



AFEO ENERGY WORKING GROUP

Country: Malaysia

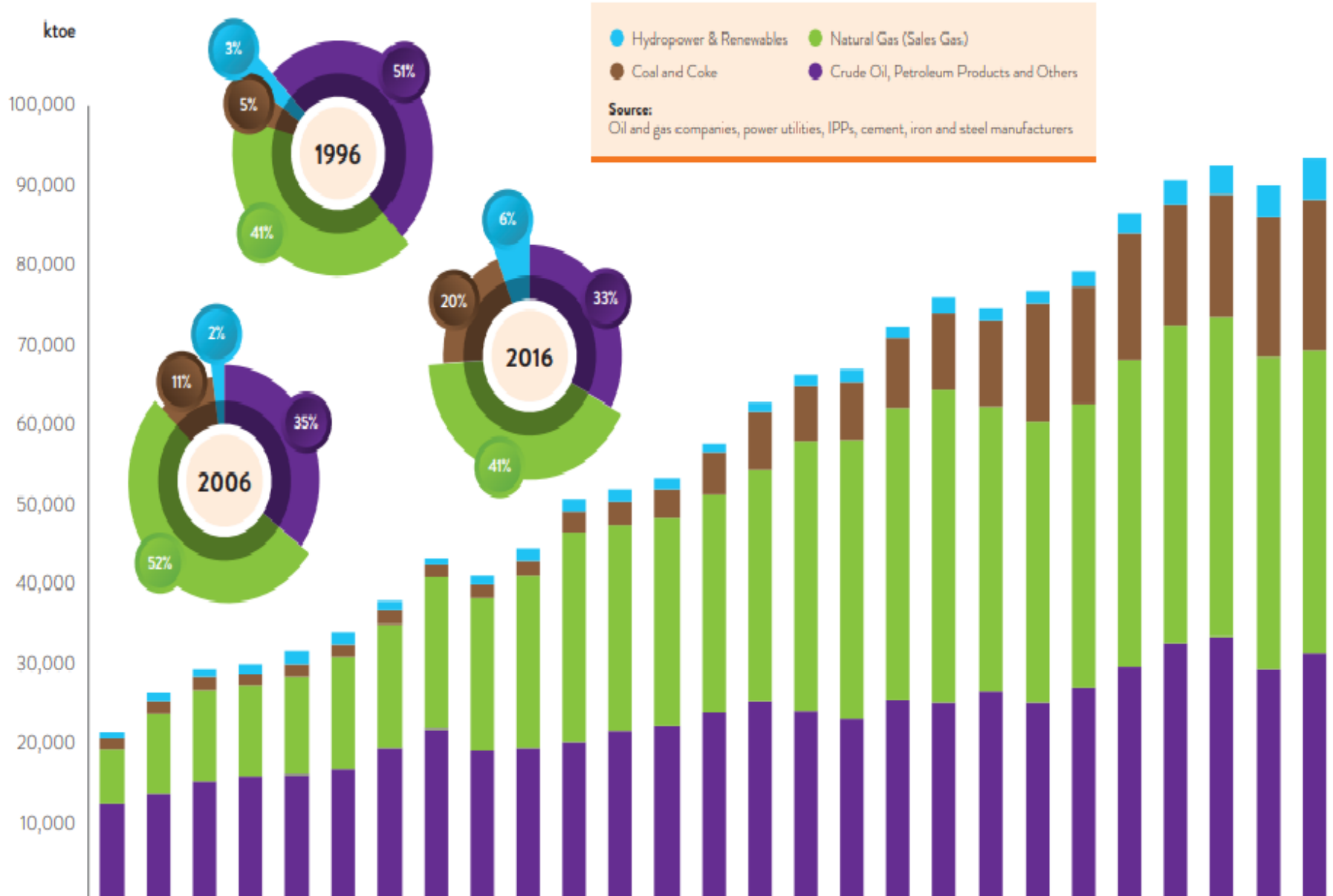
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PRESENTATION OUTLINE

- Energy mix
- Rural electrification
- Policies on Energy Efficiency (EE) and Renewable Energy (RE)

