV system installed shall be 1 MWp or 75% of maximum demand or 60% of fuse rating or 60% of current transformer (whichever is lower)



Connection Type

- ✓ The connection to the DL's (TNB/SESB) network shall be done only through indirect connection, i.e. within the owner's internal distribution board only





Excess Energy

The credit (excess energy) to NEM consumer will be based on prevailing Displaced Cost for the relevant supply voltage level at the Point of Common Coupling. The calculation for the net billing of electricity will be based on the following calculation:

- ✓ Net billing = **[Energy Consumed from DL (kWh) x Gazetted Tariff] – [Energy Exported to DL (kWh) x Displaced Cost]**
- ✓ The net billing or credit shall be allowed to roll over for a maximum of 24 months. Any available credits after 24 months will be forfeited.

NEM Assessment Study

NEM Assessment Study (NEMAS) report is required prior to NEM application to SEDA Malaysia. The study shall be conducted by the relevant distribution licensee (TNB or SESB). The requirement is based on kWp of installation as below:

Installed Capacity	Study Required	Fee of Study (RM)
1 – 12 kWp	No	-
> 12 kWp – 180 kWp	Yes	1,000.00
> 180 kWp – 425 kWp	Yes	5,000.00
> 425 kWp – 1 MWp	Yes	8,000.00

Note: Completion period, 30 days





NEM Assessment Study

Please contact:

TENAGA NASIONAL BERHAD (TNB)

Mr. Sansubari Che Mud

03 - 7967 9346 / 019 - 959 7745 or email Sansubari@tnb.com.my

Sustainable Energy Development

Tenaga Nasional Berhad

No. 129, Jalan Bangsar

59200 Kuala Lumpur

SABAH ELECTRICITY SDN. BHD. (SESB)

