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APEC Peer Review on Low Carbon Energy Policies (PRLCE) – Malaysia –

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Presentation Outline

Background of APEC PRLCE

- Objectives of PRLCE
- Mechanisms and Responsibilities of Stakeholders
- Previous PRLCEs

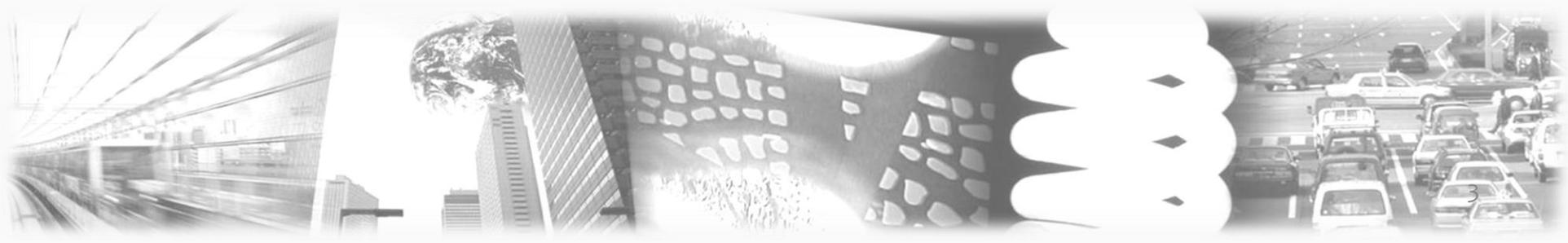
Overview of Malaysia

- Malaysia in brief
- Malaysia energy indicators

PRLCE in Malaysia

- Issues Covered

Background of APEC Peer Review on Low Carbon Energy Policies (PRLCE)



PRLCE Objectives

Initiated by APEC Energy Ministers' 2010 Fukui Declaration

- **Share information** on low carbon energy performance as well as on policies and measures for improving and promoting low carbon energy in respective economies;
- Provide opportunities for **learning from the experiences** of other economies and for broadening the network among low carbon policy experts;
- Explore how **low carbon goals** on an overall and/or sectoral basis and action plans could be effectively formulated in each economy under review, taking into account the range of possible strategies that could be used, according to the circumstance of each economy;
- **Monitor progress** on attaining low carbon energy goals on an overall and/or sectoral basis and implementing action plans, if such goal and action plans have been already formulated at the time of the review; and
- **Provide recommendations for voluntary implementation** on how implementation of action plans could be improved with a view to achieving low carbon energy goals.

Main Responsibilities and Stakeholders

Host Economy

- Plan review process
- Prepare Documents for Review
- Source and provided data
- Assess the preliminary and the draft final report

APERC

- Prepare the guidelines for PRLCE
- Liaise with Host Economy on logistics and technical preparations
- Lead the expert review team
- Review the final report with Host Economy