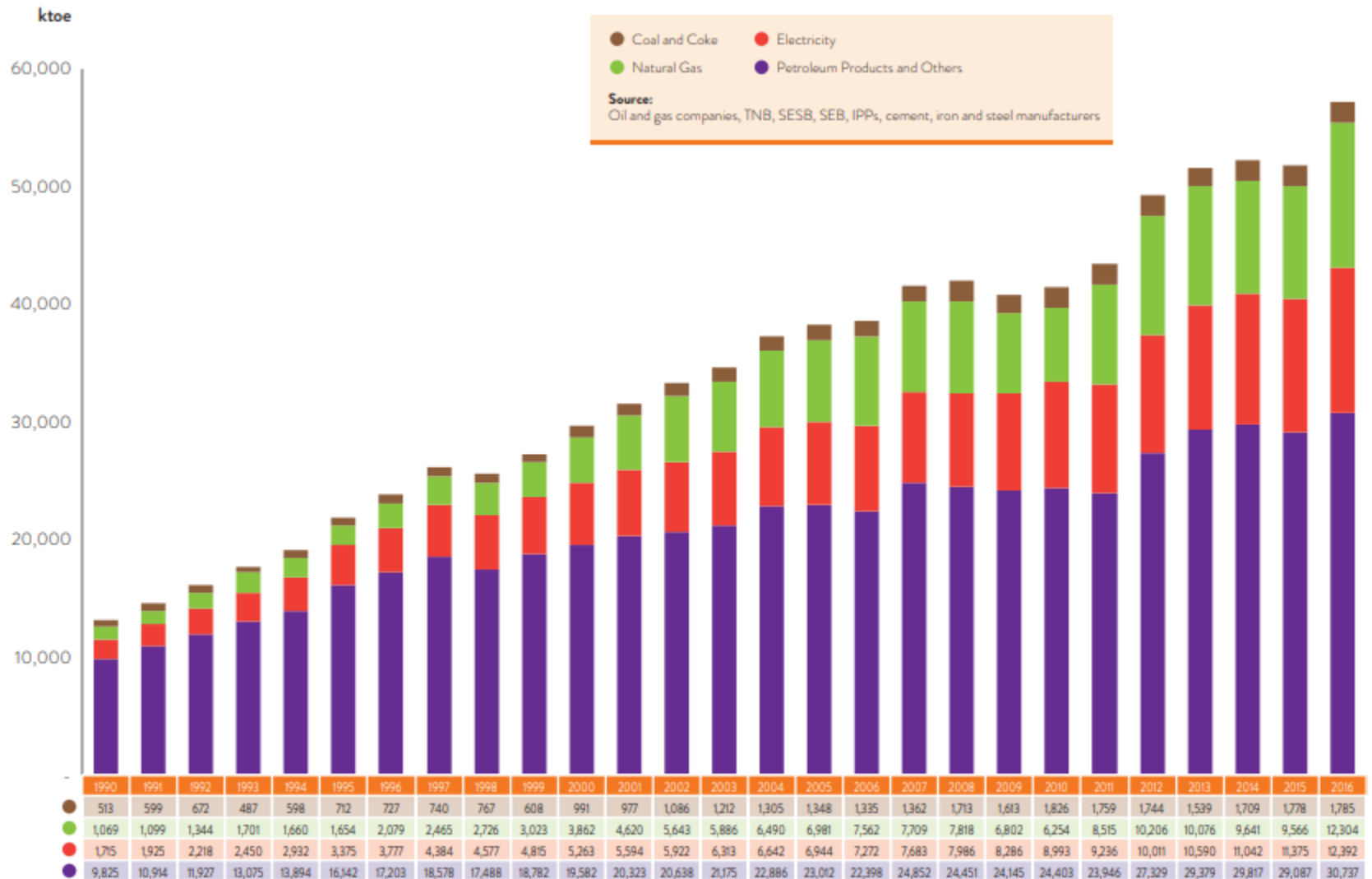
ENERGY MIX

PRIMARY ENERGY SUPPLY (2016)



