INDONESIA THE NETHERLANDS TECHNOLOGY PARTNERSHIP FORUM

INTPF2021

"Bridging The Gap and Harnessing Sustainable Energy"

IKATAN ALUMNI ITB BELANDA

ECADIN
ENERGY ACADEMY INDONESIA

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FOREWORD

by Ambassador of the Republic of Indonesia to the Kingdom of the Netherlands

H. E. Mayerfas

The issue of renewable energy and sustainability for Indonesia is closely related to the national efforts in combating climate change. As you are well aware, Indonesia is committed to cutting greenhouse gas emissions by 2030 to 29% independently or 41% with international support. Indonesia also indicates to reach net-zero GHG emission target by 2060 or sooner with international support.

Transitioning to the energy sector is also important for Indonesia in achieving the 2030 Agenda for Sustainable Developments, especially SDG 7.

Furthermore, with the growing markets, growing economy, and growing energy consumption, Indonesia has set the ambition to increase its use of renewable energy, aiming to have 23% of energy coming from renewable sources by 2025.

However, despite having an ambitious goal and abundant potential renewable energy sources, the progress of renewable power projects development in Indonesia has been relatively slow. It has to be acknowledged that there is much to be done in terms of policy, technology, and strong financial support. The process also needs to ensure sustained economic growth and development of Indonesia.

The Netherlands is currently one of the world's leaders in renewable energy. In 2020, renewable energy accounted for 11.1 percent of total Dutch energy consumption, compared to 8.8 percent in 2019. The increase was mainly due to the rising solar and wind power capacity.

In the context of the bilateral relation between Indonesia and the Netherlands, I believe there is plenty of room to learn, cooperate, and further invite investment from the Netherlands. It includes investment in the innovation and renewable energy technology sector in Indonesia.

Since the beginning, I have welcomed the collaboration project: the Indonesia-the Netherland Technological Partnership Forum (INTPF), between Indonesian Embassy in The Hague and Ikatan Alumni ITB (IA ITB) in the Netherlands. I have faith that INTPF can play a strategic position in bridging the technological transfer and cooperation, especially in renewable and sustainable energy, between the Netherlands and Indonesia.

With that in mind, I sincerely hope that the booklet documenting INTPF's programs can serve as a reference for what INTPF has discussed and achieved. Moreover, I hope that INTPF will be able to generate numerous policy recommendations, as well as bring more technology cooperation and investment to Indonesia.

FOREWORD & BACKGROUND INTPF

by Chairman IA-ITB Netherlands

Raymon Frediansyah

Indonesia and the Netherlands have always maintained close relationships in bilateral economics, trades, and investments. The latest state visit of King Willem-Alexander and Queen Maxima to Indonesia in March 2020, joined by immense Dutch business delegates with its economic mission to Indonesia; accentuates and strengthens this valuable Indonesian-Dutch economic relationship further. Technological partnerships, cooperation and investments are an integral part of this bilateral relationship between the two countries. INTPF (Indonesia - the Netherlands Technology Partnership Forum) aims at promoting and fostering these further by becoming an invaluable technological and information hub for stakeholders both in Indonesia and the Netherlands.

INTPF has been set up as a multi-years collaborative project between Bandung Institute of Technology Alumni Network - the Netherlands Chapter (IA-ITB NL) and Indonesian Embassy in The Hague, and this year it is also fully supported by Energy Academy Indonesia (ECADIN).

The topic of sustainable and renewable energy was chosen as the focus of INTPF 2021, with the main theme of "Bridging The Gap and Harnessing Sustainable Energy". While Indonesia aims to increase the renewable energy share to 23% by 2025, in 2020 renewable energy only accounted for 11.2% of the national energy mix sources. Clearly, it remains a challenge moving forward. On the other hand, the Netherlands has a competitive advantage where prominent institutions and companies in this sector are present.

To date, several ongoing partnerships and collaborations have been taking place in this area between the two countries. Giving a few examples (but not limited to): PT Pertamina - LEN - Hyet Solar cooperation in building Indonesia's first thin film solar PV factory, and joint-development of small-scale and stand-alone hybrid wind power plants in Indonesia between Pondera BV and PT Quadran Energi Rekayasa.

The opening event of INTPF symposium in December 2020 was organized as an initial event addressing “experience-based learnings” from these ongoing initiatives and collaborations. Lessons learned about gaps, challenges, hurdles, and opportunities in establishing partnerships in sustainable energy businesses in Indonesia were shared & discussed.

As follow-up to this symposium, several discussion webinars/webtalks were organized this year to create further opportunities & learnings by zooming-in to selected aspects/topics in sustainability and sustainable energy technologies. These series of webinars unfortunately had to be organized online due to the global corona pandemic.

Five webinar series were successfully held this year with varying emerging topics in renewable energy sectors i.e. hydrogen technology & economy, ocean battery & energy storage, and electric vehicle (EV) charging. Also included in the program, an interesting discussion session on energy efficient data centers using immersion cooling technology. Bear in mind that besides renewable energy implementation, energy efficiency measures are the next important mitigation for CO_2 emission reduction

FOREWORD & BACKGROUND INTPF

by Chairman IA-ITB Netherlands

Raymon Frediansyah

globally. Furthermore, as the closing webinar of this year we organized a discussion session on how the carbon tax/trading system may help in reducing global emissions. All webinar series covered the learnings and opportunities from both countries, Indonesia and the Netherlands.