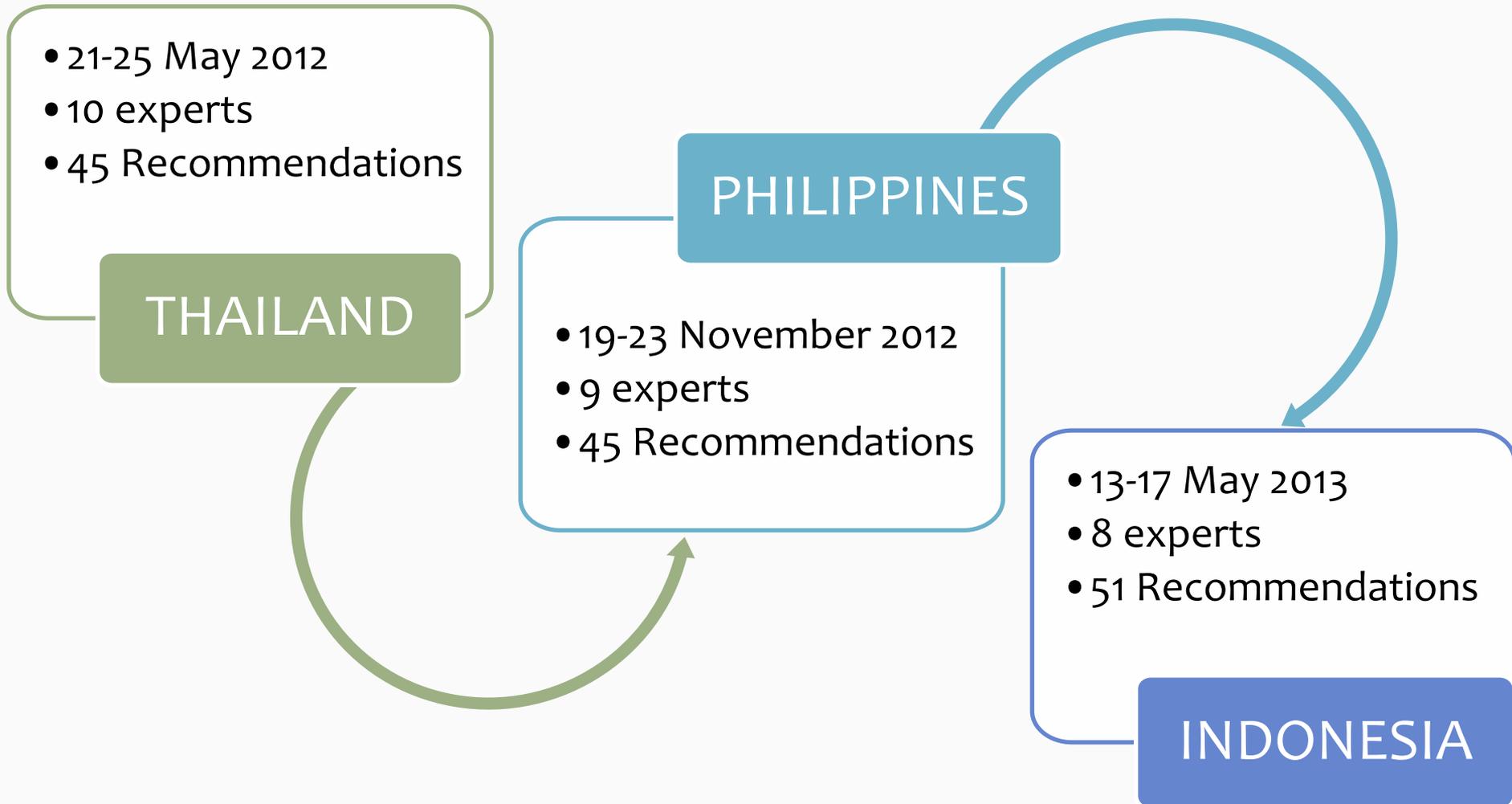
Review Team

- Conduct the review
- Present findings and recommendations in the preliminary report
- Prepare the draft final report

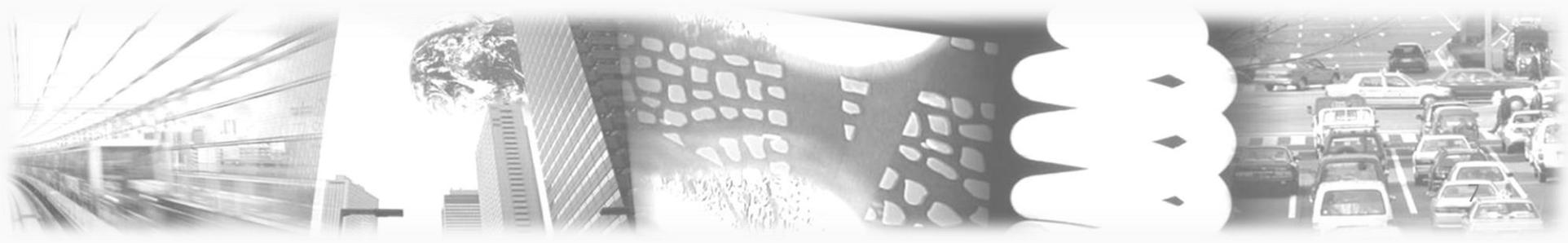
EWG

- Discuss and Endorse the draft final report
- Report to APEC Senior Officials

Previous PRLCE Exercises



Overview of Malaysia



Malaysia in brief



Economic Indicators (2012)

Area	329,847 km ²
Population	29.34 million
Income per capita	USD 9 974

*Ministry of Finance 2013

Fossil Fuel Energy Resources (2011)

Oil Reserves	5.858 bbl
Gas Reserves	89.98 Tscf
Coal Reserves	1.938 bil ton

*National Energy Balance 2011

Renewable Energy Resources

Large hydro Potential	20 GW
Biomass and biogas from Palm Oil Waste	1300 MW
Small-scale hydro	500 MW
Solar Power	6500 MW

Energy Commission

([http://www.erc.or.th/ERCWeb/Upload/Document/11.00-12.30%201Ahmad%20Fauzi%20Hasan%20\(Malaysia\).pdf](http://www.erc.or.th/ERCWeb/Upload/Document/11.00-12.30%201Ahmad%20Fauzi%20Hasan%20(Malaysia).pdf))

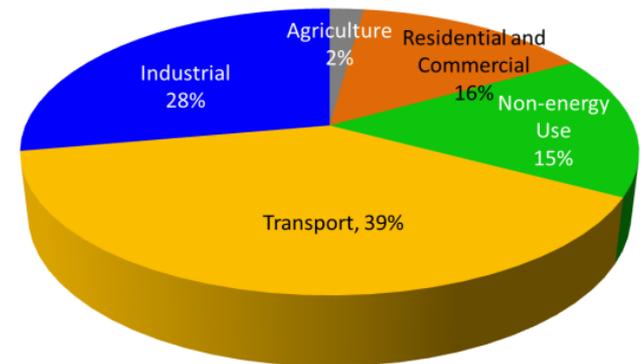
Malaysia energy indicators

Energy Indicators in per capita (2011)

