

Building Sustainable Indonesia

Opportunities in Green Buildings, Solar and Energy Efficiency
(Webinar)

18 – 19 November 2020

Organised by:



In partnership with:



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Building Sustainable Indonesia: Opportunities in Green Buildings, Solar and Energy Efficiency

Organised under the auspices of the Sustainable Energy Centre of Excellence (SECOE), the Sustainable Energy Association of Singapore (SEAS) together with Enterprise Singapore organised the Building Sustainable Indonesia workshop on both 18 & 19 November 2020 from 10:00am - 1:15pm (GMT +8:00) Singapore Time via the Zoom platform. This programme is held in partnership with of Asosiasi Energi Surya Indonesia (AESI), Masyarakat Konservasi dan Efisiensi Energi Indonesia (MASKEEI) and Green Building Council Indonesia (GBCI) and provided an opportunity for participants to learn from the leading Indonesian Association speakers who discussed about the Indonesian market. 114 participants and speakers attended the 2-day event (See Annex 1). 56 connections were made introducing participants to speakers, representing the Singapore companies that participated during the webinar (see Annex 4). All Participants were satisfied with the programme and rated it satisfactory (7%) and the rest rated it (93%) good and excellent.

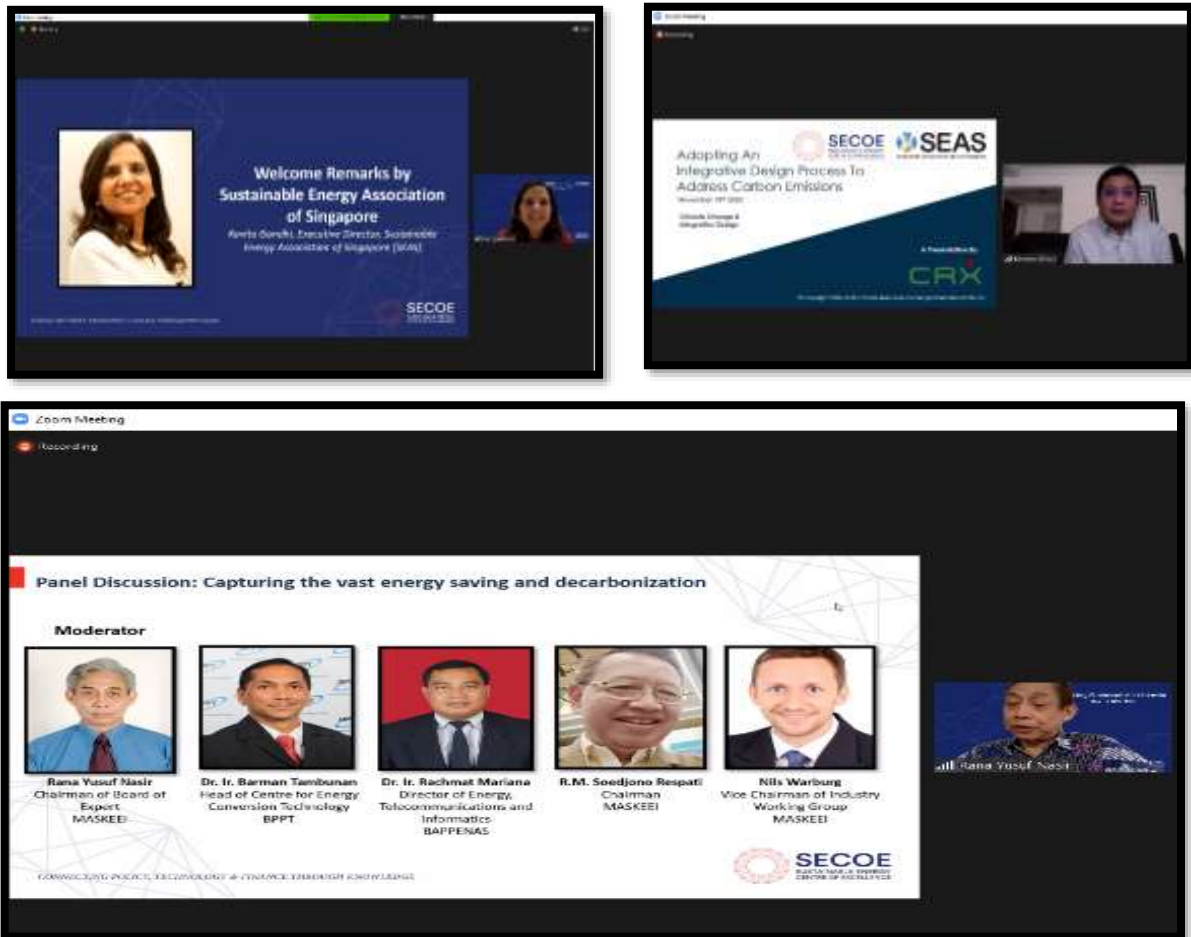


SEAS members survey showed that majority of the members wanted association support to access to new business opportunities. Clean energy champions from both Singapore and Indonesia helped to shine the light on Indonesian market in Energy Efficiency and Solar Photovoltaics.

The workshop discussed recent trends and opportunities for sustainable buildings and renewable energy in Indonesia. Speakers in the workshop covered the technical, policy and commercial aspects of these technologies and their adoption and highlighted the latest technologies, business models and best practices, with the Singapore industry stakeholders on case studies in implementation as well as sharing session from Indonesia's stakeholders on the sectors' landscape in Indonesia.

