**ISES 2018 OPENING CEREMONY**
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## INTRODUCTION

- I am pleased to share on Sarawak's journey in renewable energy development at this important summit which acknowledges that the future of energy is in sustainable energy.

- To us in Sarawak, theessence of this conference aligns with the milestones we have been achieving all this while which is our capability to harness our abundant natural resources to power our development growth and economy sustainably, at the same time addressenergy security which is a shared conundrum for other nations alike.

- Allow me to take you through Sarawak's journey in sustainable energy development, the growth that has been experienced by the state since and how will we be leveraging on renewable energy in supporting the state's vision forward of establishing a digital economy strategy in the decade to come.

## SARAWAK'S JOURNEY IN RENEWABLE ENERGY DEVELOPMENT

- Energy is what drives development and underpins economic growth. Global energy demand is forecasted to grow by 58% between now and 2040 and we hear of countries racing to secure energy. Sarawak is no different.

- And we are aware that we need to detach from being reliant on non-renewable resources if Sarawak is to achieve energy security for a sustainable economic growth.

- The International Energy Agency (IEA) reports that by 2022, global renewables electricity generation is expected to grow by over one-third to over 8 000 terrawatts per hour, equal to the total power consumption of China, India and Germany combined. As a result, the share of renewables in power generation will reach 30% in 2022, up from 24% in 2016.

- The report also states that in the next five years, growth in renewable generation will be twice as large as that of gas and coal combined. While coal remains the largest source of electricity generation in 2022, renewables halve their gap with coal, down to 17% in 2022. Despite slower capacity growth, hydropower will remain the largest source of renewable electricity generation in IEA's forecast, followed by wind, solar PV and bioenergy.

- With Sarawak being unique and blessed with an abundance of natural resources, it is only logical to explore and harness renewables from these

resources to further boost our generation figures and secure a stable supply of energy in the state.

- Our many rivers, plentiful rainfall and mountainous terrains have enabled Sarawak to embark and focus on hydropower development which at present represents 75% of the state's generation mix. Fossil fuel, coal and alternative renewables like solar and mini-hydro make up the rest of the mix.

- Hydropower, being a sustainable source has since reaped benefits as it allowed the State Government to;
  - ➢ Develop the state's development strategy- the Sarawak Corridor of Renewable Energy or SCORE- attracting energy intensive industries and investors to our shores by offering security of supply at a globally competitive price.
  - ➢ With SCORE, the state's energy demand took a quantum leap as it triggered a number of downstream businesses and opening up the state's rural areas giving rural towns a boom effect.
  - ➢ To lower electricity tariffs for domestic, commercial and industrial consumers making Sarawak the state with the lowest tariffs in Malaysia and one of the lowest in the region.
  - ➢ Reduce carbon emission from supply generation by 72%.

- Other than being a natural resource, hydropower development makes for good business sense as hydropower projects do have a high upfront outlay during the construction phase, but they have very low running costs and can operate for many decades – up to a hundred years in certain cases, making it a viable option that works for Sarawak.

- Sarawak now has three hydroelectric power plants under its belt- Batang Ai, Murum and the recently acquired Bakun with another, Baleh, currently under construction and expected to complete by 2026.

**EXPLORING OTHER ALTERNATIVE ENERGY SOURCES**

- As we continue to be on track in our efforts in energy security which will also establish our reputation as the ASEAN Powerhouse, Sarawak continues to explore on developing new energy supply options through research and adopting new technologies. Advances in technology promote energy efficiency and has opened up many new energy supply options making this sector more competitive.

- Currently through the Ministry of Utilities supported by our electricity utility and energy developer, Sarawak Energy, we are installing standalone alternative systems, utilising micro-hydro and solar technologies to light up communities living in the interior under the Sarawak Alternative Rural Electrification Scheme or SARES.Alternative energy sources has indeed played an imperative role in the state's mission for full electrification particularly for communities in the interior that are impossible to connect to the State Grid. This is in line with our target to achieve 100 per cent electrification by 2025.

- What began as an intense effort to accelerate electrification in the remotest part of the state, SARES has since touched and changed the lives of many Sarawakians who before this had no access to reliable and sustainable supply. News of its good work and effectiveness has since spread and gained global recognition, winning the Alliance for Rural Electrification award at the 4th ARE Energy Access Investment Summit in Catania, Sicily recently.

