



RISKS, THREATS & OPPORTUNITIES

2-DAY COURSE

MAY 8 - 9, 2018

Climate change is set to inflict "severe, widespread and irreversible impacts" on society and global ecosystems unless carbon emissions are cut rapidly according to the Intergovernmental Panel on Climate Change (IPCC). In its Fifth Assessment Report (AR5), the IPCC concluded that global warming is now "unequivocal" and that humanity's role is "clear". In December 2015 under the Paris Climate Agreement, the world agreed to pursue goals to limit the increase in global average temperature to well below 2°C, and to pursue efforts to limit the temperature increase to no more than 1.5°C to prevent what the United Nations refers to as "dangerous" man-made climate change. The principal cause of global warming is the release of carbon dioxide and other greenhouse gases from the combustion of fossil fuels, as well as human impacts on global ecosystems such as the forests and wetlands. Climate change mitigation and adaptation represents unprecedented financial and investment opportunities with respect to climate policy implementation, renewable energy sources and power delivery systems, as well as the development of resilient urban infrastructure.



A 2-day workshop to understand the science of climate change, and the implications of global warming for energy, food & health security. Climate change policy is explained in the context of the planet's climate history and the risks of not addressing climate change decisively by using available renewable energy.

The role of Climate-related Finance and Investment regarding energy efficiency, renewable energy technologies, carbon capture and storage and geoengineering in mitigating climate change will be covered with respect to the opportunities that now exist in the low-carbon energy market that will lead the world to a safer, cooler and more secure future.

Businesses are at the forefront of decisions, implementation and negotiation related to climate change. As both producers and consumers, they directly and significantly impact on the environment and society. Businesses will require a significant shift in the way they are conceived and operated. More specifically, changes to business models will be discussed as a fundamental approach to realize sustainability-led innovations through business examples.

Why The Workshop?

In December 2015 under the Paris Climate Agreement, the world agreed to pursue goals to limit the increase in global average temperature to well below 20° , and to pursue efforts to limit the temperature increase to no more than 1.50° to prevent what the United Nations refers to as "dangerous" man-made climate change.

The principal cause of global warming is the release of carbon dioxide and other greenhouse gases from the combustion of fossil fuels, as well as human impacts on global ecosystems such as the forests and wetlands. Climate change mitigation and adaptation represents unprecedented financial and investment opportunities with respect to climate policy implementation, renewable energy sources and power delivery systems, as well as the development of resilient urban infrastructure.

Who Can Attend?

- Climate, energy, and sustainability professionals
- Government representatives & policymakers
- Executives & practitioners
- Academia & individuals



Course Content:

Part 1:

The Earth, Sun & Climate Dynamics

Topics covered include: Planet Earth, the Sun and Climate change; the History of Climate Change; Atmospheric Temperature & Greenhouse Gases; the Earth's Energy Balance; Climate Feedback Mechanisms and Dynamics.

Part 2: The Anthropocene & Climate

Change Topics covered include: Living in the Anthropocene; Carbon Budgets & Risks; Climate Change in Southeast Asia; the Global Energy Supply; Carbon Capture & Sequestration; Geoengineering.

Part 3:

Climate Politics, Investment & Business Model Innovation

Topics covered include: The Changing Political Landscape on Greening the Economy; The Role of Climate Finance; Investment Risks & Opportunities in Low-Carbon, Green Developments; Needs and Opportunities for Sustainable Businesses, Business Model Archetypes, Value Innovation.

Part 4: Sustainability & Climate Change

Topics covered include: Urban Sustainability, Smart Cities: China and Singapore.