Summary of Day 1 Workshop: 18 November 2020

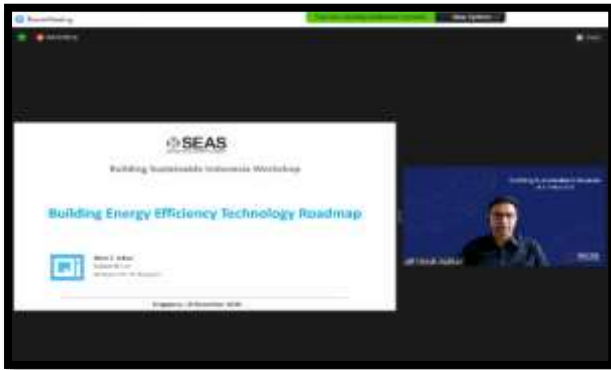
The workshop started with the opening remarks from the organisers, Enterprise Singapore and Sustainable Energy Association of Singapore. Khairul Anwar, Regional Group Director (Indonesia & International Planning Division) at Enterprise Singapore and Kavita Gandhi, Executive Director at Sustainable Energy Association of Singapore (SEAS) did the opening remarks respectively.



Vinod Kesava, the CEO at Climate Resources Exchange (CRX) opened the workshop with the Introduction to Climate Change. Vinod shared about the climate change strategy and the risks that it carries. Vinod ended off the presentation by sharing the importance of carbon profiling.

The first panel discussion of Day 1 covered on the topic of ‘*Capturing the vast energy saving and decarbonization*’. Moderated by Rana Yusuf Nasir, Chairman of Board of Expert at Masyarakat Konservasi dan Efisiensi Energi Indonesia (MASKEEI), panellists R.M. Soedjono Respati, Chairman of Masyarakat Konservasi dan Efisiensi Energi Indonesia (MASKEEI), Dr. Ir. Barman Tambunan, Head of Centre for Energy Conversion Technology of Badan Pengkajian dan Penerapan Teknologi (BPPT), Dr. Ir. Rachmat Mariana, Director of Electricity, Telecommunications and Informatics at National Development Planning Agency (BAPPENAS) and Nils Warburg, Vice Chairman of Industry Working Group at Masyarakat Konservasi dan Efisiensi Energi Indonesia (MASKEEI) shared their viewpoints of energy saving and decarbonization in their respective departments and fields. The moderator wrapped up the panel discussion by saying that the

technology for renewable energy and energy efficiency is very much present and it depends upon our passion to use these technologies to implement energy savings.



The next presentation was given by Nilesh Jadhav, Director at Qi Square Pte Ltd on Building Energy Efficiency Technology Roadmap. Nilesh shared about the R&D pathways to improving energy efficiency within the building stock via technology improvements and policy recommendations and the technological focus areas integral to building energy efficiency.