- With hydropower and solar already playing an integral role in contributing as a sustainablesource to the generation mix, the state intends to take this up a notch and explore other alternatives which is both renewable and clean. This has led to the formation ofthe Sarawak Research Council to oversee research and development on various energy generation technologies.

- In addition, Sarawak Energy is now in the midst of a feasibility study on hydrogen fuel cell application for the state.Allocations have been provided to conduct research on hydrogen production and hydrogen applications which include the setting up of a hydrogen production plant.

**SMART TECHNOLOGIES FOR YOUR CONVENIENCE**

- We are optimistic that our research into alternative supply options and smart technologies will reap benefits for Sarawakians all over.

- Utilities have begun to incorporate smart technologies to maximise their ability to operate in a more conducive and efficient manner and an example of this is real time monitoring apps, sensor technologies, smart utility meters among others.

- A mobility revolution has also unfolded across the world with many countries already embracing this hybrid form of transportation. The Global EV Outlook 2017 done by the International Energy Agency states that the transition to electric road transport technologies began a decade ago is gaining momentum towards a low-emission future provided such dynamism can be sustained over the coming decades.

- The year 2016 also showed a record-high new electric car registrations with over 750 thousand sales worldwide. Norway holds the highest electric car market share globally in 2016 with China also experiencing a rapid market growth. It is predicted that the next 10 to 20 years, the electric car market will likely transition from early deployment to mass market adoption.

- Within the next three years, Sarawak's public transportation landscape will undergo a transformation for the better whereby electric-powered buses will ply the streets. And at its heels, will be to expand this category of buses to hydrogen-powered ones, making Kuching the first city in the country to have such buses as a pilot project.
- This demonstrates Sarawak's commitment towards a better and cleaner environment in the reduction of greenhouse gas emissions.

- We are also looking into better connectivity by having the Light Railway Transit (LRT) systemfor Kuching city that will run on hydrogen fuel and if this turns out feasible, then it will be extended to other parts of the state.

- An integrated transportation system comprising intelligent route selection, digital asset management, smart traffic light and parking, digital information signage and information system for public transportation ensures comfort and safe mobility for commuters.

**SHAPING A DIGITAL FUTURE FOR SARAWAK**

- The future of Sarawak is going to be an exciting one. The state and its people are embracing technology like never before for we understand how significant is the global movement of the Green Energy Economy that will subsequently pave the way for the state's vision of building a Digital Economy. We don't intend to be left behind.

- In this regard, the State embarked on the Digital Economy Transformation for Sarawak by formulating a five-year Sarawak Digital Economy Strategy beginning 2018 till 2022. The Digital Economy Strategy charts out the mission to leapfrog the State development through digital economy that complements conventional economy.

- A digital economy will attract global investors to our shore building the wealth of the state by contributing to Sarawak's GDP.

- Having a stable and adequate generation portfolio which is sustainable gives us the confidence to realise this ambition which will power up and transform the digital ecosystem of the state.

- We foresee smart technology and innovation being embedded in our way of life and daily operations providing for cost-effectiveness, efficiency and convenience.The future is in developing the Internet of Things (IOT).

- This will see Sarawak focusing on emerging technologies like big data, cloud computing, gaming, animation, blockchains, artificial intelligence, autonomous vehicles and more renewable energy.

- The State Government is also working on putting in place policies to support the agenda of a Green Energy Economy and one of it is in support of implementing the Green Building Index in new government and private non-residential buildings in major cities and towns in Sarawakto conserve and make use of renewables to power up offices in the state.

**CONCLUSION**

- The journey is still long for Sarawak but we are walking in strides to achieve our goals in securing a sustainable energy future for the state. Therefore, I am pleased to be here and commend the organising of this summit, which serves a platform to exchange knowledge and experience on how we can shape a sustainable future together.

- In this couple of days, we will learn from one another and be up to date on the global scenario pertaining to sustainable energy. For Sarawak, we will also be able to chart out a stronger strategy building on the existing one towards the creation of a green energy economy and subsequently a digital economy.

- The most important thing is to take that first step, embrace innovation and be open to ideas.

- Thank you and I wish you all an exciting and constructive conference.