PROGRAME SCHEDULE

DAY 1		SESSION	TOPICS	
8:30 – 9:00	Registration			
9:30 – 10:30	PART 1 The Earth, the Sun & Climate Dynamics	Session 1: Planet Earth, the Sun and Climate	S1-1: Planet EarthS1-2: Climate Change & the SunS1-3: Earth's Climate HistoryS1-4: Temperature & Greenhouse Gases	
10:30 - 11:00		Tea break		
11:00 - 12:30		Session 2: Earth Energy Balance, Climate Feedbacks and Dynamics	 S2-1: Earth's Energy Balance S2-2: Climate Feedback Mechanisms S2-3: Climate & Ice Dynamics S2-4: Climate & Sea Level Change S2-5: Climate & Ocean Acidification 	
12:30 - 2:00		Lunch		
2:00 – 3:30	PART 2 The Anthropocene & Climate Change	Session 3: The Anthropocene, Carbon Budgets and SE Asia	S3-1: Living in the AnthropoceneS3-2: Carbon Budgets & RisksS3-3: Climate Change in Southeast Asia	
3:30 – 4:00		Tea break		
4:00 – 5:30		Session 4: Carbon Capture & Geoengineering	S4-1: Global Energy Supply S4-2: Carbon Capture & Sequestration S4-3: Geoengineering	

End – Day 1

DAY 2		SESSION	TOPICS	
8:45	Arrival			
9:30 – 10:30	PART 3	Session 5:	S5-1: The Changing Political Landscape	
	Climate Politics,	The Political Landscape,	and Greening the Economy.	
	Investment	Climate & Investment	S5-2: The Role of Climate Finance	
10:30 - 11:00		Tea break		
11:00 - 12:30		Session 6:	S6-1: Investment Risks & Opportunities in	
		Climate Finance &	Low-Carbon, Green Development.	
		Climate Change	S6-2: Needs and Opportunities for	
			Climate Finance	
12:30 – 2:00		Lunch		
2:00 – 3:30		Session 7:	S7-1: Business Model Innovation to	
		Business and Climate	Address Climate Change	
		Change		
3:30 – 4:00		Tea break		
4:00 - 5:00	PART 4	Session 8:	S8-1 <mark>: Sustainable, Smart Cities: China and</mark>	
	Sustainability &	Urban Sustainability &	Singapore	
	Climate Change	Climate Change		
		End – Day 2	ustainable smart cities	
	emerging economies			



GREEN SASA IN FUTURE



Prof Dr Jeff Obbard

ENVIRONMENTAL SCIENTIST, ECOLOGIST, AND ENTREPRENEUR

LEAD TRAINER

Prof. Dr Jeff Obbard is an environmental scientist, ecologist, environmental engineer, and entrepreneur. He holds a Ph.D. in Environmental science (chemistry & microbiology), and a B.Sc. (Honours) in Ecology (1st Class) from the UK. He spent 17 years at the Faculty of Engineering, National University of Singapore (NUS), and has recently returned from Qatar, where he was Director and Professor at the Environmental Science Centre, Qatar University.

During his time at NUS, Prof. Obbard was Director of the Sustainable Development & Water Alliance (SDWA) and Research Director at the Tropical Marine Science Institute (TMSI) at the National University of Singapore (NUS). In Singapore, he also held a joint-appointment with the Agency for Science Technology & Research (A*STAR) as Principal Scientist on its Bioenergy Program. On a two-year sabbatical from NUS, Prof. Obbard served as Vice President for Science & Technology at a Royal Dutch Shell Petroleum joint-venture company in Hawaii, USA to develop renewable low-carbon biofuels.

Prof. Obbard was an Expert Reviewer on climate and the global carbon cycle to the IPCC for itsAR5 report and was a team leader and recipient of the United Nations Mondialogo Engineering Award in support of the UN Millennium Development Goals. He has been recognized in Singapore as a Top 100 Global Sustainability Leader. Whilst at NUS, Prof. Obbard started a university spin-off company, AiRazor Technologies, as based on his research to provide low-cost protection against inhalation exposure from haze pollution in Singapore caused by tropical-land clearance and burning.