This booklet summarizes the learnings and findings from all INTPF programs in 2021. I am very hopeful and also confident that this collaborative technology forum will foster future potential research collaboration, investment deals, and long-term partnerships between Indonesia and the Netherlands in the years to come.

My sincere appreciation and thanks to all organizing committees of INTPF for their great effort and excellent teamwork, that despite the challenge of global pandemic situation, these programs were successfully held this year. Also my sincere gratitude to all collaborating and supporting partners: Indonesian Embassy in The Hague, ECADIN and IA-ITB in Jakarta. And last but not least, to all stakeholders and speakers who have greatly contributed to these INTPF programs.

Indonesia - The Netherlands
Technology Partnership Forum

Indonesia - the Netherlands Technology Partnership Forum

IKATAN ALUMNI ITB BELANDA

Indonesian Embassy The Hague

2020 INTPF SYMPOSIUM

BRIDGING THE GAP AND HARNESSING SUSTAINABLE ENERGY

Opening Remarks

H.E. Mayerfas - Ambassador of the Republic of Indonesia to the Kingdom of the Netherlands

Ikmal Lukman - Deputy Chairman for Investment Promotion at Indonesia Investment Coordination Board (BKPM)

Keynote Speaker

Dadan Kusdiana*) - Director General of New and Renewable Energy and Energy Conservasion, The Ministry of Energy and Mineral Resources Republic of Indonesia

Panel 1: Lessons Learned from Establishing Partnerships in Sustainable Energy Technology

Speakers

Rombout Swanborn
Chief Executive Officer
Hyet Group

Bart De Smet
Export & Investment Solutions
FMO - Dutch Development Bank

Latif Gau
Managing Director
Tidal Bridge B.V.

Facilitator

Rihard Pasaribu
Team Leader Lubricants
Shell

Responders

Bagus Setiawan
HR & Adm. Director
Indonesia Power

Tarmizi K.F. Lubis
Vice President
Technology
PT Len Industri

Achmad Rizal
Deputy Director
Energi Prima Nusantara

Aditia Prasta
Director IIPC London
Investment Coordinating Board (BKPM)

Chandra Asmara
Manager BD New & Renewable Energy
Pertamina Power Indonesia

Joko S. Yekti
Head of Business Development
Medco Power

Panel 2: Challenges and Opportunities: from Financing to Social Enterprise in Sustainable Energy

Speakers

Brent Elemans
Renewable Energy Consultant
Pondera

M. Ghozie Indra Dalel
Project Development and Advisory Director
PT Sarana Multi Infrastruktur

Sandra Winarsa
Program Development Manager
Green Energy
Hivos South East Asia

Rebekka S Angelyn
Executive Director
Yayasan Rumah Energi

Responders

Chandra Sumitro
Founder
Hywind Energi Solutions

Prof. Bayu Jayawardhana
Scientific Advisor
Ocean Grazer

Hans Breugel
Co-owner
Wind Energy Solutions

Facilitator

Sudarmono Sasmono
Researcher in Renewable Energy and Smart Grid Laboratory
Telkom University

2020 INTPF SYMPOSIUM

BRIDGING THE GAP AND HARNESSING SUSTAINABLE ENERGY

The MoU Signing Ceremony

Hans Rijntalder-
Founder / Director
Pondera

PONDERA

Sudarmono Sasmono
Chief Executive Officer
PT. Quadran Energi Perkasa

QUADRAN

DECEMBER 1ST, 2020

08:30-12:00 CET / 14:30-18:00 WIB

ONLINE CONFERENCE

Boosting Renewable Energy Partnership between Indonesia and the Netherlands

This opening INTPF symposium event was held on Tuesday, December 1, 2020, dedicated as a follow up to the state visit by King Willem-Alexander and Queen Máxima to Indonesia in March 2020. This event aimed to boost investment cooperation and technological innovation between Indonesia and the Netherlands by addressing "experience-based learnings" from ongoing cooperation and initiatives in the sustainable & renewable energy sector. In this event, an MoU signing on the development of small-scale and stand-alone hybrid wind power plants in Indonesia between PT Quadran Energi Rekayasa and Pondera Development BV was also facilitated.

Symposium Link: https://www.youtube.com/watch?v=AtnuPcrxIkc

INTPF SYMPOSIUM

The event was attended by more than 180 participants from businesses, academia, and government agencies. Mr. Raymon Frediansyah (IA-ITB Netherlands Chairman), Mr. H.E. Mayerfas (Ambassador of The Republic of Indonesia to the Netherlands), and Mr. Ikmal Lukman (Deputy Chairman for Investment Promotion at Indonesia Investment Coordinating Board/BKPM) gave their opening remarks at this event, followed by the keynote speech by Mr. Dadan Kusdiana (Director-General of New and Renewable Energy and Energy Conservation, Ministry of Energy and Natural Resources/ESDM).

In his keynote speech, Mr. Dadan briefly explained the potential of Indonesia's renewable energy. Currently, there are more than 1.5 billion US dollars of incoming renewable energy investment in Indonesia per year. Going forward, the Indonesian government plans to prioritize solar energy, which is becoming increasingly attractive and has lower costs. Mr. Dadan also emphasized the government's commitment to reduce carbon emissions according to the target in the Paris Agreement, by substituting and converting primary energy sources as well as increasing renewable energy usage.

