



NATIONAL ENERGY SECURITY CONFERENCE 2012

**“CHALLENGES & PROSPECTS IN ENHANCING
MALAYSIA’S ENERGY SECURITY
-SEB’S PERSPECTIVE “**

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**SIME DARBY CONVENTION CENTRE
KUALA LUMPUR
28 FEB 2012
Session 2 : 12.30pm – 12.50pm**

Today's Agenda

- **Sarawak Corridor of Renewable Energy (SCORE) – from vision to reality**
- **SEB's supply capacity – Current & Planned**
- **Interconnection with Peninsular Malaysia – Prospects & Challenges**

PPAs now signed with:

- AML
- Press Metal
- OM Holdings; and
- Tokuyama (expected soon)

1,650MW
(or 95% of Bakun
firm power)



Sarawak and SEB have proved the doubters wrong

- More than 70 per cent of the firm output from Bakun and Murum is already sold
- Customer demand is very strong.
- SCORE customers will start taking power in April 2012 : 500-600MW by end 2012.
- SEB will sign more PPAs and Term Sheets this year.
- Competition for the remaining energy is fierce.
- Potential customers are now offering tariffs 50 per cent higher than the rates achieved in 2009



Construction at Samalaju Industrial Park is underway

Bakun 2400 MW

- **3 of 8 turbines are commissioned**
- **The next turbine is due online by end Feb 2012**
- **Sarawak Grid already drawing up to 500 MW from Bakun**

**Bakun Dam
February 2012**



Upstream view

February 2012

Murum project 944 MW

- **More than 60% complete**
- **On track for commissioning end 2013**



Building SCORE - Phase 1 Generation Expansion (up to 2016)

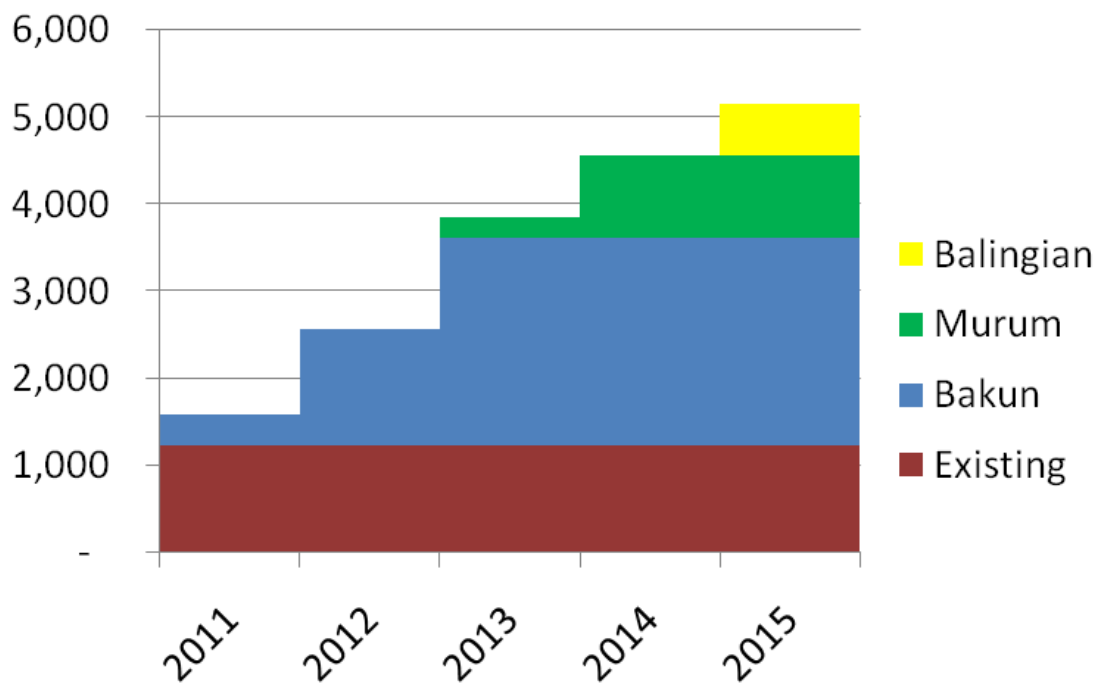
The first stage of power developments to supply the SCORE customers includes:

- **Bakun (Hydro)**
 - **2,400MW installed capacity**
 - **1,771MW firm capacity**

