

Enhanced Time of Use (ETOU) Tariff Scheme

Consultation Session with Key Stakeholders

9th October 2014

Energy Commission, Putrajaya

Time of Use (TOU) Tariff aims to encourage efficient energy usage as well as mitigate against increasing electricity bills to customers



TOU in a nutshell

- TOU established primarily for demand side management
 - Encourage Mid Peak and Off Peak consumption
 - Discourage Peak consumption
- TOU encourages customers to use energy in an efficient manner by
 - using less energy during Peak hours or
 - Shift the activity out of the Peak hours

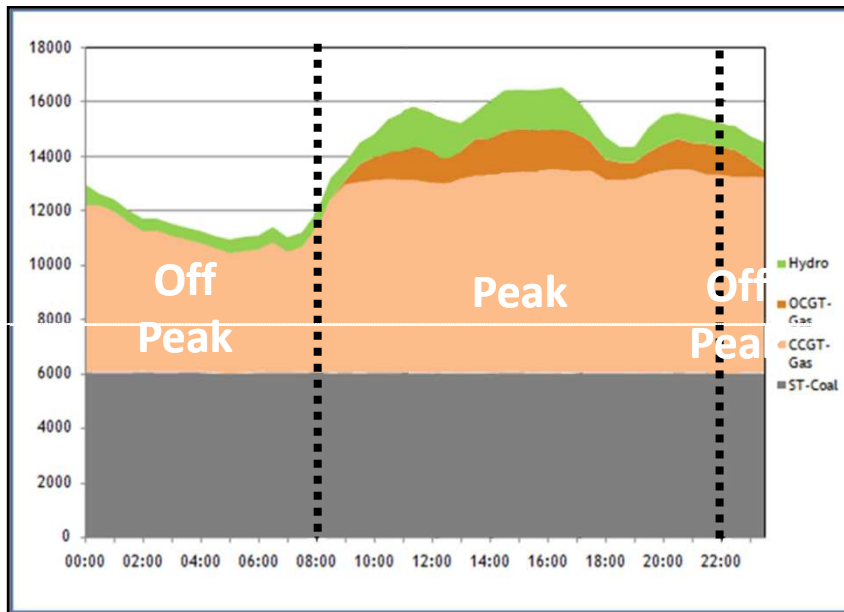
Benefits

- CUSTOMERS are able to control their bills through own consumption, by shifting usage of electricity to time of the day when rates are cheaper hence reducing monthly bills
- Encourages and inculcates demand side management and energy efficiency practice among customers

Existing TOU scheme is offered through tariff categories C2, E2 and E3 with Peak and Off-Peak rates

ETOU Scheme is introduced as an extension to the existing TOU on an OPTIONAL basis

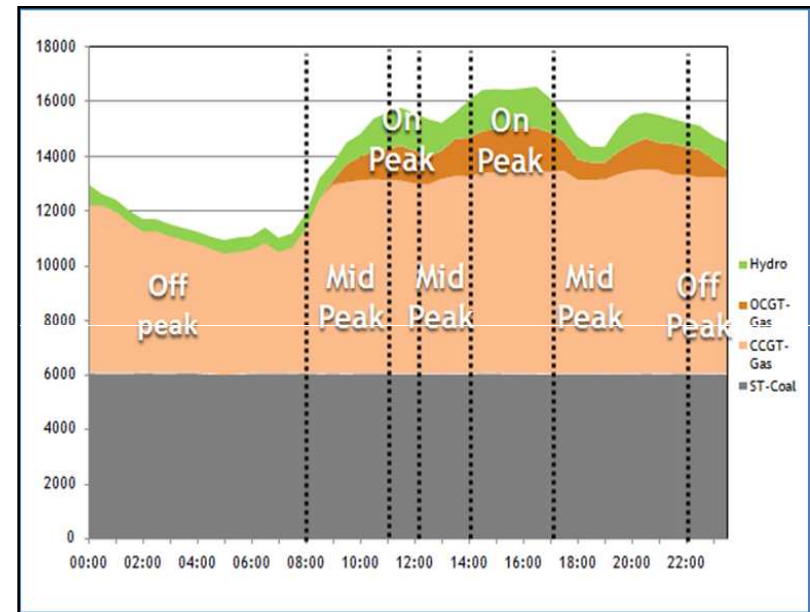
Existing TOU Tariff (C2, E2 and E3)