TPES	24,560 toe/capita
Electricity demand	3,706 kWh per capita
CO ₂ emissions	7.7 metric tons CO ₂ /capita

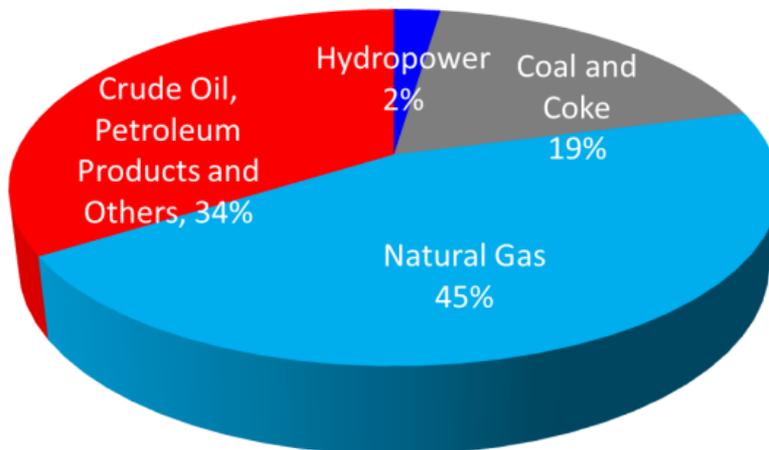
*National Energy Balance 2011 and Worldbank

Final Energy Consumption, ktoe (2011)



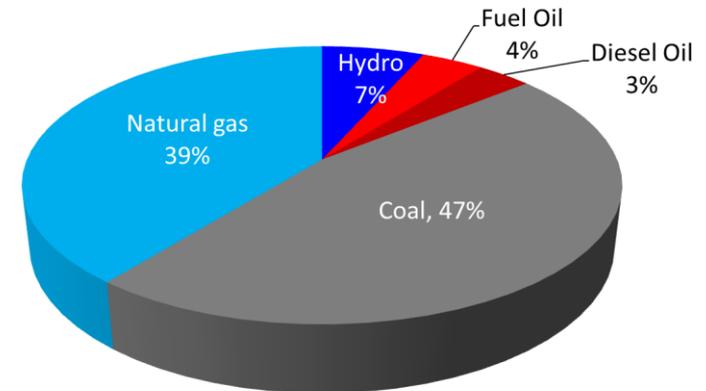
TFEC (2011) = 79,289 ktoe

Primary Energy Supply, ktoe (2011)



TPES (2011) = 79,289 ktoe

Energy Input in Power Stations (2011)