Prof. Obbard has taught extensively on climate change, ecology and earth systems science in Singapore, not only at NUS but also at the Singapore Environment Institute, National Environment Agency – and more widely in the ASEAN region for the Ministry of Foreign Affairs, Singapore. He is a double-recipient of the NUS 'University Teaching Excellence' award, and also a recipient of the 'Outstanding Mentor Award' from the Ministry of Education, Singapore. For the workshop, Prof. Obbard will be accompanied by specialists in Climate Geoengineering as well as Climate Finance and Investment for the 2-day workshop.







WORKSHOP TRAINERS



Dr Jason Blake Cohen

PROFESSOR, DEPARTMENT OF ATMOSPHERIC SCIENCES, SUN YAT-SEN UNIVERSITY, CHINA.

Dr. Jason Blake Cohen is currently a "Young Thousand Talent's" Professor at the Department of Atmospheric Sciences, Sun Yat-Sen University, Guangzhou, China. He graduated with a BA from UC Berkeley in Applied Mathematics and Geography, a MS from Caltech in Environmental Science, and an ScD from MIT in Climate Chemistry and Physics.

Dr. Cohen started working in Asia in 2010, where he worked at SMART and later the National University of Singapore (as an Assistant Professor). His research focuses to the use and development of models, integrating models with data, representation of non-linear processes such as urbanization and land-use change, and interactions between aerosols/Haze and the climate system.



Marion Vieweg

SENIOR CONSULTANT MITIGATION AND MRV, CURRENT FUTURE IN BERLIN

Marion is a senior consultant on energy and climate strategies at Current Future in Berlin, specializing in the analysis of energy and climate policy, mitigation options, climate finance and the link to sustainable development with 18 years of experience in climate policy.

Marion has worked as a consultant for Ecofys and Climate Analytics and as a program officer at the UNFCCC secretariat and has extensive experience in designing, monitoring and evaluating mitigation measures.

She is one of the lead authors of the WRI GHG Protocol Policy and Action Standard. Marion is also a member of the Expert Group on MRV of the GIZ Transfer Project on climate-friendly transport technologies and measures and of the Technical Working Groups for Transformational Change.



Dr. Sergio Ugarte

FOUNDING MEMBER & MANAGING DIRECTOR OF SQ CONSULT

Sergio is a Founding member and managing director of SQ Consult, a European-based consultancy focused sustainable, low carbon and climate resilient development. He has over 25 years of experience in sustainable energy, climate change, low-carbon strategies and green economy in the EU-28 and more than 50 developing countries across continents.

Sergio has focused his work in the design, implementation, monitoring and evaluation of public policies and funding instruments aiming to overcome market failures and investment barriers. He has occupied a variety of high level positions such as the global director of energy strategies at Ecofys and Vice Minister of Energy or Peru. He received his doctoral degree in engineering from Northeastern University in Boston.







WORKSHOP TRAINERS



Xueman Wang

COORDINATOR, GLOBAL PLATFORM FOR SUSTAINABLE CITIES (GPSC) SENIOR URBAN SPECIALIST

Xueman Wang - a senior urban expert, leads World Bank's Global Platform for Sustainable Cities (GPSC) and manages lending operations for urban infrastructure in China. She leads the World Bank report Chongqing 2040 and GPSC's Urban Sustainability Framework. She was one of the lead authors for the World Bank flagship report 2010 World Development Report -- "Development and Climate Change". Prior to joining the World Bank, she was with the United Nations Environment Program (UEP) in Montreal, Canada. Before that, she worked at the UN Climate Change Secretariat in Bonn. She was the member of Climate Change Council of the Global Agenda of the World Economic Forum (2012 to 2014).



Dr. Anna Itkin CO FOUNDER OF THE INCEPTERY

Anna is a co-founder of The Inceptery – a Singapore-based innovation practice focused on future oriented transformation and resilience. The Inceptery leads organisations and companies to co-create sustainability-based solutions to enable business growth with positive environmental and social impacts.