- Peak and Off-Peak Energy Rates only
- Demand charges during Peak hours
- Offered to MV and HV customers



ETOU Scheme for Commercial and Industrial on MV & HV



- Peak, Mid-Peak and Off-Peak Energy Rates
- Peak and Mid-Peak Demand Charges
- ETOU to be offered to;
 - Commercial MV
 - Industrial MV and HV

ETOU introduces a Mid-Peak rate for Energy and Demand Charges



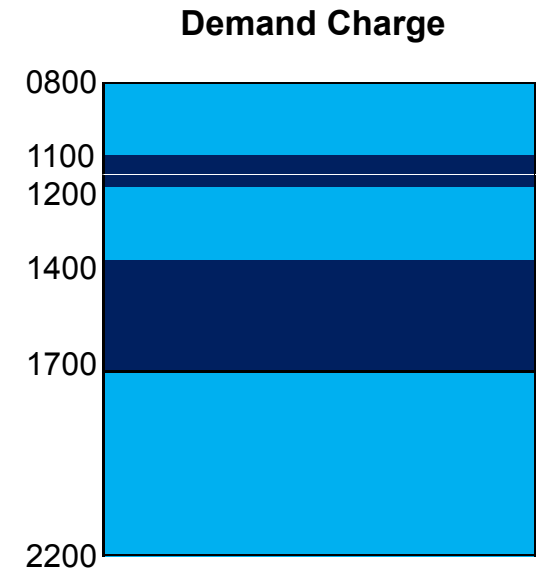
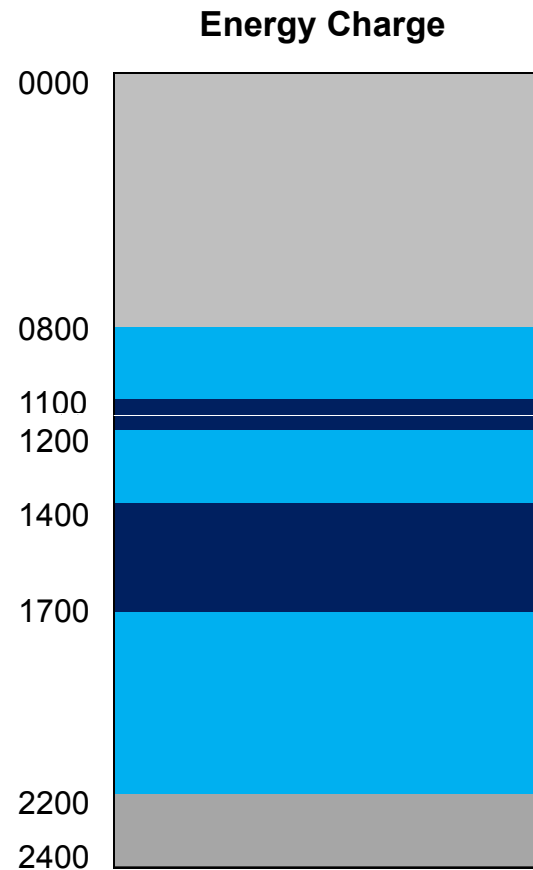
ETOU Time Zones

3 different Energy Rates applicable to every day of the week :

- Peak
- Mid-Peak
- Off-Peak energy Rates

2 different Demand Charges applicable to every day of the week :

- Peak
- Mid-Peak



- Off-Peak
- Mid-Peak
- Peak

Introduction of ETOU scheme aims to mitigate the impact of the removal of the SIT discount



Cement



Industrial Gases



Iron & Steel



Ice



Glass

Introduced on March 1996 to support energy intensive industries through cross-subsidisation of non-SIT customers

Initially offered to 5 identified industries with electricity cost makes up of 5% or more of their operational costs

