READI
Risk Management, Economic Sustainability and Actuarial Science Development in Indonesia

Jakarta, 29 Januari 2020
No. : 079/JKT-READI/I/2020
Lamp : 1 (Satu) Berkas
Perihal : Undangan ***Transitioning to a Low-Carbon Economy: Financial Risks and Opportunities***

Kepada Yth:
Ibu/Bapak Aktuaris FSAI PAI
Di tempat

READI (Risk Management, Economic Sustainability and Actuarial Science Development in Indonesia) adalah suatu projek yang dilaksanakan oleh Universitas Waterloo dengan dukungan dari Pemerintah Kanada (The Government of Canada provided through Global Affairs Canada) dan Otoritas Jasa Keuangan. Projek ini bertujuan untuk meningkatkan jumlah dan kualitas lulusan ilmu aktuaria di Indonesia untuk mengatasi permintaan Aktuaris di Indonesia. Projek READI dimaksudkan untuk memperkuat sumber daya manusia dan pembangunan ekonomi berkelanjutan dengan memberikan kesempatan yang adil serta dukungan untuk perekrutan, pendidikan, dan keterlibatan profesional aktuaris.

Bersama dengan surat ini, kami mengundang Ibu/Bapak untuk menghadiri seminar "***Transitioning to a Low-Carbon Economy: Financial Risks and Opportunities"*** yang akan dilaksanakan pada:

Hari/Tanggal	: Senin, 17 Februari 2020
Pukul	: 08.30 – 12.00 (makan siang disiapkan)
Tempat	: Menara Radius Prawiro Lt. 25 Kompleks Perkantoran Bank Indonesia, Jl. M.H Thamrin No.2 Jakarta Pusat

Besar harapan kami akan kesediaan Ibu/Bapak untuk hadir dalam seminar yang diharapkan dapat mengembangkan dan memberikan wawasan terkait peran aktuaris dalam mengindentifikasi berbagai skenario yang mungkin terjadi dan mengelola peluang dan risiko keuangan yang dihadapi terkait dengan terjadinya perubahan iklim.

Terlampir detail terkait dengan seminar dan kami mohon Ibu/Bapak untuk melakukan registrasi di : http://bit.ly/readi-climatechange yang telah disediakan **sebelum tanggal 13 Februari 2020**. Jumlah peserta untuk FSAI dibatasi 150 kursi dan akan ditutup bila kuota telah terpenuhi.

Apabila memiliki pertanyaan lebih detail terkait dengan pertemuan ini, dapat menghubungi Sdri. Ivonne Rawis hp: 0877 7618 8960./Email: ivonne.rawis@uwaterloo.ca atau Prima Astriani di Email: prima.astriani@uwaterloo.ca

Demikian disampaikan dan atas dukungan serta kehadiran Ibu/Bapak kami ucapkan terimakasih.

Hormat kami,

William Duggan
Field Director

Lampiran 1:

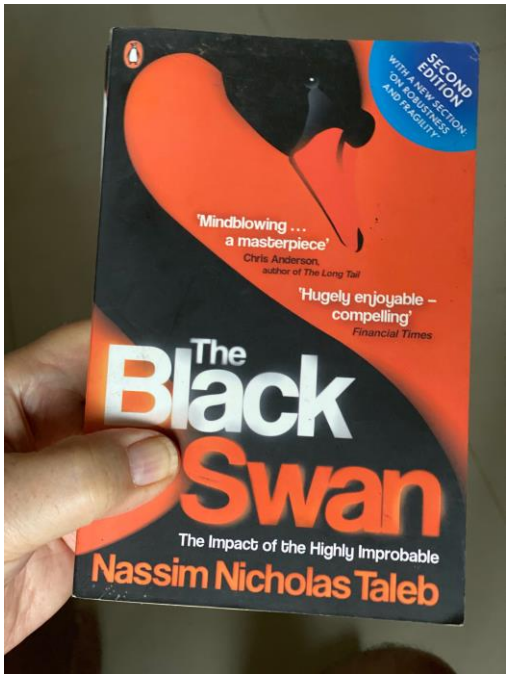
Transitioning to a Low-Carbon Economy: Financial Risks and Opportunities

Half-day seminar implemented by the READI Project
25th Floor, Menara Radius Prawiro, Bank of Indonesia, Jakarta

Agenda:

Day	Time	Agenda	Resource
Monday, 17 Feb 2020	07.30 – 08.30	Registration	READI team
	08.30 – 09.10	Welcoming remarks READI Opening Remarks: - Society of Actuaries Indonesia - Canadian Embassy - Otoritas Jasa Keuangan (OJK)	Bill Duggan, READI Project Field Director Chairman PAI Pierre-Yves Monnard, GAC Ibu Anggar B. Nuraini, Deputy Director NBFI 1
	09.10 - 09.50	Climate Risks: Global Warming upgraded from Challenge to Urgency	Yves Guérard, FICA, FSA (READI)
	09.50 – 10.30	Transitioning to a Low Carbon Future	Pak Medrilzam, Director of Environmental Affairs, BAPPENAS
	10.30 – 10.50	Break	
	10.50 - - 11.30	Financing Indonesia's Path for Reaching Zero Net Emissions by 2050	Adi Budiarso, Head - Centre for Climate Change Financing Policy and Multilateral, KemenKeu
	11.30 - - 12.15	Panel Discussion: Three above speakers plus heads of three PAI Society of Actuaries Indonesia commissions - five-minute statements on climate related financial risks from each commission heads - Q&A period	Moderator: Ade Bungsu, VP PAI Heads of three PAI Committees: - Pensions - Life Insurance - General Insurance
	12.15 - - 12.30	Sum up & Concluding remarks: Next Steps to Mitigate Risks and Support the Transition to a Low Carbon Economy	READI Project Field Director
	12.30	Lunch Break	

DID YOU READ THE BLACK SWAN?



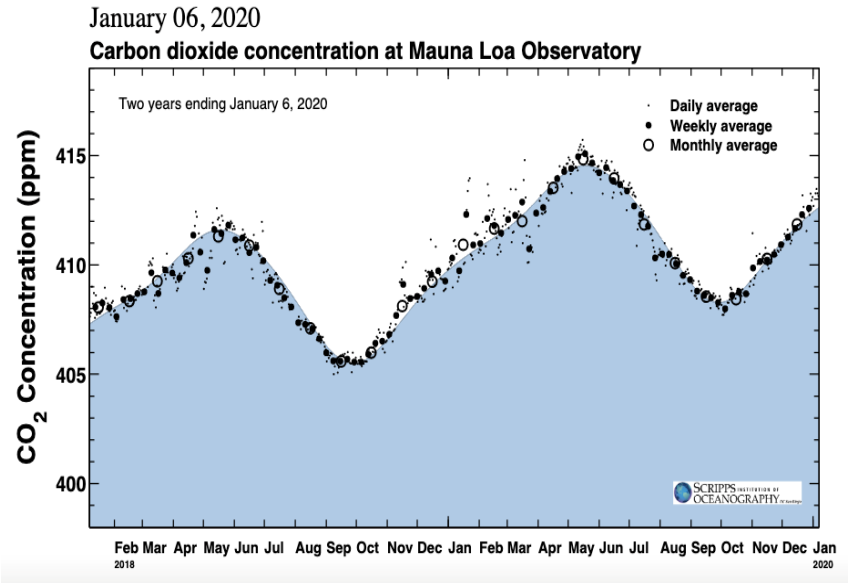
Swans are white but a very rare genetic mutation can create a black one. This book published in 2010 by Nassim Nicholas Taleb on the ***Impact of the Highly Improbable*** focusses on three features; rarity, extreme impact and retrospective predictability. Despite claims by some skeptics, it does not apply to global warming since it is not a black, gray or pink swan, but a shiny white one, and thus highly predictable.

The potential for global warming was identified in 1824, nearly 200 years ago, by Joseph Fourier, a French scientist, who described the greenhouse effect when studying how laws of thermodynamics applied to the planets:

- without the atmosphere, the earth's temperature would average -19^{o}C instead of about 14^{o}C

The Swedish physical chemist Svante Arrhenius deserves a mention for his 1896 pioneering study of how changes in the amount of CO_2 in the atmosphere may affect climate. Modern theory, incorporating both CO_2 and water vapor feedbacks, was completed by Syukuro Wanabe in the 1960s and 1970s.

The findings about greenhouse effects were initially of interest to a small scientific community but public interest was stimulated by the publication of scientific daily measurements of the concentration of CO_2 in the atmosphere. Charles David Keeling started to measure CO_2 concentration as part of a post-doctoral project that required scientific measurement of the diurnal variation of the ratio of two isotopes ^{13}C and ^{12}C in atmospheric CO_2.