Vincent Low, Chairman of the Energy Efficiency Committee at SEAS and Vice-President at G-Energy Global Pte Ltd gave his insights on case studies on Energy Efficiency in Buildings where he highlighted the importance of implementing energy efficiency savings to save costs. Vincent shared various successful projects done in Indonesia to cater to the Indonesian counterparts.

Following Vincent’s presentation was Vinod Kesava, CEO at Climate Resources Exchange (CRX)’s presentation on his case studies on Adopting an Integrative Design Process to Address Carbon Emissions. Vinod shared with the participants on how to improve knowledge on real, long-term and measurable sustainability, how to stay relevant and competitive, in the local and global context and develop meaningful action plans moving forward for COP26 to be held in Glasgow in Nov/Dec 2021.

Day 1’s workshop ended with the final panel session on ‘Green and sustainable energy building’. The panel session was moderated by Rana Yusuf Nasir, Chairman of Board of Expert at Masyarakat Konservasi dan Efisiensi Energi Indonesia (MASKEEI) and had panellists Iwan Prijanto, Chairman of Green Building Council Indonesia (GBCI) and Totok Sulistiyanto, Vice-Chairman of Masyarakat Konservasi dan Efisiensi Energi Indonesia (MASKEEI) / Supervisory Board of Green Building Council Indonesia (GBCI). Panellists gave their inputs on their thoughts about the challenges and how Indonesia can work towards more green and sustainable energy buildings. The moderator closed the panel discussion by saying that there is a big potential of energy efficiency in the building sector and building sector is a dominant sector, especially on the demand side and lastly, that the building sector is a “sleeping giant” and government intervention is needed in terms of regulations, incentives and financial infrastructure.

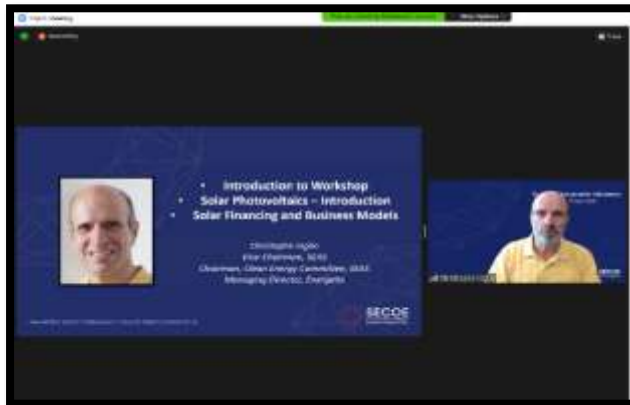


Summary of Day 2 Workshop: 19 November 2020



Day 2 workshop was opened by Yeoh Choon Jin, Director, Urban Solutions at Enterprise Singapore. Choon Jin thanked participants for joining in Day 2 of the workshop and shared that the focus for day 2 of the workshop would be on the technical, policy and commercial aspects of Solar projects. Choon Jin wrapped up his opening remarks by saying that he hoped that by the end of the workshop, participants will be able to learn more about the latest technologies, business models and market opportunities for solar solutions in Singapore

and Indonesia, understand the regulation and policies for clean energy in Indonesia and Singapore and gain insights on how to overcome the challenges of developing solar projects.

