CLIMATE EMERGENCY, CATASTROPHE; HOW BAD IS IT?

Aubrey Meyer, Director, Global Commons Institute

Webinar

Thursday, 28 October, 15:00 BST

A Word From Today's Chairman

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Today's Agenda

- 15:00 – 15:05 Chairman's Introduction
- 15:05 – 15:25 Keynote Presentation – Aubrey Meyer
- 15:25 – 15:45 Question & Answer

Today's Speaker

Aubrey Meyer

Director

Global Commons Institute

Climate Disaster looms. So as to achieve UNFCCC Compliance, a Well-Tempered global Climate-Accord is needed to avert it.

Aubrey Meyer is a violinist. Now in his 75th year, the GCI he directs established the ‘Well-Tempered Climate Accord’ 25 years ago.

Also known as Contraction & Convergence (C&C), this *‘famous proposal’* is widely known & well supported & *‘inevitably required’* to achieve the aims & principles of the UNFCCC.

UNFCCC-compliance is ‘atmosphere concentrations stabilizing’, so
* a ‘tap with water flowing’ (global source-emissions) into . . .
* a ‘bath accumulating the water’ (atmosphere-concentrations)
* a ‘plug-hole draining water away’ (around ½ source-emissions) . . .
NB – therefore concentration rise only slows while emissions fall.

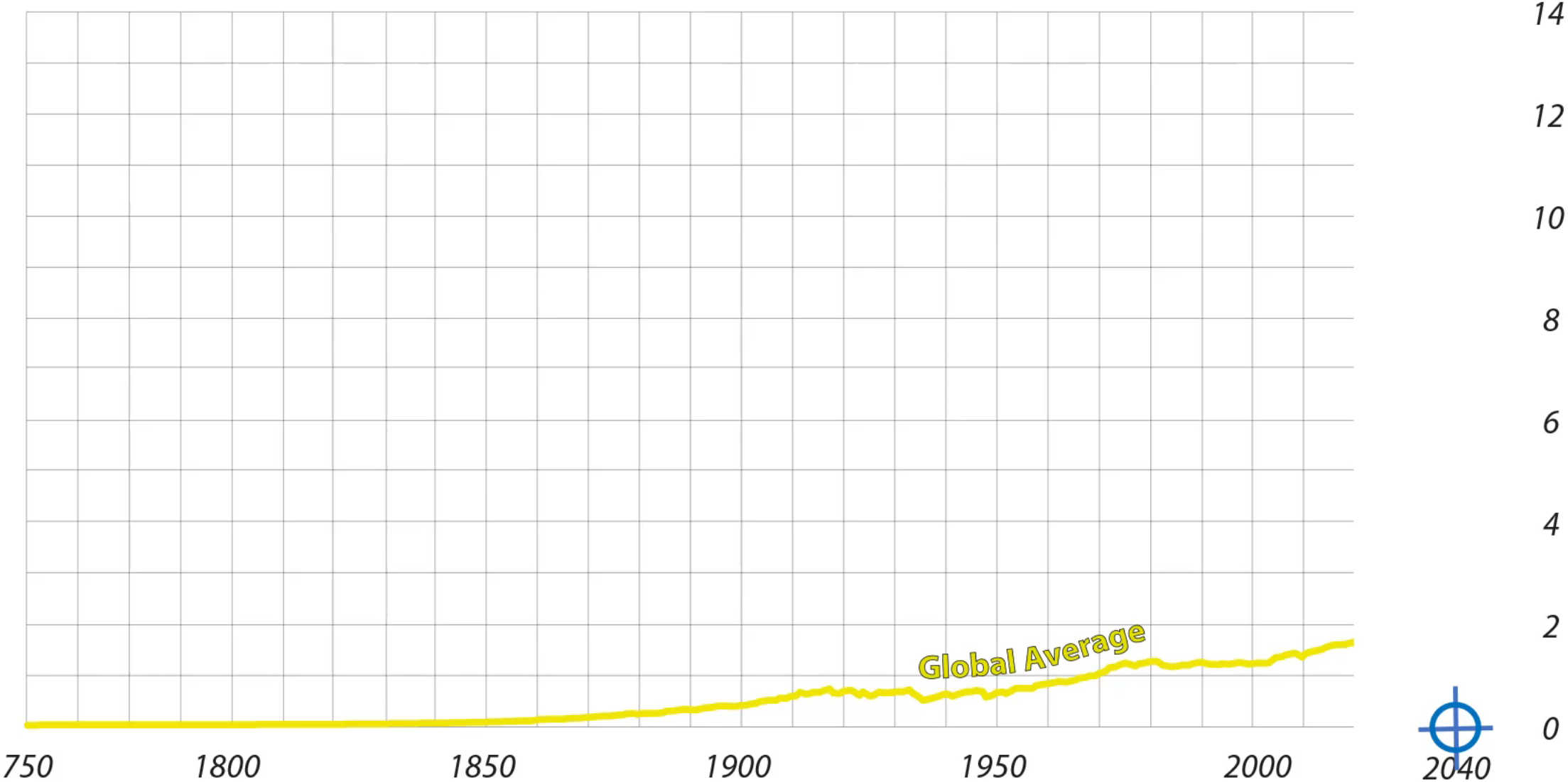
Benefits of C&C are it is: -

* simple
* international
* enables economics

Mike Mainelli
Chairman Z/YEN

1750-2020 The Global Average of CO2 Emissions Per Capita

Getting to grips with what is policy-relevant . . .