ETOU Scheme – Rates for Demand and Energy Charges



	Demand Charge (RM/kW/Month)		Energy Charge (sen/kWh)		
	Peak	Mid-Peak	Peak	Mid-Peak	Off Peak
C1-Normal Customers	34.00	28.80	47.30	34.80	28.10
C2-Normal Customers	48.40	42.60	47.90	31.60	22.40
F1-Normal Customers (MV)	35.50	29.60	43.80	33.20	22.50
E1-Special (MV)	35.50	29.60	43.80	33.20	22.50
E2-Normal Customers (MV)	40.00	36.00	42.80	32.00	21.90
E2-Special (MV)	40.00	36.00	42.80	32.00	21.90
E3-Normal Customers (HV)	38.30	35.00	39.00	31.00	20.20
E3-Special (HV)	38.30	35.00	39.00	31.00	20.20

Electricity Bill Analysis on sampled C1 customer with a monthly consumption of 72,087 kWh



1 Customer's Bill On Existing Tariff (C1)

Base Line	Consumption	Existing Rates	Monthly Bill (RM)
<u>Demand (kW)</u>		(RM/kW)	
0800 to 2200	133	30.3	4,036
<u>Energy (kWh)</u>		(sen/kWh)	
Peak (kWh)	12,327	36.5	4,499
Mid-Peak (kWh)	31,055	36.5	11,335
Off-Peak (kWh)	28,705	36.5	10,477
Total	72,087		30,348

Electricity bill of RM 30,348 based on existing tariff rates of C1

Bill reduction of RM 1,846 monthly

2 Customer's Bill On ETOU Scheme

Base Line	Consumption	Existing Rates	Monthly Bill (RM)
<u>Demand (kW)</u>		(RM/kW)	
Peak (kW)	-	34.0	-
Mid-Peak (kW)	133	28.8	3,837
<u>Energy Charge (kWh)</u>		(sen/kWh)	
Peak (kWh)	12,019	47.3	5,685
Mid-Peak (kWh)	31,363	34.8	10,914
Off-Peak (kWh)	28,705	28.1	8,066
Total	72,087		28,502

Bill reduced to RM 28,502 due to:

- Demand Charge occurs during Mid-Peak hours
- Assume 2.5% energy consumption shifts from Peak to Mid-Peak hours

Electricity Bill Analysis on sampled C2 customer with a monthly consumption of 106,330 kWh



1 Customer's Bill On Existing Tariff (C2)

Base Line	Consumption	Existing Rates	Monthly Bill (RM)
<u>Demand (kW)</u>		(RM/kW)	
0800 to 2200	295	45.1	13,305
<u>Energy (kWh)</u>		(sen/kWh)	
Peak (kWh)	1,724	36.5	629
Mid-Peak (kWh)	26,454	36.5	9,656
Off-Peak (kWh)	78,152	22.4	17,506
Total	106,330		41,095

Electricity bill of RM 41,095 based on existing tariff rates of C2

Bill reduction of RM 1,844 monthly

2 Customer's Bill On ETOU Scheme

	Consumption	Existing Rates (sen/kWh)	Monthly Bill (RM)
<u>Demand Charge (kW)</u>		(RM/kW)	
Peak (kW)	-	48.4	-
Mid-Peak (kW)	295	42.6	12,567
<u>Energy Charge (kWh)</u>		(sen/kWh)	
Peak (kWh)	1,681	47.9	805
Mid-Peak (kWh)	26,497	31.6	8,373
Off-Peak (kWh)	78,152	22.4	17,506
Total	106,330		39,251

Bill reduced to RM 39,251 due to:

- Demand Charge occurs during Mid-Peak hours
- Assume 2.5% energy consumption shifts from Peak to Mid-Peak hours

Electricity Bill Analysis on sampled E1 customer with a monthly consumption of 431,287 kWh