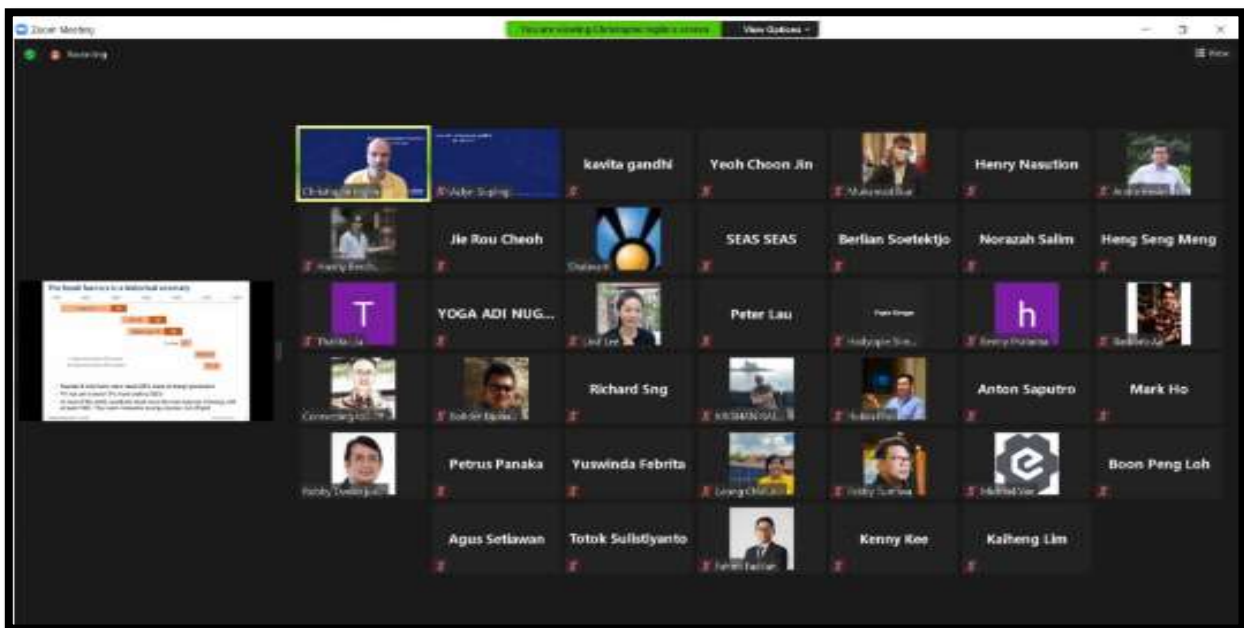
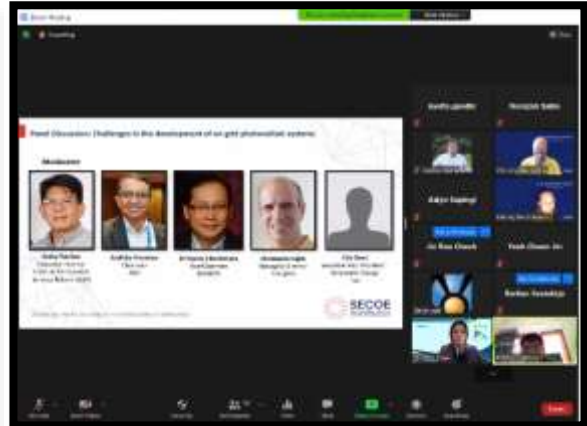


Christophe Inglin, Vice-Chairman at SEAS, Chairman for the Clean Energy Committee at SEAS and Managing Director at Energetix kicked-off the workshop with the Introduction to Solar Photovoltaics where he went through the topics of comparing PV technologies and deciding what is suitable for the city, due diligence on PV manufacturers and integration of RE into the grid. Christophe follow-ed up with his next presentation on Solar Financing and Business Models where he spoke about

Calculating PV energy yield and simple payback periods, how new technology enables new business model and some examples on PV business innovations.

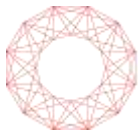
The next presentation was done by Andre Kevin, Head of Operations at Canopy Power Pte Ltd. Andre presented on a case study of remote island PV-diesel-battery microgrid project where he brought the participants throughout its life cycle, from initial conception to detailed engineering design, procurement, construction, commissioning and operations. Andre also shared about a how Canopy Power implemented a remote microgrid energy management system, that resulted in improved operational efficiencies and increased service levels.

Day 2 was wrapped up with a panel discussion on '*Challenges in the development of on-grid photovoltaic systems*'. This panel session was moderated by Fabby Tumiwa, Executive Director of Institute for Essential Services Reform (IESR) with panellists Andhika Prastawa, Chairman of Asosiasi Energi Surya Indonesia (AESI), Dr Hanny J Berchmans, Vice-Chairman of Masyarakat Konservasi dan Efisiensi Energi Indonesia (MASKEEI), Christophe Inglin, Managing Director at Energetix and Cita Dewi, Executive Vice President – Renewable Energy at PLN. Panellists spoke about the various challenges they faced in their respective organisations on the development of on-grid pv systems and the moderator ended the session by saying that challenges will always be there and it is how we look at changing these challenges into opportunities where it needs leadership from the government bodies as they are the policy makers and that signs are positive for the solar development in Indonesia.