‘Contraction & Convergence’ (C&C) original

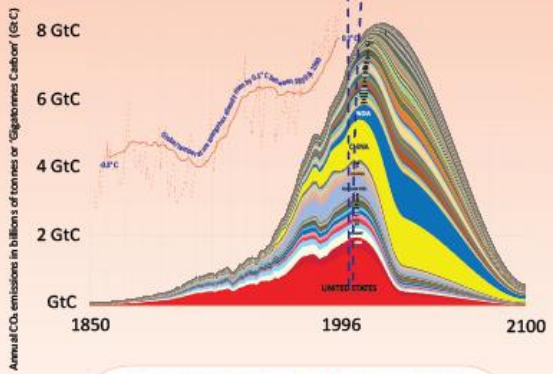
COP-2 1996 COP-3 1997

C&C was tabled at the UNFCCC at COP-2 (1996)

It was largely accepted as the basis of UNFCCC-Compliance at COP-3 (1997)

“C&C inevitably required for UNFCCC compliance”

UNFCCC Executive COP-9 (2003)



The original image for full-term C&C on the global per capita average of emissions arising under a global cap.

For 24 years the non-implementation of C&C has led to ‘the looming climate catastrophe’ we face.

. . . however, changing the temperature baseline does not hide the dangers of acceleration

. . . The choice of the 0°C base-year is significant

This GISS data set is based at 0° C 1960 & not at 1860 pre-industrial

This UKMO data-set is based at 0° C 1860 for pre-industrial

COP-26 2020

?

Temperature

Arctic

Land

Average

Ocean

CO_2 Concentrations

C&C principle remains unchallenged

Internationally Supported

C&C introduced at COP-2

1995 COP-1 UNFCCC ratified

1992 UNCED 2 UNFCCC agreed

LUC

USA

India

China

XR

MEDICs

GOV’Ts

Overshoot = Extinction

1990 2000 2010 2020 2030 2040 2050

Countervailing human emissions contraction, rates of TEMPERATURE RISE are uneven globally & also ggravated by + FEEDBACK LOOPING

Excluded Included

Global (Av)	24-90 North	Arctic	Land	Ocean			
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2.813	3.313	5.625	3.313	2.513		2049	
2.750	3.250	5.500	3.250	2.450		2048	
2.688	3.188	5.375	3.188	2.388		2047	
2.625	3.125	5.250	3.125	2.325		2046	
2.563	3.063	5.125	3.063	2.263		2045	
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1.000	1.500	2.000	1.500	0.700		2020	Global Average T° at 1.0° C in 2020 . . .

Globally averaged temperature is no more than a statistical construct aftger-the-facts

If temperature is based at 0.0° C 1860

http://www.gci.org.uk/movies/Zero_Emissions_Globally_2020_2050.mp4

Governments call for ‘net zero’ globally by 2050, failing to realize this is now too-little too-late to avoid runaway rates of climate change.

For this reason, Global Alliance of Health Professionals call for net-zero emissions globally by 2040, based on contraction & convergence principles.

Extinction Rebellion (XR) calls for zero emissions globally by 2030.