During two panel discussions, several challenges in realizing Indonesia-Netherlands cooperation for sustainable energy advancement in Indonesia were outlined. From a regulatory perspective, one obstacle is the amendment of renewable energy regulations in Indonesia that is still in the making. As a result, it is difficult to reach a business agreement without a clear legal basis. Therefore, it is necessary to have an understanding of the

relevant regulatory framework, the applicable permitting process, and clarity on the roles and responsibilities of each agency in Indonesia. The requirements for using local components are one of the issues discussed.

The funding and investment aspects are other challenges that are being discussed. Currently, it is difficult for renewable energy projects in Indonesia, especially small-scale projects, to get access to funding. This is due to the high risk and higher investment costs per unit compared to larger-scale projects. Therefore, it requires various business model innovations and new funding sources as well as incentive support from the government for business players and funding institutions who wish to be involved in renewable energy projects in Indonesia.

Several lessons learned in the ongoing Indonesia-Netherlands technology partnership in the field of sustainable energy were highlighted:

1. First, there is a need to have a shared vision and commitment as well as compatibility between business partners in terms of expertise and networks.
2. Second, it is necessary for the government to provide support in the form of policies, capacity development, and market mechanisms.
3. Third, the development of renewable energy projects in Indonesia is still relatively new and unknown, making it essential for all parties to have perseverance in realizing renewable energy projects in Indonesia.

INTPF SYMPOSIUM

STAKEHOLDERS

HyET Group

HyET group create technologies that enable commercially viable, large scale access to decentral renewable energy sources.
www.hyetgroup.com

FMO

FMO is a Dutch development bank structured as a bilateral private-sector international financial institution.
www.fmo.nl

Tidal Bridge

Tidal bridge is an independent company bringing together the top-notch experience in the tidal world.
www.tidalbridge.com

Pondera

Pondera Consult is an international consultancy and engineering firm, specialized in sustainable energy.
www.ponderaconsult.com

Sarana Multi Infrastruktur

SMI is a Special Mission Vehicles (SMV) under the Ministry of Finance which is engaged in financing.
www.ptsmi.co.id

Hivos

Hivos is an international cooperation organization founded by Humanist Association.
www.hivos.org

Yayasan Rumah Energi

Yayasan Rumah Energi is non-profit grassroots CSO level civil society organization established since 2012.
www.rumahenergi.org

Quadran Energi Rekayasa

Quadran Energi is an Indonesian World Class Consultant Services in Energy and Electricity.
www.quadranenergi.id

Indonesia - the Netherlands Technology Partnership Forum

INTPF Webinar Series #01

SAT 08 MAY
10-12 CEST
15-17 WIB

Live Streaming:
iaitb.nl/INTPFwebinar
Energy Academy Indonesia

Hydrogen Technology and Economy in a Nutshell

OPENING REMARKS

H.E. Mayerfas
Ambassador of Republic Indonesia to the Kingdom of the Netherlands

Ardi Stoios-Braken
Deputy Head of Mission Embassy of the Kingdom of the Netherlands to Republic Indonesia

SPEAKERS

Sarah Hopkin
Shell Hydrogen Mobility Research Team

Prof. Eniya L. Dewi
Board Director of International Association of Hydrogen Energy & President of Indonesia Fuel Cell and Hydrogen Energy

HOST

Prof. Bayu Jayawardhana
University of Groningen

PANELISTS

Zainal Arifin
Executive VP of Engineering and Technology, PT. PLN (Persero)

Oki Muraza
Senior VP of Research and Technology Innovation, PT. Pertamina (Persero)

THE 1ST WEBINAR

Hydrogen Technology and Economy in a Nutshell

In this first INTPF webinar, the topic discussed was the ins and outs of hydrogen technology as a green energy source. The event was opened by opening remarks from the Ambassador of the Republic of Indonesia to the Kingdom of the Netherlands, Mr. Mayerfas, which was then followed by remarks from the Deputy Head of Mission Embassy of the Kingdom of the Netherlands to the Republic of Indonesia, Mrs. Ardi Stoios-Braken. Mr. Mayerfas underlined Indonesia's commitment to reduce carbon emissions and the economic opportunities that come with it, while Mrs. Ardi Stoios-Braken explained the close relationship between Indonesia and the Netherlands in research, education and training, as well as commercial projects in the new and renewable energy sector.