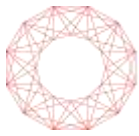
Annex 1: Attendance of Day 1 & Day 2 Building Sustainable Indonesia Workshop

First Name	Last Name	Company	Position	Category
David	Finneren	Proven Force Indonesia	Director	Participants
Ilyas	Taufiqurrohman	Narama Mandiri	Green Building Consultant	Participants
Muhammad	Ilhamsjah	Smart Chiller Systems PT	Business Development	Participants
Parlindungan	Purba	Universitas Sari Mutiara Indonesia	Chairman	Participants
Ichfan	Kurniawan	GBC Indonesia (Green Building Council Indonesia) Indonesia	Development	Participants
Singgih Widyanto	Mukti	PT Energy Management Indonesia (Persero)	Marketing Executive	Participants
Savitra Perdana	Satibi	Green Building Council Indonesia (GBCI)	Rating Development Manager	Participants
Leon	Tan	PT. Gand Indonesia	Director	Participants
Krishnan	Ralhan	Kaltimex Group	Group Chairman	Participants
Irwan	Sendjaja	BOMA Indonesia	President	Participants
Anton	Wahjosoedibjo	MASKEEI	Member of the Board of Advisors	Participants
Fendi	Liem	PT Selaras Daya Utama	CEO	Participants
Sendy	Sulwyn	SSIA	Business Development Analyst	Participants
Girish	Pawar	Ciot Energy Pte Ltd	DIRECTOR	Participants
Peter	Lau	SDCL Asia	Director	Participants
Jean-Philippe	Filhol	Tialoc Singapore Pte Ltd	Strategy & Business Development Manager	Participants
Jhee Son	Koh	BDP Architecture South East Asia	Architect Assistant	Participants
Robin	Pho	Right People Renewable Energy (RPRE)	CEO	Participants
Leong Chia	Jang	Right People Renewable Energy	Business Development Manager	Participants
Richard	Supriyadi	Rosatom Asia Pte Ltd	Deputy Director	Participants
Boon Peng	Loh	Hassell	Senior Associate	Participants
Balqis	Afifah	PT Airkon Pratama	Engineer	Participants
Heng	Seng Meng	ITE College East	Section Head	Participants
Albert	Iskandar	Immanuel Christian Hospital	GA Dept. Head	Participants
Agus	Eka	GBCI	Manager	Participants



Mufti	Indra Pamungkas	OJK	Analyst	Participants
Nazrul	Effendy	Integrated, Smart and Green Building (INSGREEB), Universitas Gadjah Mada	Associate Professor	Participants
Zasqi	Nur Fauzan	PT. BINA KARYA (PERSERO)	Engineer	Participants
Salim	Janto	Artha Mega Perkasa	Director	Participants
Muhamad	Nur	PT. Ciriayasa EC, Jakarta	Coordinator of Construction	Participants
Zaenal	Abidin	pt. Metakom Sarana Pranata	Director	Participants
Vidi	Papare	CV. Biak Design Engineering	president director	Participants
Agus	Setiawan	PT. Aska Mulia Anopama	Director	Participants
Deddy Purnomo	Retno	Universitas Islam Riau	Senior Lecturer	Participants
Dwijo	Rahayu	Pt. Arsir Cendrawasih Consultant	Director	Participants
Wayan	Sri Kristinayanti	Bali State Polytechnic	Lecturer	Participants
Phebe	valencia	Universitas Pelita Harapan	Lecturer	Participants
Stefan	Baumann	PT Mantra Bali	Project Manager	Participants
Kenny	Kee	Sembcorp Solar Singapore Pte Ltd	Manager	Participants
Benny	Pratama	Pakuwon Sentosa Abadi, PT	Ast. Manager Purchasing	Participants
Lina	Lee	Durapower Technology (Singapore) Pte Ltd	Executive Director	Participants
Danny	Raharto	PT ATW Solar	Business Development Manager	Participants
Adiantanti	Syahrani	Bappeda Tangerang Selatan	staf pelaksana bidang fisik dan prasarana	Participants
Thalita	Kumala	Universitas Gadjah Mada	Master Student	Participants
Yoga	Adi Nugroho	Universitas Gadjah Mada	Student	Participants
Erly	Pardede	Wijaya Karya Bangunan Gedung	Architect	Participants
Fajar	Dewi	PT ReKayasa Industri	New Investment Specialist	Participants
stephanus christo	probojati	Hochschule Düsseldorf	Student	Participants
Doniberatus	Imantoro	Akr Corporindo	LNG Business Development	Participants
Fajar	Bariato	Hassell	Senior Architect	Participants
Petrus	Panaka	HAKE	Technial manager	Participants
Irfan Aditya	Arifin	PT Karya Energi Indonesia	APROVIS Representative	Participants