Mr. Terrence John Kouju

088 - 282 478 or email terrencek@sesb.com.my

Chief Engineer

Sustainable Energy Development,

Asset Development,

6th Floor, Wisma SESB,

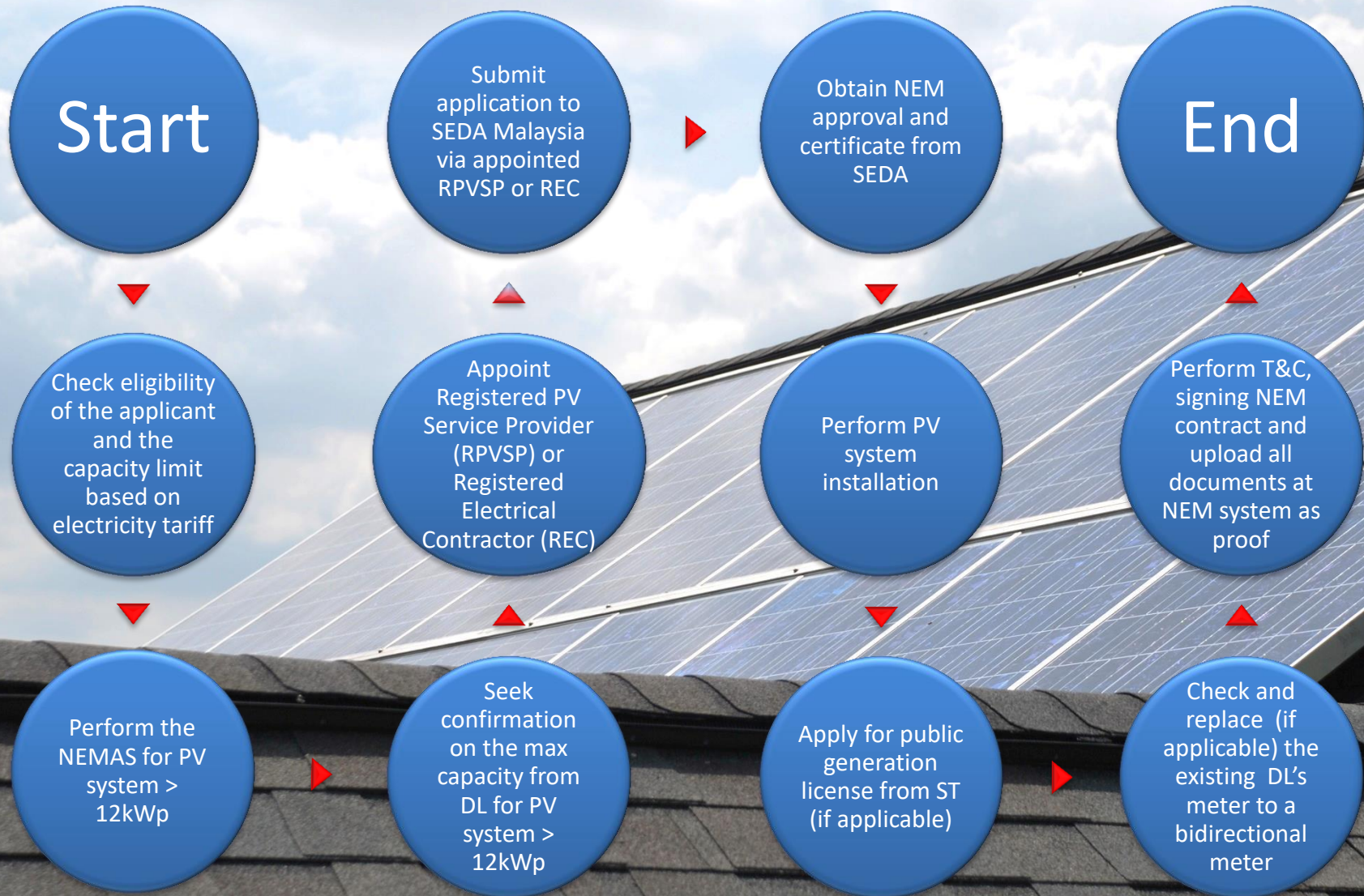
Jalan Tunku Abdul Rahman,

88673 Kota Kinabalu,

Sabah



How to Apply?



How to Apply?

Documents to be submitted by the Applicant:

- i. NEM Application Form (**Form A**) or via online system
<https://services.seda.gov.my/nem>
- ii. Design of installation and Single Line Diagram (SLD) endorsed by relevant Competent Person under Electricity Regulations 1994
- iii. The latest THREE (3) months of electricity bills
- iv. NEM Assessment Study (for application > 12 kW)
- v. Maximum Demand, fuse or CT rating (if applicable), endorsed by Professional Engineer or Wireman

The NEM Application Form shall be accompanied with information as stipulated in Form A:

- a) Applicant's Profile (Individual/Company/Other Entities)
- b) Information of project
- c) Technical information
- d) Proposed work plan



Things You Need to Know

✓ **NEM Application and Installation**

Application can be made either by Registered PV Service Providers (RPVSPs) or ST's Registered Electrical Contractors (RECs) via online at SEDA's portal. Installation shall be done by ST's (REC).

✓ **Verification and approval**

NEM application shall be processed by SEDA within 30 days from the date of complete submission. NEM certificate will be issued to the successful applicants.



✓ **Application fee**

The application fee for NEM scheme shall be at a rate of RM10/kWp during application. The fee paid is not refundable even if the application is unsuccessful.



Things You Need to Know (cont.)

✓ NEM meter

TNB/SESB's existing meter shall be bi-directional (with import-export feature). The replacement (if required) shall be borne by NEM consumer. Check meter is required should there be any faulty at the NEM meter.



✓ Insurance

The NEM consumers shall obtain an insurance to cover their PV Solar Installation from fire.



✓ Goods and Services Tax (GST)

Each energy exported to the grid under the NEM scheme is subjected to GST and if NEM consumer is a GST-registered person or company, he/she shall invoice the DL for the electricity exported to the grid. The calculation of tax involved for the exported energy will be based on the following calculation:

Invoice to DL = **Energy Exported to DL (kWh) x Displaced Cost x 6% GST**

Q: What is the maximum duration allowed from application to proposed NEMCD?

A: 12 months from the date of NEM application until the date of proposed NEM contract with TNB/SESB, failing which the quota allocated will be refused and offered back to other potential NEM applicants.

Q: What types of meter are required for NEM?

A: 3 types of meter is required as below:

- i. **TNB/SESB's bi-directional meter** (with import-export feature) to record the amount of electricity consumed, produced or exported;
- ii. **Check meter** for measurement of the energy export (if applicable) and shall be of the same or equivalent to the standards of the consumer meter installed at the premises by TNB/SESB;
- iii. **PV meter/data logger/inverter with monitoring feature** to record the total amount of electricity generated by the PV system.

Q: How much quota will be offered on 1st Nov 2016?

A: A total of 200 MW quota allocated for 2016 and 2017 will be offered. Subsequent quota release (2018) is scheduled starting 1st July 2017 (subject to approval), with prior announcement.