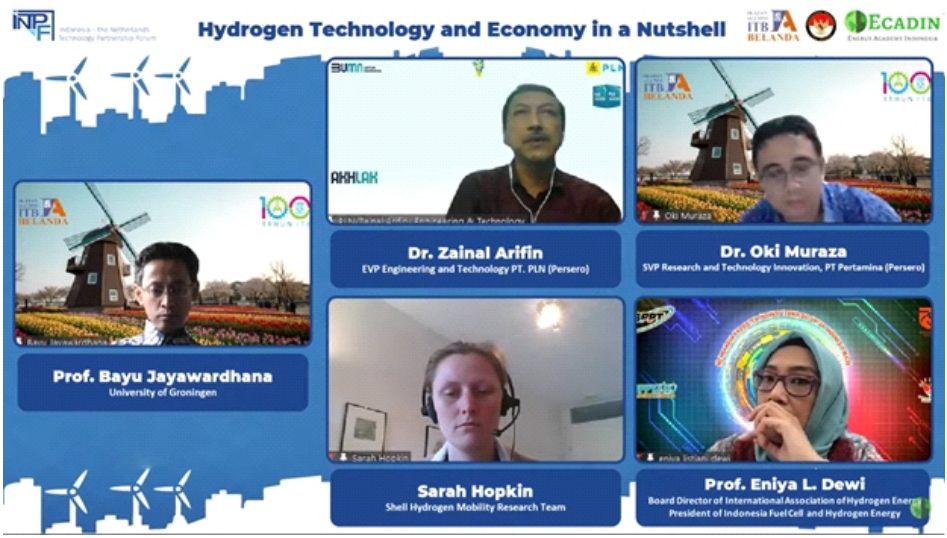
Webinar Link: https://www.youtube.com/watch?v=XK0PHb0vW54

The whole event was moderated by Professor Bayu Jayawardhana, one of the Indonesian diaspora who is a professor at the University of Groningen. The first speaker was Professor Eniya Dewi from BPPT who is also the Board Director International Association of Hydrogen Energy (IAHE). She systematically explained the advantages of hydrogen technology compared to other renewable energy sources, then the opportunities and challenges of applying this technology in an effort to decarbonize the Indonesian economy. The second speaker was Sarah Hopkin, one of the researchers at Shell Hydrogen Mobility, who explained the various activities of Shell as a multinational energy company in the development and application of large-scale hydrogen technology for the heavy industrial sector and the transportation sector. The discussion was followed by comments and reviews from the two panelists: Dr. Zainal Arifin, Executive VP at PLN and Dr. Oki Muraza, Senior VP Research and Technology Innovation at Pertamina. The event, which was enthusiastically attended by around 200 participants, lasted for about two hours.

SUMMARY OF DISCUSSION

- Indonesia possesses tremendous potential to use hydrogen technology, whether the one generated from solar sources, biomass, nuclear or fossil fuel. Hydrogen technology is one of the alternatives that Indonesia can use to reach 23% of the total energy mix in 2025, especially as the source of vehicle fuel. Hydrogen is an environmentally friendly energy technology and has become the current global trend.

- Hydrogen technology is a high investment and requires the commitment and readiness of the Government's incentive to encourage hydrogen use in Indonesia.
- Based on the implementation of hydrogen technology in Europe, especially in the Netherlands, a close partnership among industry, company, government, and policymakers is needed to develop the hydrogen technology.
- To accelerate renewable energy in Indonesia, including the use of Hydrogen Technology, there is a need to have technology transfer cooperation with developed countries, including the Netherlands.



THE IST WEBINAR

STAKEHOLDERS

Shell

Shell is an international energy company with expertise in the exploration, production, refining and marketing of oil and natural gas, and the manufacturing and marketing of chemicals.
www.shell.com

Agency for the Assessment and Application of Technology (BPPT)

BPPT is an Indonesian government research institute, which has the tasks of carrying out government duties in the field of assessment and application of technology.
www.bppt.go.id

Pertamina

Pertamina is an Indonesian state-owned company to carry out integrated business core in oil, gas, renewable and new energy
www.pertamina.com

PLN

PLN is an Indonesian state owned company to carry out the business of providing electricity.
www.pln.co.id

Indonesia - The Netherlands
Technology Partnership Forum

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Technology Partnership Forum

INTPF Webinar Series #02

SAT 05 JUNE
10-12 CEST
15-17 WIB

Register Now!
partnership.iaitb.nl

Ocean Battery as an Energy Storage for Security of Supply

OPENING REMARK

Gembong Primadjaya
Chairman, Bandung Institute of Technology Alumni Assocation (IA-ITB)

KEYNOTE SPEECH

Djoko Siswanto
Secretary General
Indonesia National Energy Council (DEN)

SPEAKERS

Ahmad Mukhlis F
DPhil at The University of Oxford & Faculty Member at Ocean Engineering Program, Bandung Institute of Technology

Frits Bliek
Chief Executive Officer
Ocean Grazer B.V.

MODERATOR

Raymon Frediansyah
Chairman, IA-ITB Netherlands Chapter

PANELISTS

Erwandi
Research Engineer, Technology Center for Maritime Industrial Engineering, Agency for the Assessment and Application of Technology (BPPT)

Prof. Mukhtasor
Chairman, Indonesian Ocean Energy Association (ASELI)

THE 2ND WEBINAR

Ocean Battery as an Energy Storage for Security of Supply

This 2nd INTPF webinar focused on ocean energy and the potential of using ocean battery as an energy storage for security of supply. The Ministry of Energy and Mineral Resources (MEMR) has identified at least 417,8 GW renewable energy resources, of which only 2.5% are utilized. This number consists of marine, geothermal, bioenergy, wind, hydro and solar. There are three types of marine energy potential as renewable energy that can be utilized, such as ocean waves, ocean currents and ocean thermal (OTEC). Currently, ocean energy development in Indonesia is still in research and development stage, some of them were developed in project scales such as; Oscillating Water Column (OWC) in the southern waters of Enggano, Ocean Thermal Energy Conversion (OTEC) in North Bali Waters and a feasibility study on the technology of ocean currents in the Alas Strait, Sape Strait. During the study, it showed that marine current turbines have a lot of problems in technical and social economics. For instance, in the implementation of an installation of ocean renewable energy, without support from maritime policy it will be very expensive.