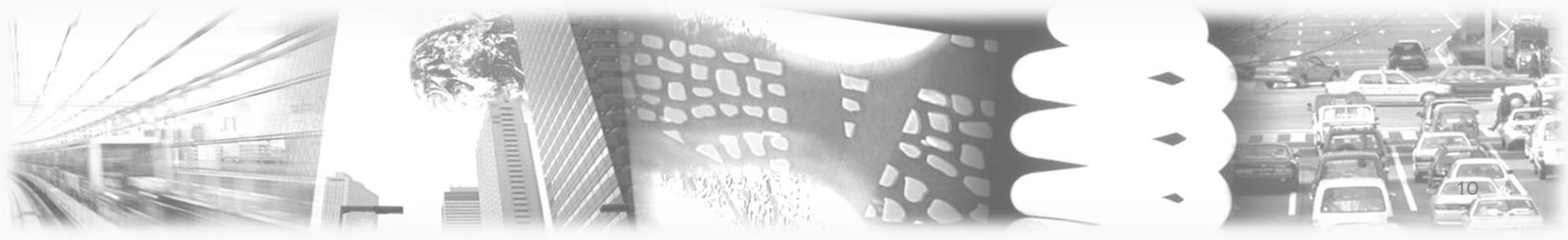


Energy Input (2011) = 27,924 ktoe

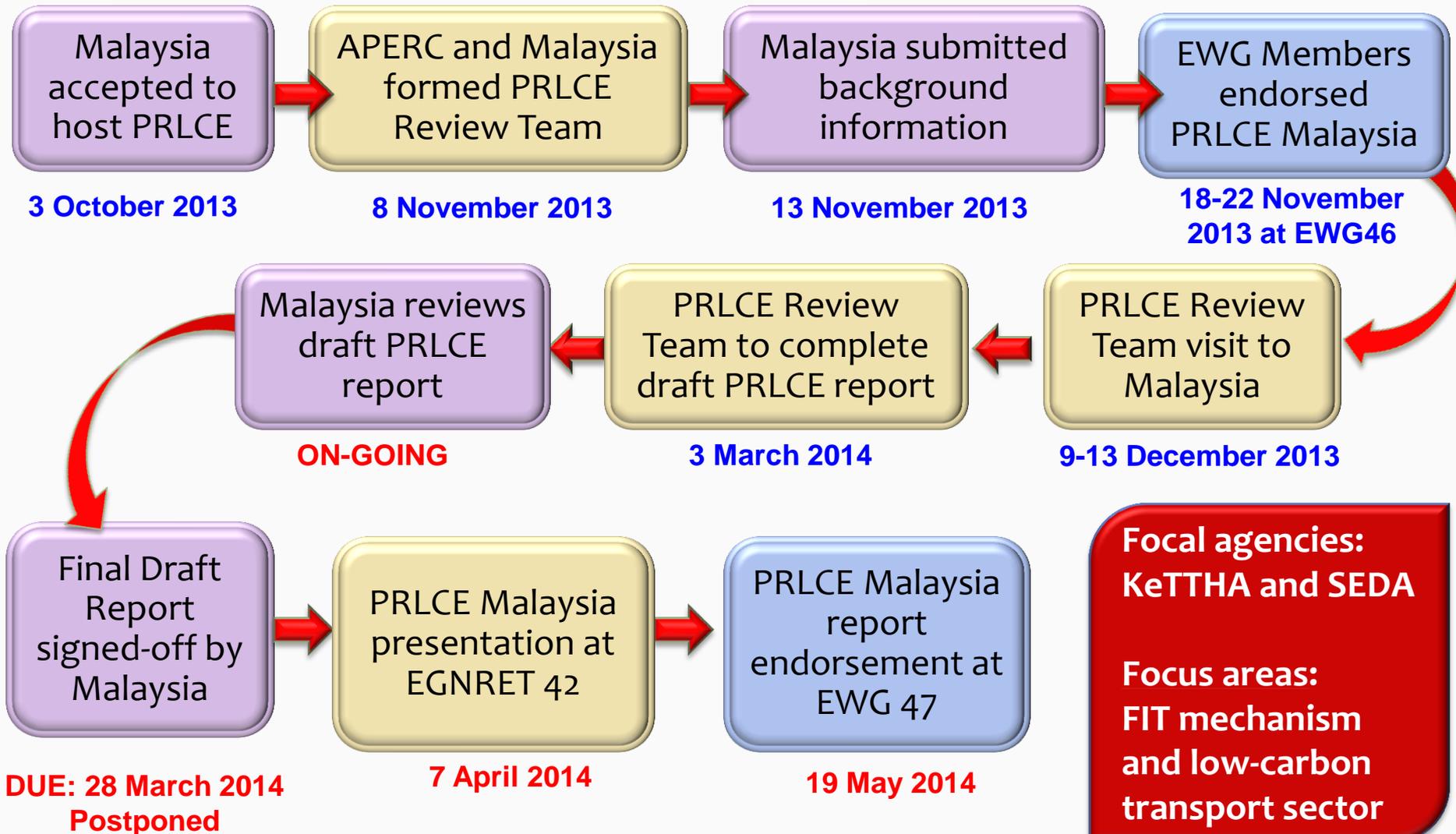
Note that in 2011, NRE capacity is about 53 MW (<0.2% of total)

PRLCE in Malaysia

9-13 December 2013



PRLCE Process for Malaysia



PRLCE Malaysia Review Team

APERC



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AUSTRALIA



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Topics covered in PRLCE Malaysia