* Source: National Energy Balance 2016 Malaysia
12 September 2019

ENERGY MIX



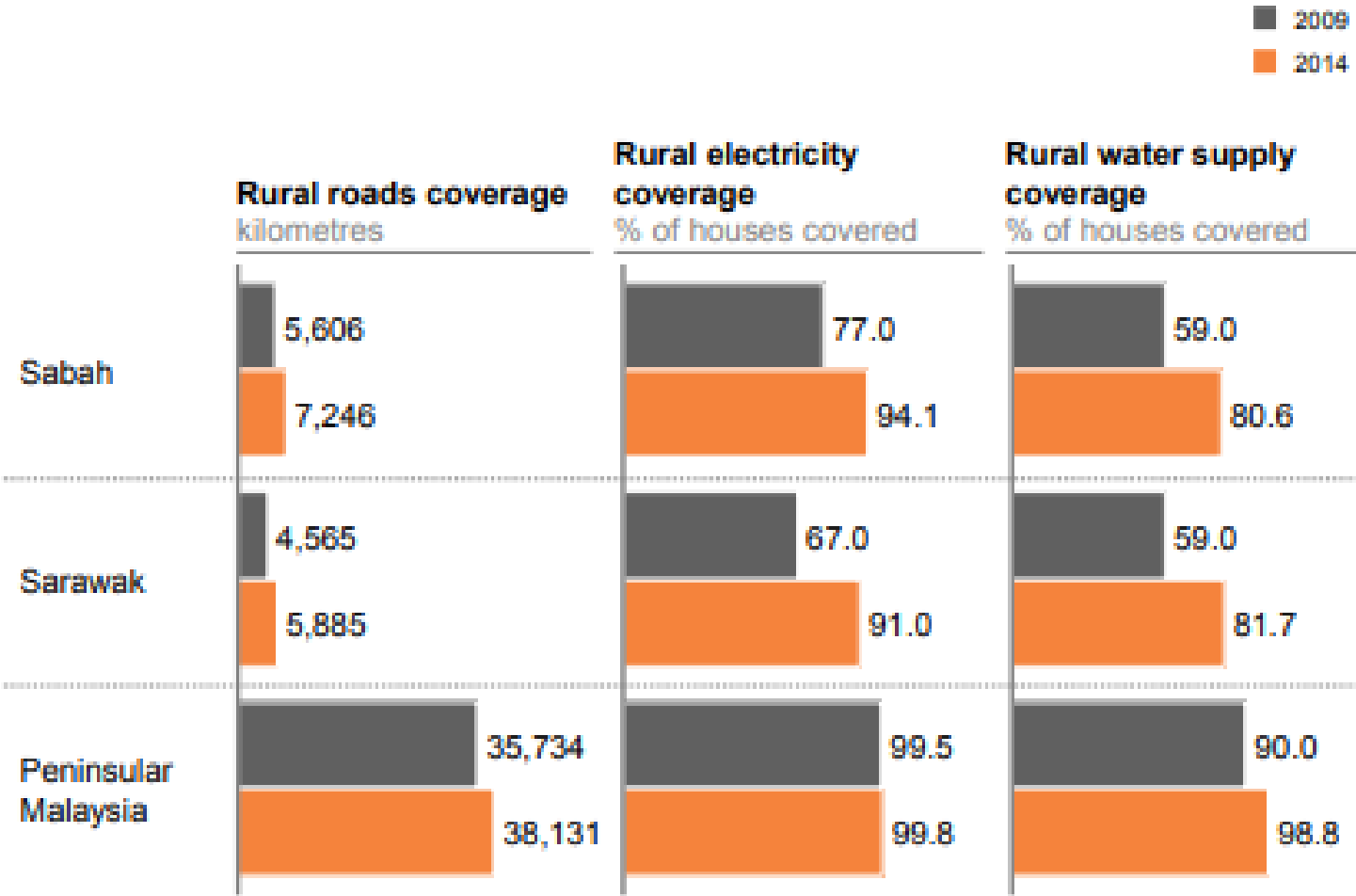
* Source: National Energy Balance 2016 Malaysia
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FUEL MIX IN ELECTRICITY GENERATION (%)