Webinar Link: https://www.youtube.com/watch?v=S42Kgz1gktM

THE 2ND WEBINAR

When talking about energy, it also means availability, accessibility, ability and sustainability. The problem is not only the electricity, but also the fuel. When speaking about renewable energy, one of the concerns is the risk of increasing the tariff, making it less affordable for Indonesian, and also the ability of the national budget. We need a good approach in flipping energy interrupting renewable energy and ocean power. Another concern is that Indonesia has a lot of "renewable" regulations, which means that they have a lot of regulations and are changing rapidly.

Around the globe, offshore wind turbines have become the cheapest and popular source of power generation. But wind power in this case is not really matching the demand curve because of the dependency on the weather conditions. There is a shorter moment when there is a deficit of power supply and there is also oversupply. For instance, In Europe, the generation capacity of wind and solar power have already become so huge, that at some point oversupply occurs, then we will see that the energy process will become negative at the market. With this oversupply, there are a few options so we could export it outside to neighboring areas. In the case of Indonesia how could export it properly to other islands of the country and another option is going to energy storage. Combination of wind and storage energy is a hybrid solution.

To look into the potential of ocean power value, there are many intermittencies also in the wave and tidal energy and we need a shape to stabilize that output to provide continuous supply to the end users in the system. For Indonesia, there is an option to build a much more distributed power system and look into a specific solution for the involvement of

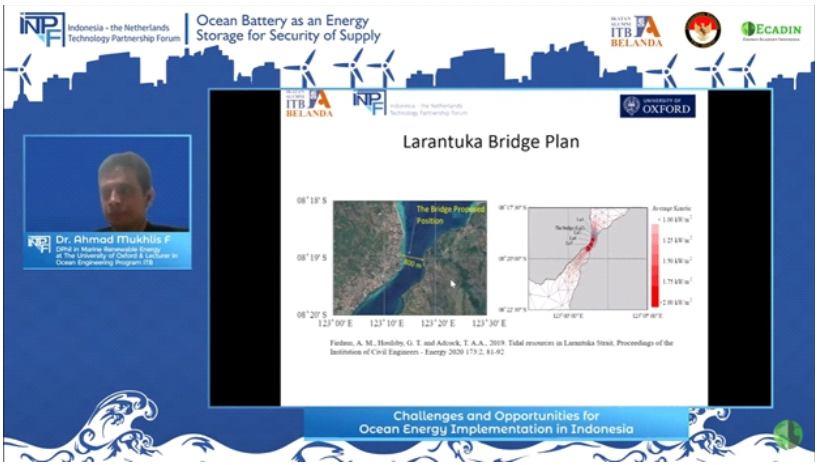
remote areas. 17,000 islands in Indonesia have been electrified in a very limited way or even not electrified. Building energy storage systems in between could actually start generating local power and can ensure that there is also overnight energy supply. Therefore, this can be an alternative that could be approached rather than having to build a very capital-intensive high focus grid and just try to get it economic. This local solution also meets the local conditions for Indonesia and there is also an opportunity to start local production for the main component and create local jobs and it has very eco friendly results.

THE 2ND WEBINAR

SUMMARY OF DISCUSSION

- The development of Indonesia's ocean energy resources is still undergoing and requires partnerships with private sectors and international parties in its exploration. The Government's intervention, especially related to tariff and regulation aspects, is imperative to realize the investment in the ocean energy sector.
- Ocean batteries can be the solution for environmentally friendly and efficient offshore storage. Additionally, by not overburdening the current grid and being manufactured locally, ocean batteries can also act as a more affordable energy storage solution.
- The development of renewable energy needs to consider several aspects, including availability, accessibility, and affordability. The last aspect is the main challenge of renewable energy development in Indonesia.
- The development of renewable energy, including ocean energy projects, needs to consider the situation locally to avoid any constraints due to the technological gap with the local culture and knowledge. The balance between technology implementation and local people's empowerment is imperative. Additionally, the technology used must be environmentally friendly and not interfere with the surrounding oceanic ecosystem.


Indonesia - the Netherlands Technology Partnership Forum
Ocean Battery as an Energy Storage for Security of Supply
ITB BELANDA
ECADIN
OCEAN GRAZER
Dr. Frits Bliek
Chief Executive Officer, Ocean Grazer B.V.
Advantages of Ocean Battery for Indonesia
Reliable solution to stabilize grid with high share of intermittent energy sources from wind, wave and solar
Prevent capital intense (offshore) high voltage grid investments / expansions
Low cost solution suited for local conditions
Local Production of main components (local jobs)
Eco-friendly without use of scarce materials
The Role and Importance of Ocean Battery and Energy Storage Technology
1:37:46 / 2:24:30