Overarching
areas

Institutional Context

Renewable Energy Goals, Targets and
Strategy

Energy Regulations

Sustainable Development

Renewable
Energy
Resources

Biomass and Biogas

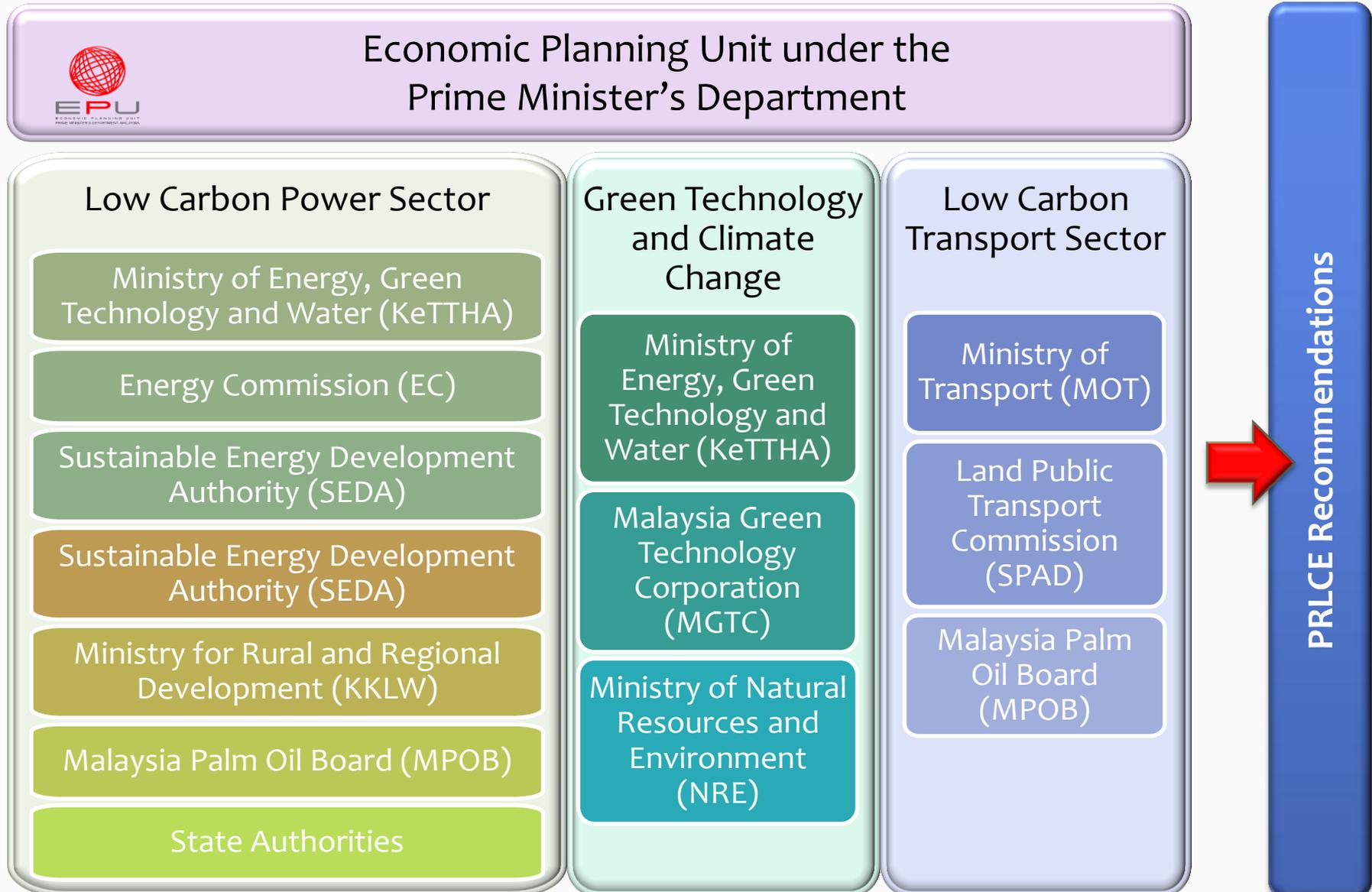
Small Hydro and Solar

Low carbon sectors

Low Carbon Power Supply

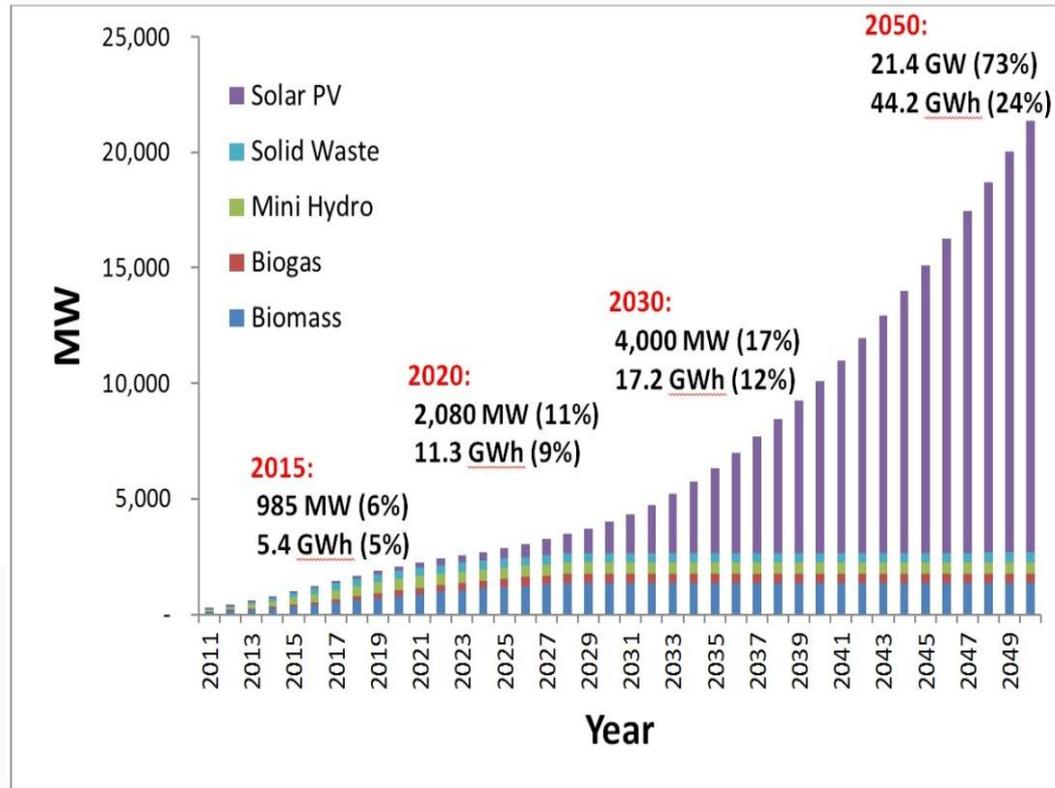
Low Carbon Transport

Institutional Context: LCE Institutions in Malaysia



Renewable Energy Goals, Targets and Strategy

National Renewable Energy Policy and Action Plan (NREPAP 2010)