With a PhD in chemistry and biophysics, strong background in R&D, product development and innovation, Anna flourishes on solving challenges. Her interdisciplinary knowledge, transferable skills and deep evidence-based analysis brings a much needed rigour to the company's work. She currently uses science and a data-led methodologies to identify and develop sustainability-based opportunities for problem solving and organisational change.



Marisa Agrasut

DESIGN MANAGEMENT & INNOVATION CONSULTANT, THE INCEPTERY

Marisa's work focuses on innovation leadership. By externalising these processes she leads organisations to reimagine the opportunities for change and positive impact. She leverages new ideas and develops strategies by co-creating business value for large organisations, government, social enterprises/not-for- profits and SME's. Having led and managed programmes from research through to implementation across various industries, her experience is truly interdisciplinary. She helps businesses uncover insights and translates them into the tangible; to resonate and connect with their users. Of the entrepreneurial persuasion. in 2010 Marisa co-founded a reduced carbon, community, farm-focused enterprise with the 3P's at the very heart of the business model.





LEARNING OUTCOMES :

Participants will gain a thorough understanding of the science behind climate change and its dynamics in terms of the risks associated with a warming climate in the 21st Century. An understanding of earth system dynamics will provide the foundation for an understanding of the role of energy efficiency, renewable energy, carbon capture and storage, as well as economics in mitigating the risk of what the United Nations has referred to as "dangerous anthropogenic interference with the climate system." As such, the participant will be introduced to global climate protection policy, and the economic and developmental opportunities that exist to prevent the irreversible climate change.

TARGET AUDIENCE :

This course is targeted at professionals, government representatives and individuals who would benefit from a stronger grounding and understanding of climate change science, and the rapid stream of climate data that is now widely broadcast on a regular basis. A holistic understanding of the interconnected risks and impacts of climate change will facilitate sound and informed decision making. Those involved in policy formulation and climate mitigation investment strategies will have a heightened understanding of the urgency, risks and opportunities that now exist in the global effort to mitigate climate change.



For registration, please contact: GREEN IN FUTURE PTE LTD, Reg No. 201627389Z 14, Robinson Road, 08-01A, Far East Building, Singapore-45. Tel : +65-9737 9356 • Email : paru@greeninfuture.com





Registration Form

FEE per Pax	550 S\$	Discount 400 S\$	(min 5 pax) 350 S\$
		Early Bird	Group Booking

PERSONAL PARTICULARS

Name of Participant:	
NRIC/Passport/FIN No.:	Tel :
Designation: :	Email :
Company Name:	Company UEN No.:
Mailing Address:	

	Bank Name	: DBS
PAYMENT	Account Name	: GREEN IN FUTURE PTE LTD
Enclosed is a Cheque No.:	Account Number	- : 048-906069-7
(Cheque should be crossed, marked "account payee only" and payable to	Swift Code	: DBSSSGSG
Green In Future Pte Ltd)	Bank Code	: 7171
	Branch Code	: 048

DECLARATION

By submitting this application/registration form, I/We hereby declare that:

• Particulars given in the form are true and correct in every respect, and understand that the application will be disqualified if any information given is found to be untrue and the fees paid will be forfeited.

Green In Future Pte Ltd reserves the right to amend the details of any course or programme, revise the course or programme fees without prior notice, cancel or postpone the course or programme and change the venue of the course or programme.

Name:	
Signature	/ Date:.

*Company / Individual Applicant

Company Stamp (For company application)

REGISTRATION

Registration may be made by fax, e-mail, post or by hand. To confirm registration, payment must be made before the seminar/course/ workshop date via cheque, cash. No invoice will be issued. Walk-in applicants will only be admitted on the basis of seat availability and full payment. Please inform us in writing of any change in your registration, which is subject to administrative charges as shown below:

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Singapore 048545. Tel : +65-9737 9356, Email : drparus@gmail.com • paru@greeninfuture.com

Seats are limited; registration is on a first-come, first served basis. Cheques with original application and supporting documents should be mailed to :

For enquires :

Dr. Parvathy - HP (+65) 9737 9356

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