Indonesia - the Netherlands Technology Partnership Forum
Ocean Battery as an Energy Storage for Security of Supply
ITB BELANDA
ECADIN
Dr. Ahmad Mukhlis F
Larantuka Bridge Plan
The Bridge Proposed Position
08° 18' S
08° 19' S
08° 20' S
123° 09' E
123° 10' E
123° 20' E
123° 30' E
Challenges and Opportunities for Ocean Energy Implementation in Indonesia

THE 2ND WEBINAR

STAKEHOLDERS

Dewan Energi Nasional (DEN)

DEN is Indonesian National Energy Council who formulates national energy policy and roadmap.
www.den.go.id

Ocean Grazer

Ocean Grazer is a Dutch start-up and a spinoff from the University of Groningen who develops Ocean Battery.
www.oceangrazer.com

Bandung Institute of Technology (ITB)

ITB is technical university in Indonesia.
www.itb.ac.id

Agency for the Assessment and Application of Technology (BPPT)

BPPT is an Indonesian government research institute, which has the tasks of carrying out government duties in the field of assessment and application of technology.
www.bppt.go.id

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IKATAN ALUMNI ITB BELANDA

ECADIN
ENERGY ACADEMY INDONESIA

INTPF Webinar Series #03

FRI 09 JULY
10-12 CEST
15-17 WIB

Register Now!
partnership.iaitb.nl

Electric Vehicle (EV) Charging: A Tale of Two Countries

MODERATOR

SPEAKERS

Meutia Kusprameswari-Roijmans
Market Advisor at Shell, the Netherlands

Sonja Munnix
Senior Advisor Electric Mobility at Netherlands Enterprise Agency (RVO), the Netherlands

Carlos M. Rozo
Regional Director, New Markets at EVBox Group, the Netherlands

Rida Mulyana
Director General for Electricity at Ministry of Energy and Mineral Resources (Kementerian ESDM), Indonesia

THE 3RD WEBINAR

Electric Vehicle (EV) Charging: A Tale of Two Countries

In the past ten years, the Netherlands has succeeded building its electric vehicle (EV) industry into one of the largest in Europe. Data taken from Dutch Road Admission Authority show that there are at least 300,000 EV passenger cars in the Netherlands by May 2021.

Meanwhile, Indonesia is still in the early stages of building the domestic EV industry. Throughout the issuance of a number of policies, the Indonesian government sets their sights to be new hubs for EVs, especially for the Association of Southeast Asian Nation (ASEAN) region.

Webinar Link: https://www.youtube.com/watch?v=jNbRbubzLIc&t

THE 3RD WEBINAR

In this 3rd series of INTPF, we tried to provide a discussion event for the two countries - the Netherlands and Indonesia - to share the current situation of their respective domestic EVs industry. Ultimately, the goal is for the Indonesian government to gather the lessons learned from the Netherlands in shaping their Dutch EVs industry to what it is today, and to repeat that success in Indonesia.

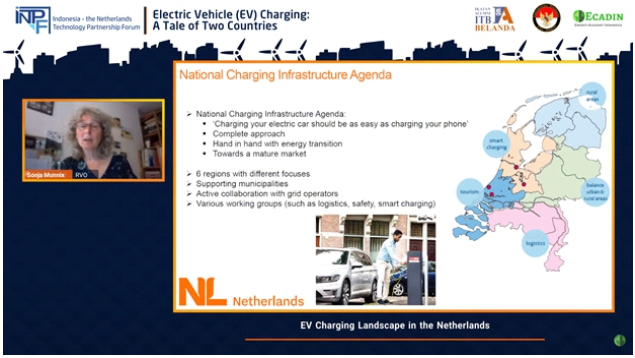
The session was organized in a so-called "webtalk" format. A moderated webtalk based on a storyboard within a two-hour session was chosen to ensure both parties could learn from each other openly, as well as have enough time to engage with the audience. From the Netherlands, two panellists with different backgrounds (a policymaker and a technopreneur) presented their views, starting from the EV charging facts and figures to how the policy or technology reaches the customers. Following that, the panellist from Indonesia, a top-ranked government officer, gave an outlook of EV charging penetration in Indonesia.

SUMMARY OF DISCUSSION

- In the Netherlands, there are 300,620 registered electric vehicles, which are supported by 74,052 charging points throughout the country. The Netherlands government's policy-related e-Mobility is part of the National Charging Infrastructure Agenda. Based on the experiences in the Netherlands, it is imperative to ensure the availability of a strong leadership and government's influence to encourage the procurement and use of electric vehicles, promote public-private partnerships, and provide supporting infrastructure, such as the interoperability aspect.
- It is important to have a comprehensive EV charging infrastructure, including to understand the global policy of e-mobility. In the EU, green deal and CO2 restriction policies are the starting points to increase the number of electric vehicles over a long period. To do so, the EU government provides incentives, both for the electric vehicle and their infrastructure, such as charging ports. This infrastructure policy has to be target-oriented, market-oriented (where to install the EV charging spot), future proof (to consider the electric grid capacity and usable for different types of vehicles), and driver-friendly (standardized both for hardware, pricing, and own open data model).
- In 2030, Indonesia is targeting 2 million electric vehicles and 13 million electric motorcycles. To support the vision, the government issues the Ministerial Decree ESDM No. 13 of 2020 as the legal basis for the public electric charging station (SPKLU) and the public electric vehicle battery exchange station (SPBKLU). Furthermore, the decree also governs the regulations on electricity, prices, standardization, and the safety of electricity for SPKLU and SPBKLU.