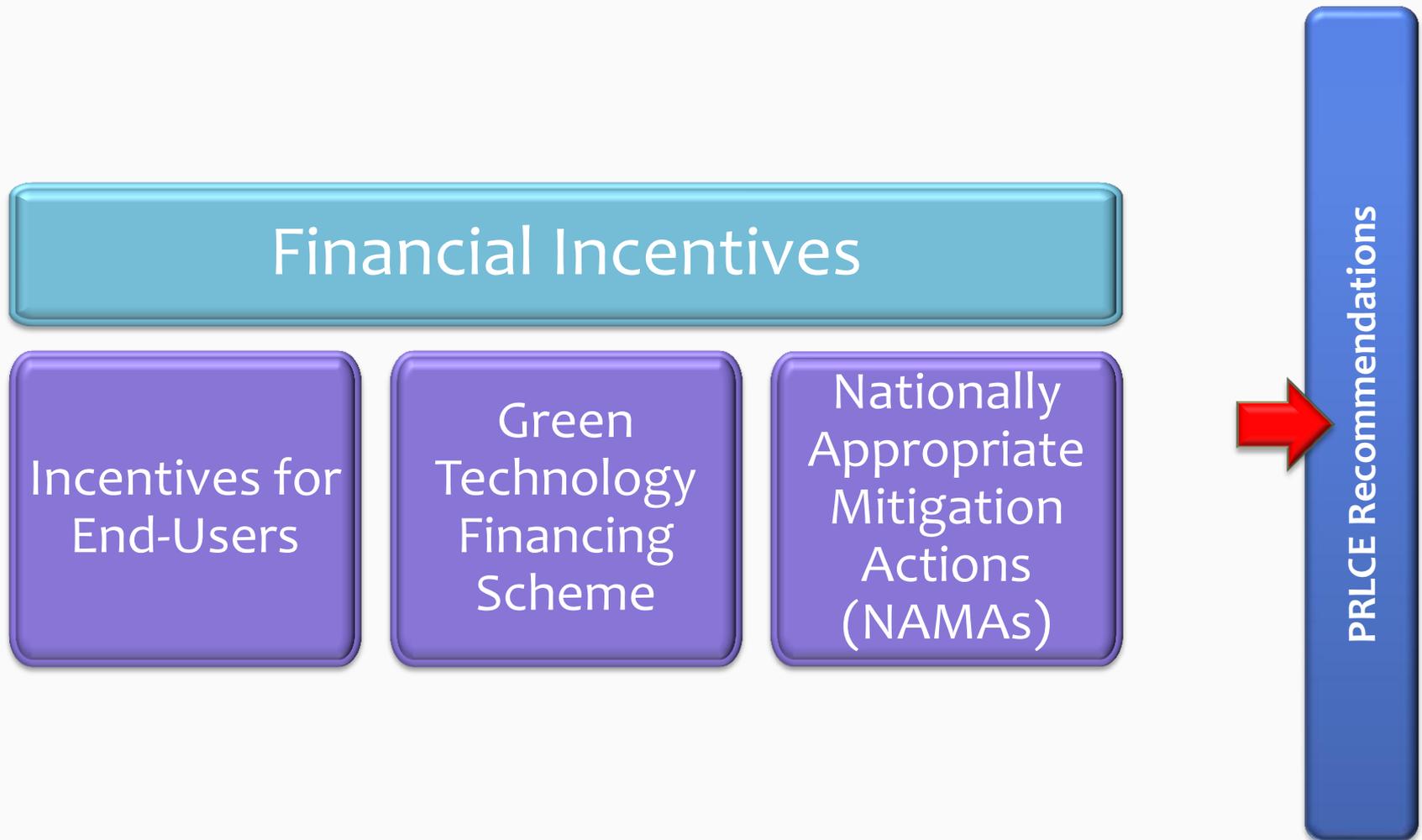


PRLCE Recommendations

Energy Regulation: Key LCE Policies in Malaysia



Sustainable Development



Renewable Energy Resources

	Biomass and Biogas	Small-scale Hydro	Solar
Targets by 2030	<ul style="list-style-type: none"> • 410 MW biogas capacity • 1340 MW palm biomass capacity 	490 MW by 2030	854 MW by 2030
Guiding Policies and Strategies	<ul style="list-style-type: none"> • NREPAP (2010) • National Biofuel Policy (2005) • National Biomass Strategy 2020 (2013) 	<ul style="list-style-type: none"> • NREPAP (2010) • Rural electrification schemes 	<ul style="list-style-type: none"> • NREPAP (2010) • Malaysia building integrated solar PV Project (MBIPV) • Solar PV Rooftop Programme