http://www.gci.org.uk/International_Support_for_the_C&C_Principle.html

http://www.gci.org.uk/C&C_&_the_Rajan_Global_Carbon_Incentive.html

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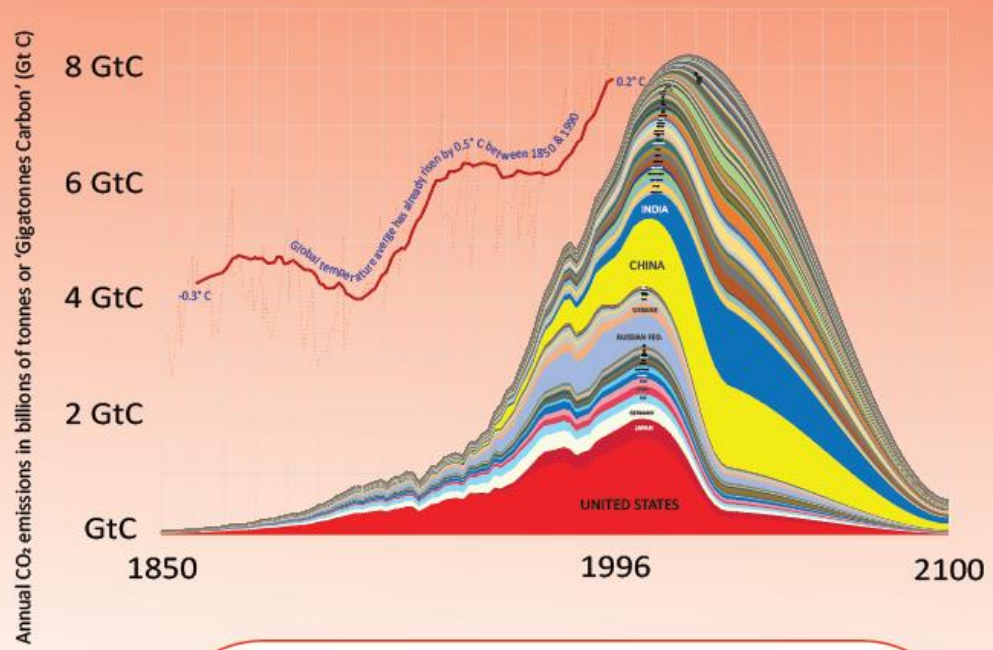

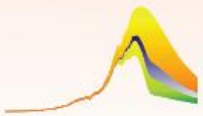

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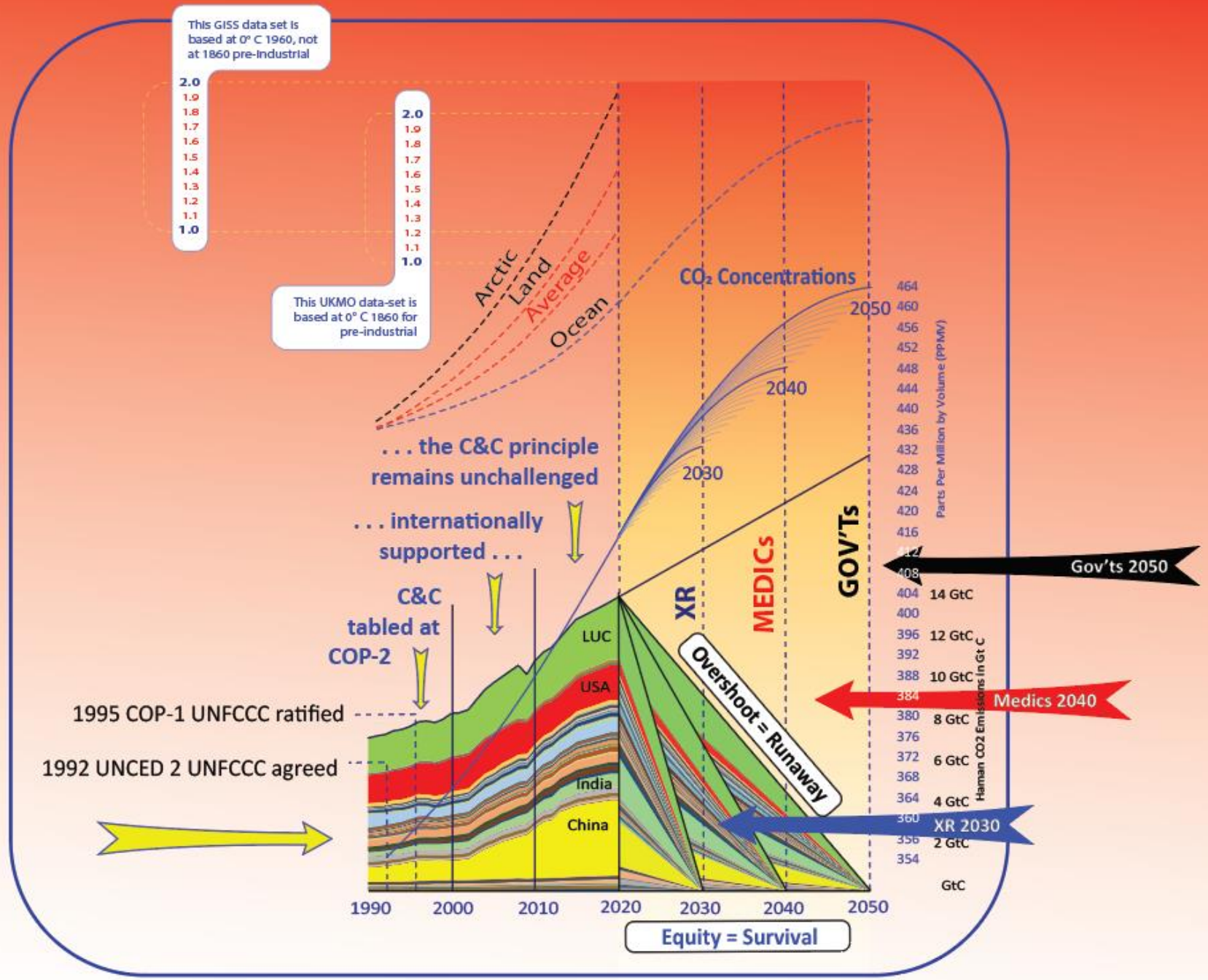
This GISS data set is based at 0° C 1960, not at 1860 pre-Industrial
2.0
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1.0
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Arctic
Land
Average
Ocean
CO₂ Concentrations
2050
2040
2030
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LUC
USA
India
China
XR
MEDICs
GOV'Ts
Overshoot = Runaway
Parts Per Million by Volume (PPMV)
464
460
456
452
448
444
440
436
432
428
424
420
416
412
408
404
400
396
392
388
384
380
376
372
368
364
360
356
354
Human CO2 Emissions in Gt C
14 GtC
12 GtC
10 GtC
8 GtC
6 GtC
4 GtC
2 GtC
GtC
Gov'ts 2050
Medics 2040
XR 2030
1990
2000
2010
2020
2030
2040
2050
Equity = Survival