Others

Q: Am I eligible to participate in NEM?

A: Yes, as long as you are a customer of TNB/SESB. The basis is always your electricity bill. Please ensure you are a registered customer of TNB/SESB (your name/ company as appeared in the TNB/SESB bill), only then you are eligible to participate in NEM.

Q: If I plan or have installed Solar PV system for self-consumption (SELCO) and have taken the necessary step to ensure no reverse flow or energy exported to the grid, do I need to apply for NEM?

A: No, but for PV system with capacity above 72 kWp, generation license (private) from ST is required and subject to complying with the relevant rules under the Electricity Supply Act (ESA).

Q: How long is the validity period of the NEM contract?

A: The NEM contract shall be effective on the day of NEM contract signing with both parties. The NEM contract shall remain in effect unless otherwise terminated by either party or cancellation of the main electricity contract.

NEM: Documents and Download

www.seda.gov.my → Net metering

- NEM guidelines
- Manual application form (or online application)
- NEM contract
 - Domestic/residential
 - Non-domestic (commercial & industrial)
- Technical guideline for connection of indirect solar PV under NEM scheme





Application Form

Form A (NEM Application Form)

**BORANG PEMOHONAN PEMBERIAN TENAGA BESIH
NET ENERGY METERING (NEM) APPLICATION FORM**

Siya kemudiannya menghantar maklumat anda ke /
Please submit your registration details to /
Suruhanjaya Tenaga Development Authority Malaysia
Galeria PPA, Atrium 2, Jalan PPA
Pavilion Perdana, Presint 4,
62200 Putrajaya, MALAYSIA

For office use only:
Reference No. _____
Serial No. _____
Date Received _____
Date Issued _____
Receiving Officer _____

MAKLUMAT MAJLIS PERSEKUTUAN / SECTION 1 / APPLICANT INFORMATION

MAJLIS PERSEKUTUAN / JOINT VENTURE / COMPANY (If applicable)
Nama / Name: _____
No. Pendaftaran / Registration No.: _____
Alamat / Address: _____

MAKLUMAT PERSEKUTUAN / SECTION 2 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT ORANG YANG BUKLAH DIRUBUNG / ALTERNATE CONTACT PERSON

Nama / Name: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 3 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 4 / DECLARATION

MAKLUMAT PERSEKUTUAN / SECTION 4 / DECLARATION

MAKLUMAT PERSEKUTUAN / SECTION 4 / DECLARATION

MAKLUMAT PERSEKUTUAN / SECTION 5 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 6 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 7 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 8 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 9 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 10 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 11 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 12 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 13 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 14 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 15 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 16 / PROJECT INFORMATION

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Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 17 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 18 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 19 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 20 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 21 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 22 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 23 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 24 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 25 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 26 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 27 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 28 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 29 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 30 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 31 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 32 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____

MAKLUMAT PERSEKUTUAN / SECTION 33 / PROJECT INFORMATION

Projek / Project: _____
Lokasi / Location: _____
No. Tel / Tel No.: _____
E-mel / E-mail: _____



Form of Load Profile

- 12 kW, 4 days (Friday to Monday), together with application form.
- Prepared & signed by Competent Person (Wireman/ PE)

FORM LOAD PROFILE (FORM LP) - NEM Customer Load Profile

TNB Account Number

Customer Name

Installation address

Service Provider

FORECAST OF A TYPICAL DEMAND PROFILE

(Friday to Monday for capacity of >12kW)

Friday				Saturday				Sunday				Monday			
Time	Voltage	Amps	MW	Time	Voltage	Amps	MW	Time	Voltage	Amps	MW	Time	Voltage	Amps	MW
7:00				7:00				7:00				7:00			
8:00				8:00				8:00				8:00			
9:00				9:00				9:00				9:00			
10:00				10:00				10:00				10:00			
11:00				11:00				11:00				11:00			
12:00				12:00				12:00				12:00			
13:00				13:00				13:00				13:00			
14:00				14:00				14:00				14:00			
15:00				15:00				15:00				15:00			
16:00				16:00				16:00				16:00			
17:00				17:00				17:00				17:00			
18:00				18:00				18:00				18:00			
19:00				19:00				19:00				19:00			
20:00				20:00				20:00				20:00			
21:00				21:00				21:00				21:00			

Note: Voltage (V) and Current (Amps) must be taken at customer incoming supply

Data taken by:

Signature

Name

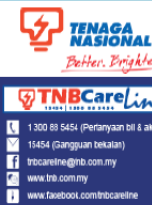
NEM Billing

BIL ELEKTRIK DAN INVOIS CUKAI

No. Akaun : 1510 00129055 01
No. Kontrak : 131429
Deposit : RM500.00
No. Invois Cukai : 206129820

NEM CUSTOMER
12, JLN PING PONG
SEKSYEN 20
40100 SHAH ALAM SELANGOR

SAMPLE



Jumlah Perlu Dibayar RM 265.80

Tarikh Bil : 04.03.2016

	Amaun	Bayar Sebelum
Tunggakan	RM -	
Caj Semasa	RM 265.82	04.04.2016
Penggenapan	RM -0.02	
Jumlah Bil	RM 265.80	

Bil Terdahulu (02.02.2016)	RM 389.50	Bayaran Akhir (20.02.2016)	RM 389.50
----------------------------	-----------	----------------------------	-----------

Jenis Bacaan **Bacaan Sebenar**

Tempoh Bil	: 02.02.2016 - 04.03.2016 (31 Hari)	Faktor Prorata	1.00000
Tariff	: A - 13 (Domestik)		

Blok Tariff (kWh)	Blok Prorata (kWh)	Kadar (RM)	Amaun (RM)
200	200	0.218	43.60
100	100	0.334	33.40
300	300	0.516	154.80
300	274	0.546	149.60
Jumlah	874		381.40

Keterangan	Tidak Kena GST	Kena GST	Jumlah
Kegunaan (kWh Import)	kWh 300	574	874
Kegunaan ICPT (RM0.0152-)	RM 77.00	304.40	381.40
Kegunaan Bulan Semasa	RM -4.56	-8.72	-13.28
6% GST (6% x RM295.68)	RM 72.44	295.68	368.12
KWTBB (1.6%)	RM		17.74
	RM		6.10
Jumlah Caj Semasa Import	RM		391.96
kWh Eksport: 500 @ RM0.238	RM	119.00	119.00
6% GST (6% x RM119.00)	RM		7.14
Jumlah Caj Semasa Eksport	RM		126.14
Jumlah Caj Bersih	RM		265.82

No Meter	Faktor Meter	Bacaan Meter		Kegunaan	Unit
		Dahulu	Semasa		
M98044931	1.0000	6719	7593	874	kWh Import
M98044931	1.0000	4000	4500	500	kWh Eksport



NEM CUSTOMER
12, JLN PING PONG
SEKSYEN 20
40100 SHAH ALAM SELANGOR

Bil OPC - NEM



Untuk maklumat bil dan bayaran terdahulu, sila layari -
<https://e-services.tnb.com.my/eservices>

Untuk pertanyaan, sila hubungi:
TNB Shah Alam
xxxx
xxxx
Tel: 03-xxxxxxx
Fax: 03-xxxxxxx

Subsidi Bahan Api
Dibiayai Kerajaan
Persekutuan RM62.15

GST bagi penggunaan domestik 300kWh dan ke bawah berkadar sifar.

KWTBB - Kumpulan Wang Tenaga Boleh Baharu

ICPT - Imbalance Cost Pass Through / Pelepasan Imbangan Kos Penjualan

TENAGA NASIONAL BERHAD (200966-W)



What are the benefits of NEM to the consumers?

- Encourage consumers to play an active role in renewable energy (RE) generation, which addresses climate agenda and national energy security
- Reduction in greenhouse gas emissions
- Hedge against any possibility of future electricity tariff increase
- Availability of power for consumer during grid failure (if energy storage system is incorporated)



What are the benefits to the utility and country?

- Reduction in utility peak demand which coincides with the PV generation profile
 - Avoid/reduce running expensive distillate and open cycle gas turbine plants
- Reduction in distribution system losses
- Deferment of distribution and transmission system reinforcement investments
- Creation of solar PV industry and economy



For further enquiries, please contact:

Renewable Energy Technology Division,
SEDA Malaysia
Galeria PjH, Level 9
Jalan P4W, Persiaran Perdana,
Presint 4, 62100 **Putrajaya**
T: +603 – 8870 5832

Likas Square Commercial Centre
Unit 32, Level 1 , Lorong Likas Square,
Jalan Istiadat Likas,
88400 Kota Kinabalu, **Sabah**

Tel: +6088-252101/251462

E: NEM@seda.gov.my

W: www.seda.gov.my

Thank You