Hadyopie	Siregar	PT Perkebunan Nusantara	Business Strategy and Sustainability	Participants
David	Tan	Eco Energy Pte Ltd	General Manager	Participants
Leonardo	Alexander Renus Pane	PT Perkebunan Nusantara	VP Business Development & Downstream Strategy	Participants
Adhi	Dharma	PT Bangunbersama Indonesia Gemilang	Operational Manager	Participants
Baskoro	Aji	PT. Indofood Sukses Makmur Tbk, Bogasari Division	Section Head Energy Management System & Sustainability	Participants
Jon	Respati	MASKEEI	Chairman	Participants
Rudi	Irawan	Universitas Gunadarma	Lecturer	Participants
Yanto	Sianipar	PEN Consulting	President Director	Participants
Richard	Sng	Arena	Director	Participants
Sunil	Yadav	Siemens Pte Ltd	Regional Head, Energy	Participants
Anton	saputro	PT. Indofood Sukses Makmur Tbk, Bogasari Division	Jr Manager	Participants
jarot	prasetyo	PT Sarana Hijau Lestari	engineer	Participants
Tedy	Harsanto	PT. Sarana Hijau Lestari	Sustainable Design Engineer	Participants
Tito	Aribowo	GBC Indonesia	Program Development Manager	Participants
Donald	Wisbar	PT. Indofood Sukses Makmur Tbk, Bogasari Division	energy manager	Participants
Fahmi	Fadilah	Ministry of state owned enterprises	Business Analyst	Participants
Euis	Djubaedah	BPPT		Participants
Ira	Fitriyani	-		Participants
Daryanto	Marbun	-		Participants
Prayit	Koenmiriyanto	-		Participants
Djohari	Tatang	Pakuwon Group	Corporate GM Engineering	Participants
Jan	Yeo	Nippon Koei Co. Ltd	Business Development	Participants
Michael	Yiin	TrinityEco	Founder	Participants
Bayuaji	Kencana	Tetra Tech	Project Manager	Participants
Jason	Lim	PT Summarecon Agung Tbk	Director	Participants
Mendi	Siahandan	Eco Mantra	Project Manager	Participants
Henry	Nasution	Swiss German University	Lecturer/Researcher	Participants
Syarifah Ismailiyah	Al Athas	Universitas Islam Indonesia	Lecturer	Participants
Tri Wibowo	Caesariadi	Universitas Tanjungpura	Lecturer	Participants
Anindita	Dini P.	DKI Jakarta Provincial Government	Staff	Participants
Yuswinda	Febrita	ULM	lecturer	Participants
Rafi	R	KBUMN	Pengendali Sub Kelompok	Participants