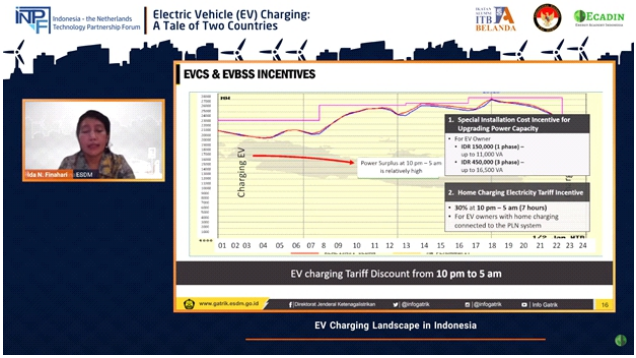
THE 3RD WEBINAR

- Government policy and incentive is needed to ensure the industries invest in electric vehicles and the infrastructure.
- In Indonesia, an electric vehicle is still categorized as a luxury good. Therefore, the Indonesian people still prefer to use a conventional vehicle. Government can utilize Indonesia's abundant nickel reserve to manufacture electric vehicle batteries and suppress the price. This is an opportunity for Indonesia as the key player of battery manufacture for an electric vehicle within the region.
- It is important to balance the growth of EV charging infrastructure in the long-term with the increasing number of electric vehicles. Private use is still the most potential market. Therefore, there is a need to provide an incentive to encourage electric vehicle adoption within society. An example of this is a tax incentive for the consumer.




Indonesia - the Netherlands Technology Partnership Forum
Electric Vehicle (EV) Charging: A Tale of Two Countries
ECADIN
Meutia Kusprameswari-Roijmans IAITB-NL
Sonja Munnix RVO
Ida N. Finahari ESDM
Koen Noyens EVBox


ECADIN
Intelligent charging management software
Comprehensive support and services
Impact of Policy in EV Charging Business in the Netherlands


Indonesia - the Netherlands Technology Partnership Forum
Electric Vehicle (EV) Charging: A Tale of Two Countries
ECADIN
Ida N. Finahari - ESDM
EVCS & EVBSS INCENTIVES
Charging EV
Power Surplus at 10 pm – 5 am is relatively high
1. Special Installation Cost Incentive for Upgrading Power Capacity
2. Home Charging Electricity Tariff Incentive
EV charging Tariff Discount from 10 pm to 5 am
EV Charging Landscape in Indonesia

THE 3RD WEBINAR

STAKEHOLDERS

Rijksdienst voor Ondernemend Nederland

Netherlands Enterprise Agency (RVO)

RVO is a Dutch government agency to facilitate entrepreneurship, improve collaborations, strengthen positions and help with funding, networking, laws and regulations.
www.rvo.nl

EVBOX

EVBox Group

EVBox manufactures and distributes electric vehicle (EV) charging stations and charging management software.
www.evbox.com

Ministry of Energy and Mineral Resources

Indonesian ministry who is responsible for providing assistance in the field of energy and mineral resources.
www.esdm.go.id

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Indonesia - The Netherlands Technology Partnership Forum

INTPF Webinar Series #04

SAT 11 SEPT
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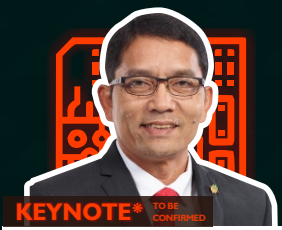
Immersion Cooling Technology: Towards Greener & More Energy Efficient Data Center



KEYNOTE* TO BE CONFIRMED

Dadan Kusdiana

Director General of New Energy, Renewable, and Energy Conversion, Ministry of Energy and Mineral Resources, Republic Indonesia

SPEAKER

Marco Cioffi

Director of Operations, PT DCI Indonesia (Tbk)

SPEAKER

Maikel Bouricius

Business Development Manager, Asperitas

MODERATOR

M. Faris Naufal Austen

Data Center Specialist

SPEAKER

Patrick Chan

Vice President of South Asia, Uptime Institute

THE 4TH WEBINAR

Immersion Cooling Technology: Towards Greener & More Energy Efficient Data Center

The 4th INTPF webinar focused on the theme: "Immersion Cooling Technology: Towards Greener and More Energy Efficient Data Center". The growth rate of data centers in 2021 is approximately 18.3% and will keep growing 21% annually in near future. On the other hand, the cooling process is the largest portion of data center operation. Therefore innovation in data center cooling technology will contribute to a greater energy conservation.

The relevance of this topic in the context of energy conservation is to help reduce carbon footprint and lower CO2 emission. This webinar aimed at stimulating further discussion, sharing the knowledge, and promoting partnership opportunities on data center energy efficiency technology.

Webinar Link: https://www.youtube.com/watch?v=YeE6oexmDho

THE 4TH WEBINAR

Moderated by Muhamad Faris Naufal Austen (data center expert), the event was opened by the keynote speech from Harris Yahya (Ministry of Energy and Mineral Resources Indonesia) presenting The Indonesian Roadmap of Energy Efficiency.