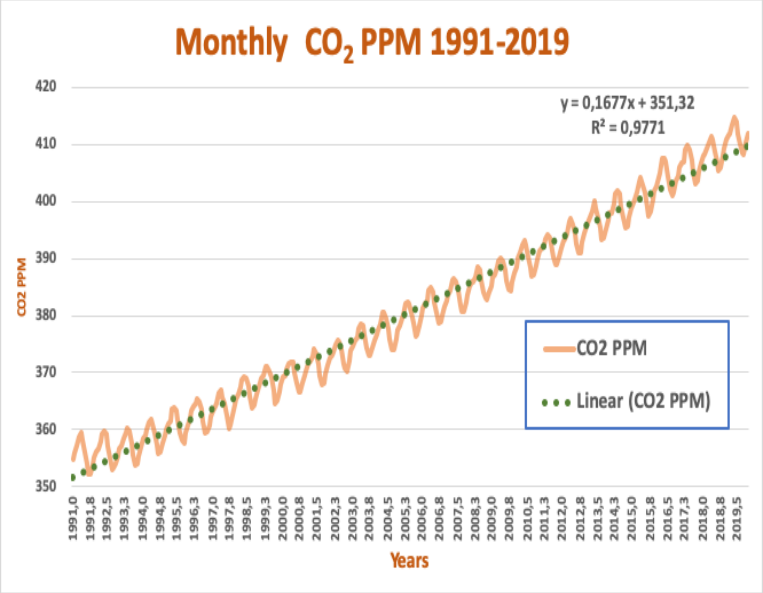


Keeling's series attracted interest and proposals to expand it became a goal of the International Geophysical Year (IGY) ending in December 1958. Using IGY funds from the Weather Bureau, Dave Keeling bought four infrared gas analyzers. One was installed in March 1958 at the top of Mauna Loa, in Hawaii, far from industrial emissions.

On the first day of operation it recorded an atmospheric CO_2 concentration of 313 ppm (parts per million). By April 1958, it had risen by 1 ppm, reaching a maximum in May when it started to decline until October. As the pattern repeated the following year, it led David Keeling to a first discovery: "*We were witnessing for the first time, nature's withdrawing CO_2 from the air for plant growth during summer and returning it each succeeding winter*". The second discovery was that it kept increasing on a year to year basis!

By 1970, the Keeling curve was getting serious attention and played a key role in launching a research program into the effect of rising CO_2 on climate. It was extended backwards later from ice core data. Access to the Keeling Curve web site (https://scripps.ucsd.edu/programs/keelingcurve/) is free, you can monitor new readings daily as well as graphs for longer periods, even extending back a thousand years!

In 1979, the First World Climate Conference was held in Geneva. In 1988 the UN created the Intergovernmental Panel on Climate Change (IPCC) to produce regular Assessment Reports. Since the increase in the concentration of Green House Gas (GHG), the main one being CO_2, is driving global warming, it has become a key indicator of the progress, or lack thereof, in controlling carbon emissions generated, for the most part, by humans burning fossil fuels.



184 signatories have ratified the 2015 Paris Agreement that aims at reducing GHGs emissions to reach a target of zero net emissions before global warming reaches 2° Celsius to avoid extremely adverse consequences for the planet and the eco-system on which humanity depends. According to climatologists, it requires stabilization of atmospheric CO_2 equivalent concentrations below 450 ppm. Currently, the global CO_2 concentration level exceeds 413 ppm and is expected to reach 450 ppm before 2050. The least square trendline indicates that the world is not on-track to achieve zero net emission by then.

On February 17th, 2020, international and Indonesian experts will examine:

- Why, despite ample warning, the control of climate risks has become a crisis?
- What are the social, economic and financial risks that global warming presents?
- How taking action, individually and as a collectivity, can mitigate and hopefully prevent the clear and immediate perils climate change entails?

"A 2°C (warmer) world Might Be Insurable. A 4°C World Certainly Would Not Be" [1]. There is no Planet B. Credible projections indicate that shifting to a low carbon economy can lead to a cleaner, brighter future, if we properly manage transition risks. How can we adapt to the financial and existential risks while turning around a global warming trend that is still accelerating?

[1] Henri de Castries, Ex-CEO and Chairman of AXA, one of the world's largest insurer