Qabila	Zulimar	Provincial Public Housing & Settlement Agency	Planner	Participants
Mada	Habsari	Enertec Mitra Solusi	Managing Director	Participants
Dr. Ir. Ngakan Ketut Acwin	Dwijendra	-		Participants
Robby	Dwiko juliardi	-		Participants
Sakura	Yamasaki	Singapore Solar Exchange		Participants
M. Ikhsan	Asaad	PLN		Participants
Bazar	Asmawi	-		Participants
Ayu	Marlina	Univ Tridinanti		Participants
Bahder	Djohan Ketua Prodi T. Sipil	-		Participants
Eric	Lau	V-Flow Tech Pte Ltd		Participants
Ardista Laras	Hapsari	-		Participants
Khairul	Anwar	Enterprise Singapore	Regional Group Director (Indonesia & International Planning Division)	Speakers
Kavita	Gandhi	Sustainable Energy Association of Singapore	Executive Director	Speakers
Vinod	Kesava	Climate Resources Exchange (CRX)	CEO	Speakers
R.M. Soedjono	Respati	MASKEEI	Chairman	Speakers
Barman	Tambunan	BPPT	Head of Centre for Energy Conversion Technology	Speakers
Rachmat	Mariana	BAPPENAS	Director of Energy, Telecommunications and Informatics	Speakers
Nils	Warburg	MASKEEI	Vice Chairman of Industry Working Group	Speakers
Rana	Yusuf Nasir	MASKEEI	Chairman of Board of Expert	Speakers
Nilesh	Jadhav	Qi Square	Founder & CEO	Speakers
Vincent	Low	G-Energy Global	Vice-President	Speakers
Iwan	Prijanto	Green Building Council Indonesia (GBCI)	Chairman	Speakers
Totok	Sulistiyanto	MASKEEI	Vice Chair	Speakers
Choon Jin	Yeoh	Enterprise Singapore	Director, Urban Solutions	Speakers
Christophe Inglin	Inglin	Energetix Pte Ltd	Managing Director	Speakers
Andre	Kevin	Canopy Power Pte Ltd	Manager, Operations	Speakers
Andhika	Prastawa	AESI	Chairman	Speakers
Hanny	J Berchmans	MASKEEI	Vice-Chairman	Speakers
Cita	Dewi	Mega Project, PLN	Executive Vice Presidet	Speakers
Fabby	Tumiwa	Institute for Essential Services Reform (IESR)	Vice-Chairman	Speakers

Annex 2: Pre-event Survey Report

Building Sustainable Indonesia Workshop
November 18 & 19 2020, 10:00am - 1:15pm

1	What would you like to achieve from this event?	%
	Understand the market opportunities for solar, green buildings and energy efficiency solutions in Singapore and Indonesia	69%
	Understand the regulation and policies for clean energy in Indonesia and Singapore	73%
	Learn more about the latest technologies across solar, green buildings and energy efficiency in Singapore and Indonesia	83%
	Other	7%
2	What kind of partners are you looking for?	
	Technology Partners	65%
	Financiers	30%
	Project Developers	57%
	Other	13%
3	What is the preferred modality of partnerships?	
	Joint Venture Partnership	49%
	Co-Investment Partner	33%
	Sales	28%
	Distributorship	27%
	Other	23%

Annex 3: Feedback Poll Report

Building Sustainable Indonesia Workshop
November 18 & 19 2020, 10:00am - 1:15pm

1	The workshop has achieved its stated objectives	%
	Yes	95%
	No	5%
2	Speakers have good knowledge and effective in communicating ideas and concepts	
	Absolutely	91%
	Can be improved	9%
3	Overall how will you rate this webinar?	
	Excellent	53%
	Good	40%
	Satisfactory	7%
	Poor	0%

Annex 4: Connections to Singapore Speakers

	Vinod Kesava - Climate Resources Exchange (CRX)	Nilesh Jadhav - Qi Square	Vincent Low - G-Energy Global	Christophe Inglin - Energetix	Andre Kevin - Canopy Power
Michael Yinn, TrinityEco	X	X	X	X	X
Savitra Perdana Satibi, Green Building Council Indonesia (GBCI)	X	X	X	X	X
David Finneren, Proven Force Indonesia	X	X	X	X	X
Leong Chia Jang, Right People Renewable Energy		X	X	X	X
Deddy Purnomo Retno, Universitas Islam Riau	X	X			
Thalita Liu, Universitas Gadjah Mada	X	X	X	X	X
Hanny Berchmans, MASKEEI	X	X	X	X	X
Yoga Adi Nugroho, Universitas Gadjah Mada		X		X	
Kavita Gandhi, SEAS	X	X	X	X	X
Singgih Widyanto Mukti, PT Energy Management Indonesia (Persero)			X		
Boon Peng Loh, Hassell	X	X	X	X	X
Vidi Papare, CV. Biak Design Engineering			X		
Jon Respati, MASKEEI			X		
Thalita Kumala, Universitas Gadjah Mada	X	X	X	X	X
Iwan Prijanto, GBCI	X		X		
Ilyas Taufiqurrohman, Narama Mandiri				X	X