1 Customer's Bill On Existing Tariff (E1)

Base Line	Consumption	Existing Rates	Monthly Bill (RM)
<u>Demand (kW)</u>		(RM/kW)	
0800 to 2200	1,539	29.6	45,550
<u>Energy (kWh)</u>		(sen/kWh)	
Peak (kWh)	81,646	33.7	27,515
Mid-Peak (kWh)	200,411	33.7	67,539
Off-Peak (kWh)	149,229	33.7	50,290
Total	431,287		190,893

Electricity bill of RM 190,893 based on existing tariff rates of E1

Bill reduction of RM 9,686 monthly

2 Customer's Bill On ETOU Scheme

	Consumption	Existing Rates (sen/kWh)	Monthly Bill (RM)
<u>Demand Charge (kW)</u>		(RM/kW)	
Peak (kW)	-	35.5	-
Mid-Peak (kW)	1,539	29.6	45,550
<u>Energy Charge (kWh)</u>		(sen/kWh)	
Peak (kWh)	79,605	43.8	34,867
Mid-Peak (kWh)	202,452	33.2	67,214
Off-Peak (kWh)	149,229	22.5	33,577
Total	431,287		181,207

Bill reduced to RM 181,207 due to:

- Demand Charge occurs during Mid-Peak hours
- Assume 2.5% energy consumption shifts from Peak to Mid-Peak hours

Electricity Bill Analysis on sampled E2 customer with a monthly consumption of 408,515 kWh



1 Customer's Bill On Existing Tariff (E2)

Base Line	Consumption	Existing Rates	Monthly Bill (RM)
<u>Demand (kW)</u>		(RM/kW)	
0800 to 2200	810	37.0	29,970
<u>Energy (kWh)</u>		(sen/kWh)	
Peak (kWh)	49,220	35.5	17,473
Mid-Peak (kWh)	162,095	35.5	57,544
Off-Peak (kWh)	197,200	21.9	43,187
Total	408,515		148,174

Electricity bill of RM 148,174 based on existing tariff rates of E2

Bill reduction of RM 3,023 monthly

2 Customer's Bill On ETOU Scheme

Base Line	Consumption	Existing Rates	Monthly Bill (RM)
<u>Demand (kW)</u>		(RM/kW)	
Peak (kW)	-	40.0	-
Mid-Peak (kW)	810	36.0	29,160
<u>Energy Charge (kWh)</u>		(sen/kWh)	
Peak (kWh)	47,990	42.8	20,540
Mid-Peak (kWh)	163,326	32.0	52,264
Off-Peak (kWh)	197,200	21.9	43,187
Total	408,515		145,150

Bill reduced to RM 145,150 due to:

- Demand Charge occurs during Mid-Peak hours
- Assume 2.5% energy consumption shifts from Peak to Mid-Peak hours

Electricity Bill Analysis on sampled E3 customer with a monthly consumption of 823,707 kWh



1 Customer's Bill On Existing Tariff (E3)

Base Line	Consumption	Existing Rates	Monthly Bill (RM)
<u>Demand (kW)</u>		(RM/kW)	
0800 to 2200	1,239	35.5	43,985
<u>Energy (kWh)</u>		(sen/kWh)	
Peak (kWh)	135,416	33.7	45,635
Mid-Peak (kWh)	342,298	33.7	115,354
Off-Peak (kWh)	345,993	20.2	69,891
Total	823,707		274,865

Electricity bill of RM 274,865 based on existing tariff rates of E3

Bill reduction of RM 2,955 monthly

2 Customer's Bill On ETOU Scheme

	Consumption	Existing Rates (sen/kWh)	Monthly Bill (RM)
<u>Demand Charge (kW)</u>		(RM/kW)	
Peak (kW)		38.3	-
Mid-Peak (kW)	1,239	35.0	43,365
<u>Energy Charge (kWh)</u>		(sen/kWh)	
Peak (kWh)	132,031	39.0	51,492
Mid-Peak (kWh)	345,683	31.0	107,162
Off-Peak (kWh)	345,993	20.2	69,891
Total	823,707		271,909

Bill reduced to RM 271,909 due to:

- Demand Charge occurs during Mid-Peak hours
- Assume 2.5% energy consumption shifts from Peak to Mid-Peak hours

Thank you