As the speaker of the panel discussion session, Marco Cioffi (Director of Operations, PT DCI Indonesia) addressed the needs of data centers in Indonesia and the urgency of energy efficiency initiative through data center cooling technology. Meanwhile, Maikel Bouricius (Business

Development Manager, Asperitas) shared his experience on technology implementation for data center cooling, primarily immersion cooling technology and its opportunities and challenges for its implementation in Indonesia.

SUMMARY OF DISCUSSION

- Globally, the growing number of data centers in 2021 has reached up to 18,3% compared to the previous year and is predicted to grow further up to 21% yearly. On the other hand, the cooling process of the data center uses electric energy up to 43% of the total data center operational energy. This process contributes up to 1% of the total global energy. The immersion cooling technology is relevant because the data center's cooling technology is getting more efficient and will reduce the carbon footprint and CO2 emission.
- The immersion computing technology claimed to reduce 50% energy footprint and 80% physical (space) footprint. Furthermore, this technology can increase 40% of CPU performance and 99% of the saved energy can be reused for the water heater.
- The demand of data center in Indonesia is increasing due to the rapid development of digital economy. In this regard, the immersion cooling technology should be explored in parallel, to create a more efficient and environmental friendly data center.

THE 4TH WEBINAR

STAKEHOLDERS

PT. DCI Indonesia

DCI is a business enabler by providing a reliable, carrier-neutral, and global standard data center infrastructure services in Indonesia.
www.dci-indonesia.com

Asperitas

Asperitas is a clean and high-tech company that provides cutting edge immersion cooling solutions for data center.
www.asperitas.com

Uptime Institute

Uptime Institute is the Standard bearer for Digital Infrastructure performance.
www.uptimeinstitute.com

Ministry of Energy and Mineral Resources

Indonesian ministry who is responsible for providing assistance in the field of energy and mineral resources.
www.esdm.go.id

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INTPF Webinar Series #05

TUE
14
DEC

10-12 CET
16-18 WIB

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Carbon Tax & Trading System: Can It Help to Reduce Emissions?

OPENING REMARKS

H. E. Mayerfas

the Ambassador of the Republic of Indonesia to the Kingdom of the Netherlands

SPEAKER

Paul van Baal

Senior Policy Advisor, Ministry of Economic Affairs and Climate Policy, the Netherlands

SPEAKER

Dian Lestari

Director of the Center for Climate Finance and Multilateral Policy, Ministry of Finance, Indonesia

MODERATOR

Meutia Kusprameswari Roijmans

IAI-TB Netherlands Chapter

SPEAKER

Richard Middel

Manager Strategic Business Development, Groningen Seaports, the Netherlands

SPEAKER

Yusuf Didi Setiarto

Director of Human Resources Management, PLN (state-owned electricity company), Indonesia

THE 5TH WEBINAR

Carbon Tax & Trading System: Can It Help to Reduce Emissions?

The background and context for this closing webinar of this year is the Netherlands Industry Carbon Tax Act (Wet CO2-heffing industrie) that entered into force on January 1, 2021 with a carbon tax rate of EUR30 (US$35.24)/tCO2e (including ETS price). The policy is one of the two initiatives related to national-level carbon pricing proposed under the National Climate Agreement presented by the Dutch government in June 2019.

The policy aims at safeguarding a reduction of industrial GHG emissions of 14.3 MtCO2e in 2030. It is targeted at industrial installations subject to the EU ETS, waste incinerators and facilities emitting large amounts of nitrous oxide, that are not covered under the EU ETS. The measure will be applicable to 235 companies with 284 installations. This carbon tax comes on top of their compliance obligations in the EU ETS).

Webinar Link: https://www.youtube.com/watch?v=OT0i4n3J3rU

THE 5TH WEBINAR

This final webinar series addresses the carbon tax and trading system, with three key objectives: First, to understand the objectives of the Netherlands Industry Carbon Tax and how it works in conjunction with EU ETS. Second, to understand lessons-learned from the Netherlands Industry Carbon Tax implementation, such as e.g., what went well and what could be improved. Last, to understand the current status of Indonesia Carbon Tax and what can Indonesia learn from the Netherlands when it comes to Carbon tax implementation.

Several key questions are discussed such as, from the Dutch industry and policy makers perspective to EU ETS, How has this policy affected the industry so far and how industries changed the way they operate. While from Indonesia's perspective, who just plan to implement the carbon tax system next year, we elaborate aspects of the new policy itself and how it can take lessons learned from the Dutch's experience in implementing this policy.

NOTE

This event was held after the booklet had been made and printed (for the purpose of the booklet launch that was held at the same time of this last webinar). No summary of discussions were yet available at the time of printing (to be updated in the next version of this booklet).

THE 5TH WEBINAR

STAKEHOLDERS

Ministerie van Economische Zaken en Klimaat

Ministry of Economic Affairs and Climate Policy

Dutch government ministry.
www.rijksoverheid.nl

KEMENTERIAN KEUANGAN
REPUBLIK INDONESIA

Ministry of Economy

Indonesian government ministry.
www.kemenkeu.go.id

GRONINGEN SEAPORTS

Groningen Seaports

Groningen Seaport is the economic operator and authority of the port of Delfzijl and Eemshaven and the adjoining industrial sites.
www.groningen-seaports.com

PLN

PLN is an Indonesian state owned company to carry out the business of providing electricity.
www.pln.co.id

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