Financial Incentives	<ul style="list-style-type: none"> • FIT Scheme • GTFS 	<ul style="list-style-type: none"> • FIT Scheme 	<ul style="list-style-type: none"> • FIT Scheme • Financing packages from banks



PRLCE Recommendations

Low Carbon Power Supply: Power Systems and FIT Mechanism



Low Carbon Strategies for Power Systems Sector

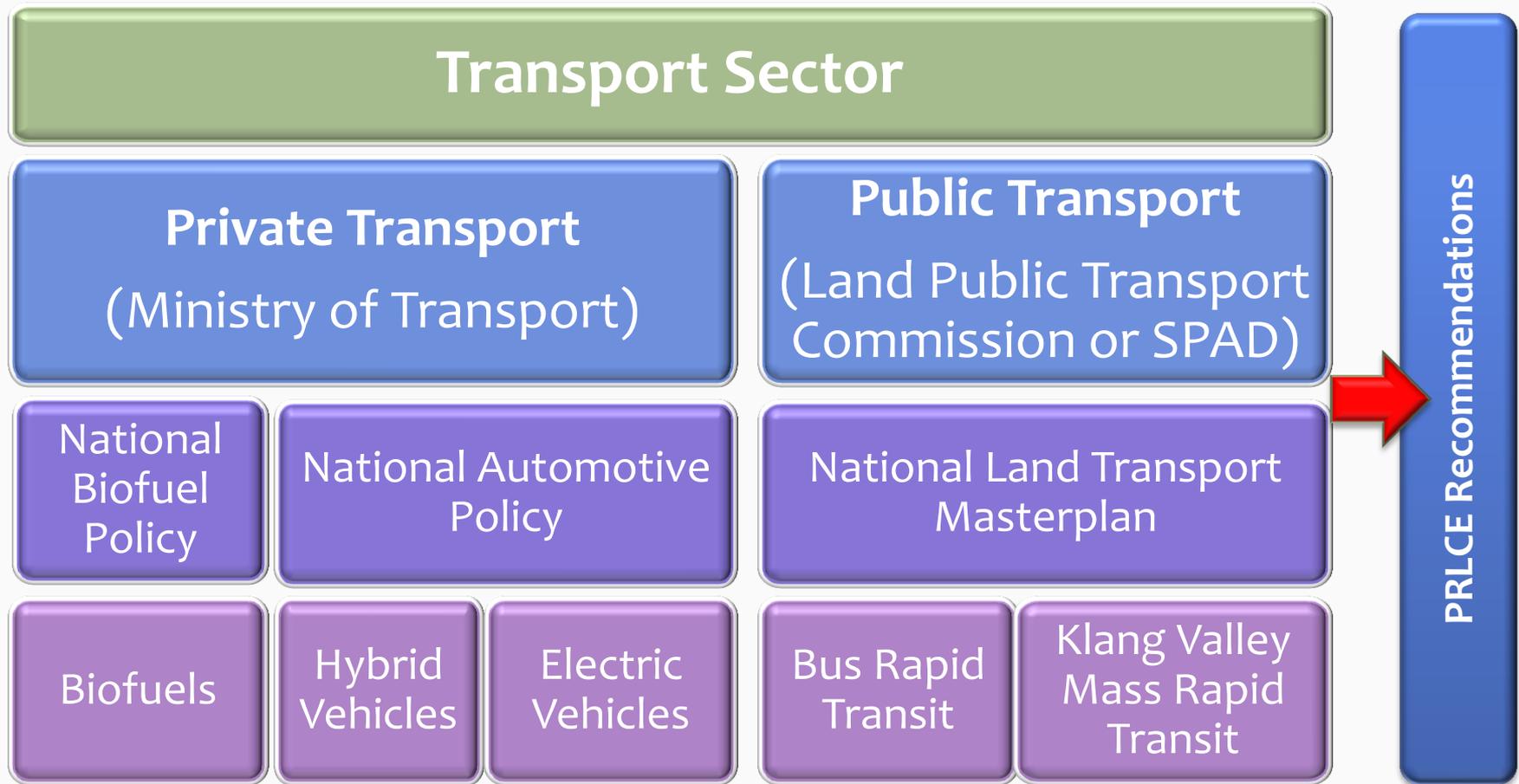
- Rural electrification using hybrid solar and small hydro
- Rationalisation of electricity tariffs
- Improving efficiency in power generation sector
- TNB Smart Grid Initiative