- **Murum (Hydro)**
 - **944MW installed capacity**
 - **635MW firm capacity**

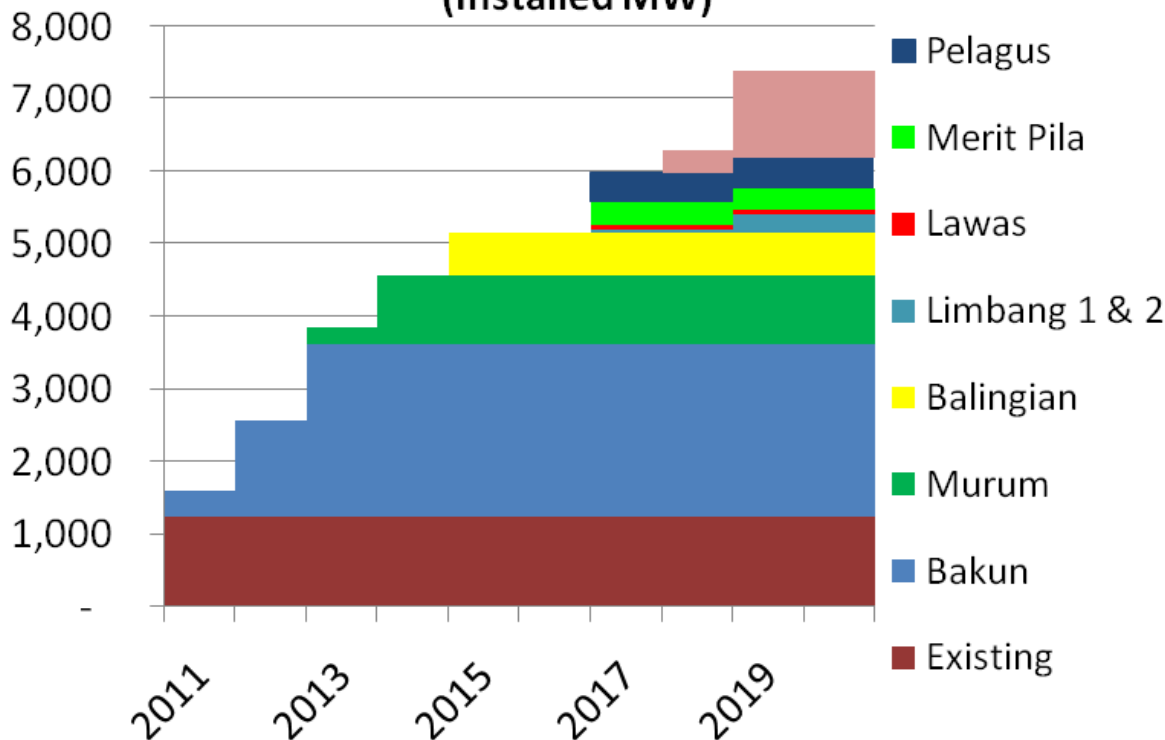
- **Balingian (Coal)**
 - **600MW installed capacity**
 - **~430MW firm capacity**

**Generation Build-Up: Phase 1
(Installed MW)**



Building SCORE - Phase 2 Generation Expansion (up to 2020)

**Generation Build-Up: Phase 1-2
(Installed MW)**



- The Phase 2 Expansion may include the following SCORE projects:

- **Baram 1**

- 1,200MW installed capacity
- 800MW firm capacity

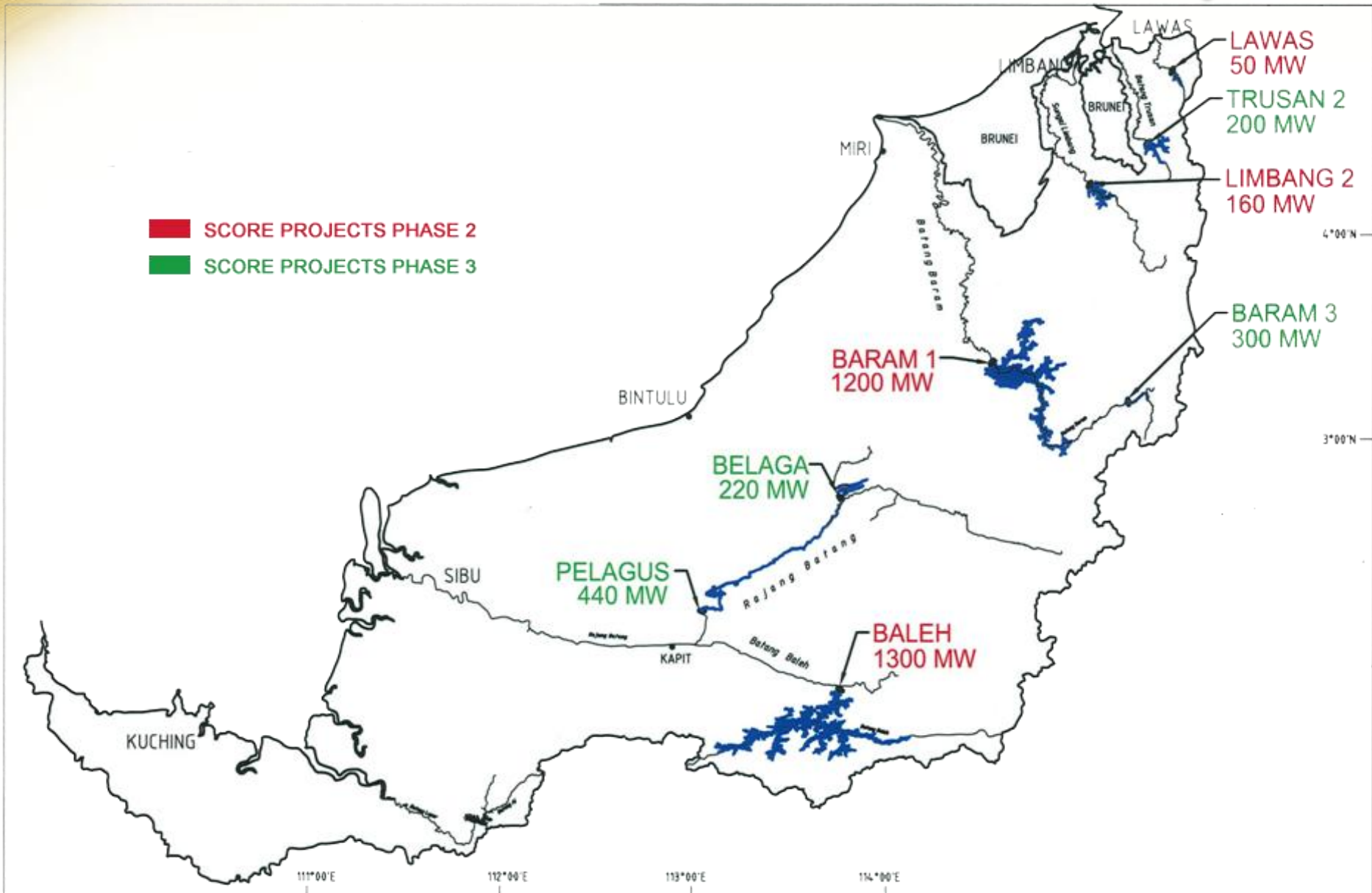
- **Pelagus HEP/ Kapit Coal combined development**

- Pelagus ~400MW
- Merit Pila Coal 270 MW

- **Northern Agenda**

- **Limbang 1 & 2**
- **Lawas**

Eight new hydro projects under development

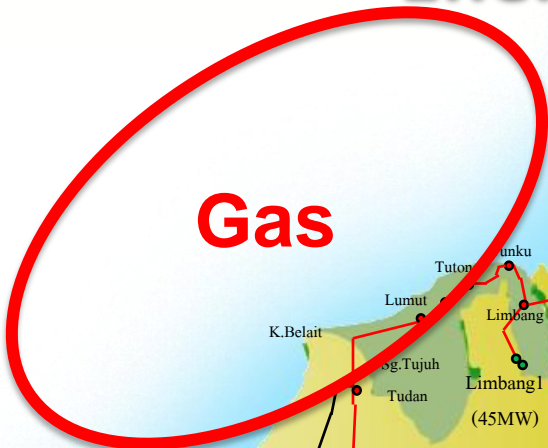


Northern Borneo's Energy Resources

South China Sea

Sabah

Gas



Hydro

Coal



Kalimantan





A REGIONAL ENERGY POWERHOUSE

Interconnection with Peninsular Malaysia??

Interconnection can support Malaysia's energy security

- Sarawak and its neighbours have abundant gas, coal and hydropower resources
- Interconnection is technically feasible
- SEB has the human, financial and technical capacity to support the necessary transmission and generation developments.

Interconnection with Peninsular Malaysia??

CHALLENGES

- Sarawak's energy resources are in high demand and could be fully allocated in the medium term
- The cost of the Sarawak generation and undersea transmission is much higher than the current tariffs in Peninsular Malaysia
- The policy intent, market design and price signals required to stimulate investment are not yet visible

Thank You