YEAR	OIL	COAL	GAS	HYDRO	OTHERS
1990	41.9	13.8	26.2	17.8	0.3
1995	11	9.7	67.8	11.3	0.2
2000	4.2	8.8	77	10	0
2005	2.2	21.8	70.2	5.5	0.3
2009	2.4	32.5	58	5.9	1.2
2010	1.7	40	52.7	5.5	0.1
2011	7.5	46.6	39.2	6.7	-
2012	4.7	48.3	39.4	7.3	0.2
2014	2.9	43.2	43.8	9.6	0.5
2015	1.1	47.2	40.4	10.8	0.5
2016	0.9	48.4	37.5	12.7	0.5

RURAL ELECTRIFICATION

RURAL DEVELOPMENT



Source: Ministry of Rural and Regional Development



RURAL ELECTRIFICATION

- Sarawak – target 97% of rural households to have electricity by 2020 from current 92%. Full coverage by 2025.
- Sabah - 95 per cent of the State's population enjoy 24-hour electricity supply and the Rural and Regional Development Ministry (KKLW) has allocated RM1.64 billion to develop Sabah's BELB infrastructure.



RURAL ELECTRIFICATION

- Implemented through on-grid and off-grid
- Grid Lines Connection Scope
 - Construction of infrastructure to the maximum limit of a 33kV voltage delivery line
 - Construction of power stations and rural diesel power stations
 - Connection of low voltage lines to villages and houses
 - Increase of the supply system and quality from 12 hours to 24 hours
 - Electrical wiring inside houses is not within the scope

RURAL ELECTRIFICATION

➤ Selection Criteria

- Priority will be given to villages that have a big number of houses, has new houses and public facilities such as schools and clinics;
 - The average cost for each house must not be over RM25,000.00. Should it be over the said average cost, consideration will be made separately based on the number of residents.
 - For new settlements, houses should be built and resided in at least 30% of the number of lots. However, this condition may be relaxed according to certain factors.
 - Housing estates which are developed by the private sector or Government Agencies are not included in these criteria.
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- Source: <http://www.rurallink.gov.my/en/citizen/desa-information/infrastructure-list/infrastructure/electricity/>

POLICIES ON EE & RE

RENEWABLE ENERGY

8th Malaysia
Plan (2001 -
2005)

- RE introduced as the **5th Fuel**
- Implied 5% RE in energy mix

9th Malaysia
Plan
(2006 – 2010)

- Small Renewable Energy Programme (**SREP**)
- Government approved the **National RE Policy & Action Plan (NREPAP)** (Oct. 2010)

10th Malaysia
Plan (2011-
2015)

- Enactment of **RE Act 2011** & SEDA Act 2011 (27 & 28 April 2011)
- Implementation of **Feed-in Tariff (FiT)**

11th Malaysia
Plan (2016-
2020)

- Target RE capacity of 2,080 MW
- Implementation of **Large-Scale Solar (LSS)** programme
- Implementation of **Net Energy Metering (NEM)** scheme

RENEWABLE ENERGY

- On September 2018, the government announced a target of 20% of the country's electricity to be generated from renewable sources by 2030 (at present it is 2%)
- The national grid is prepared to cater for this RE generation mix
- Policies to meet its target to be formulated
- Must not take priority over energy affordability
- Bid for large scale solar projects

ENERGY EFFICIENCY

- Fiscal incentives
- Regulations
- Demonstration projects
- Energy use benchmarking
- Energy rating and labelling
- Incorporation of EE in Uniform Building By Laws
- Courses in learning institutions
- Development of Energy Service Companies (ESCOs)

ENERGY EFFICIENCY

- Development of EEC Guidelines
- Development of Standards
- Development of related industries and services
- Green Building Index (GBI) (2009)
- MS 1525 provisions in Uniform Building By-Laws (2012)
- Minimum energy performance standards (MEPS) regulations (2013)
- Legislation on EE&C in 2019

THE END