Feed-in Tariff System

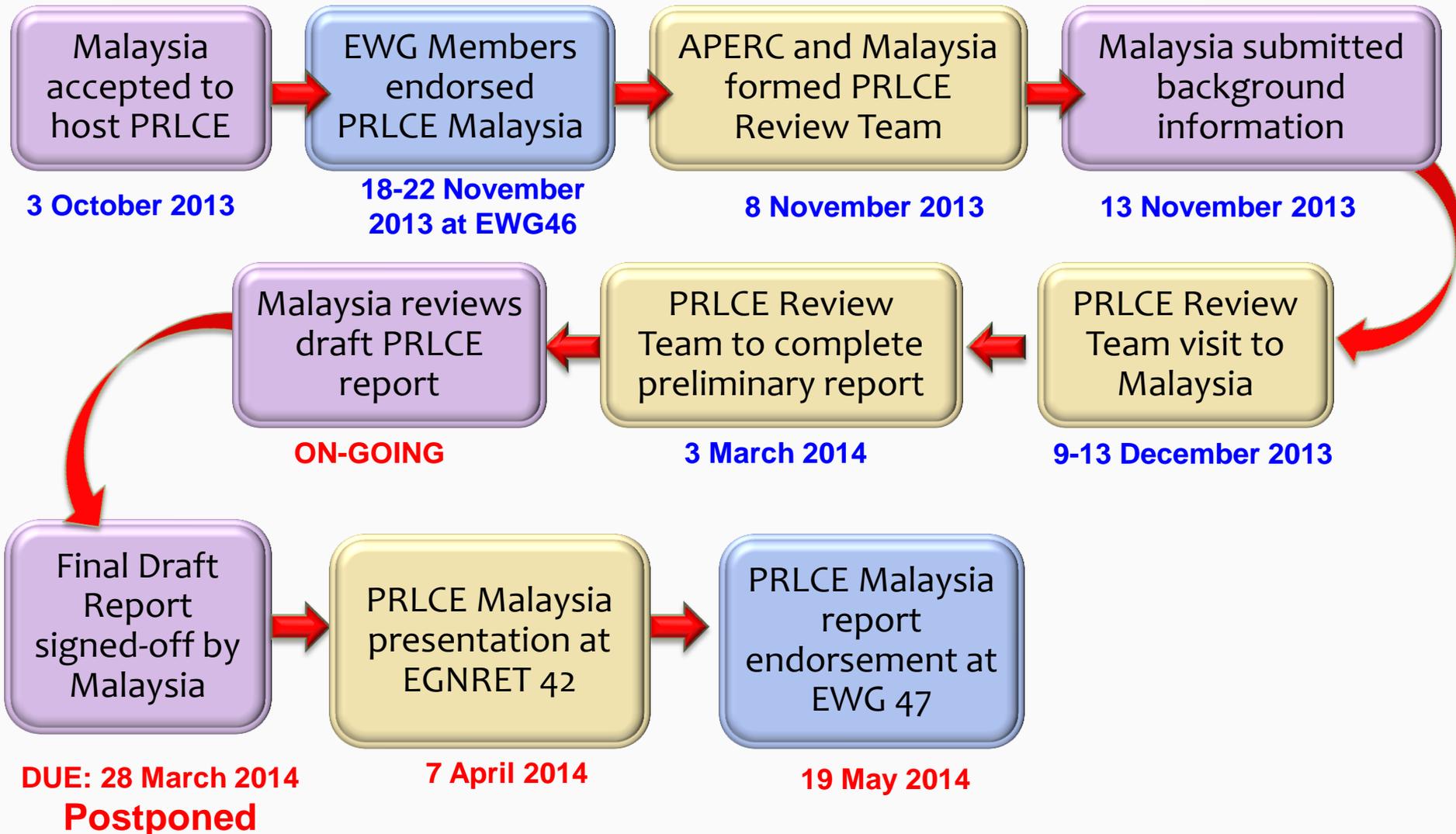
- Renewable Energy Act 2011
 → RE Fund and FIT mechanism
- Sustainable Energy Development Authority Act 2011
 → SEDA

PRLCE Recommendations

Low Carbon Transport Sector



PRLCE Process for Malaysia



PRLCE Malaysia

Summary and Conclusions

- The PRLCE Review Team made **51 recommendations**
- PRLCE recommendations are tailored towards:
 - Overcoming existing, specific challenges in the current system
 - Connecting remote resources
 - “First- and last- mile” interconnection for public transport
 - Providing proper signals to end-users and investors to encourage uptake of low-carbon energy supplies
 - Enhancing existing strategies that have been proven to increase LCE uptake

**Thank you for your
kind attention!
<http://aperc.ieej.or.jp/>**