Countervailing human emissions contraction, rates of TEMPERATURE RISE are uneven globally & also aggravated by + FEEDBACK LOOPING

Globally averaged temperature is no more than a statistical construct after-the-facts

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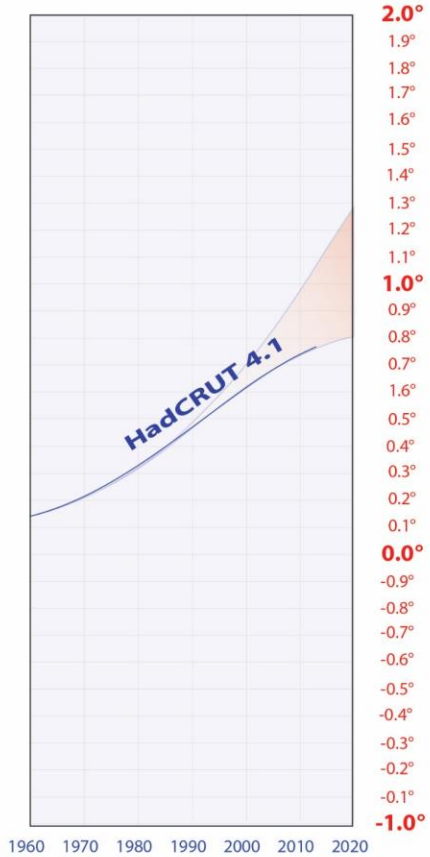
1.000	1.500	2.000	1.500	0.700	2020	2020	**Global Average T° at 1.0° C in 2020 . . .**

If temperature is based at 0.0° C 1860

Did the scientific community make sufficiently clear what was going to happen with temperature rise?

Note the base year for temperature was set here as 0° C at c. 1860



Only in 2021 UKMO admitted *omitting the Arctic* in preparations for IPCC AR5, claiming no data was available at the time.

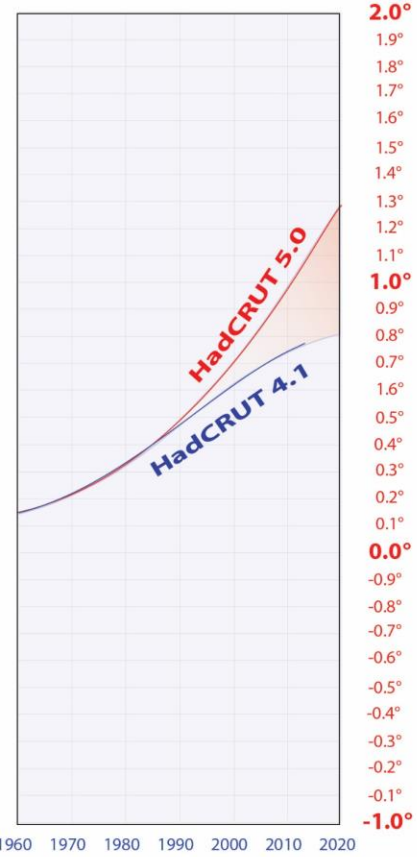
The present trajectory has been described as a suicide-path.

Omitting the Arctic, UKMO used HadCRUT Climate Model 4.1 temperature projections preparing IPCC AR5 2014).

UKMO was repeatedly warned about this omission in UK Parliamentary Enquiries 2009-13.

UKMO testified under oath saying all relevant feedbacks were in their modelling. They were not.

IPCC AR5 (2014) under-projected temperature rise as a result.



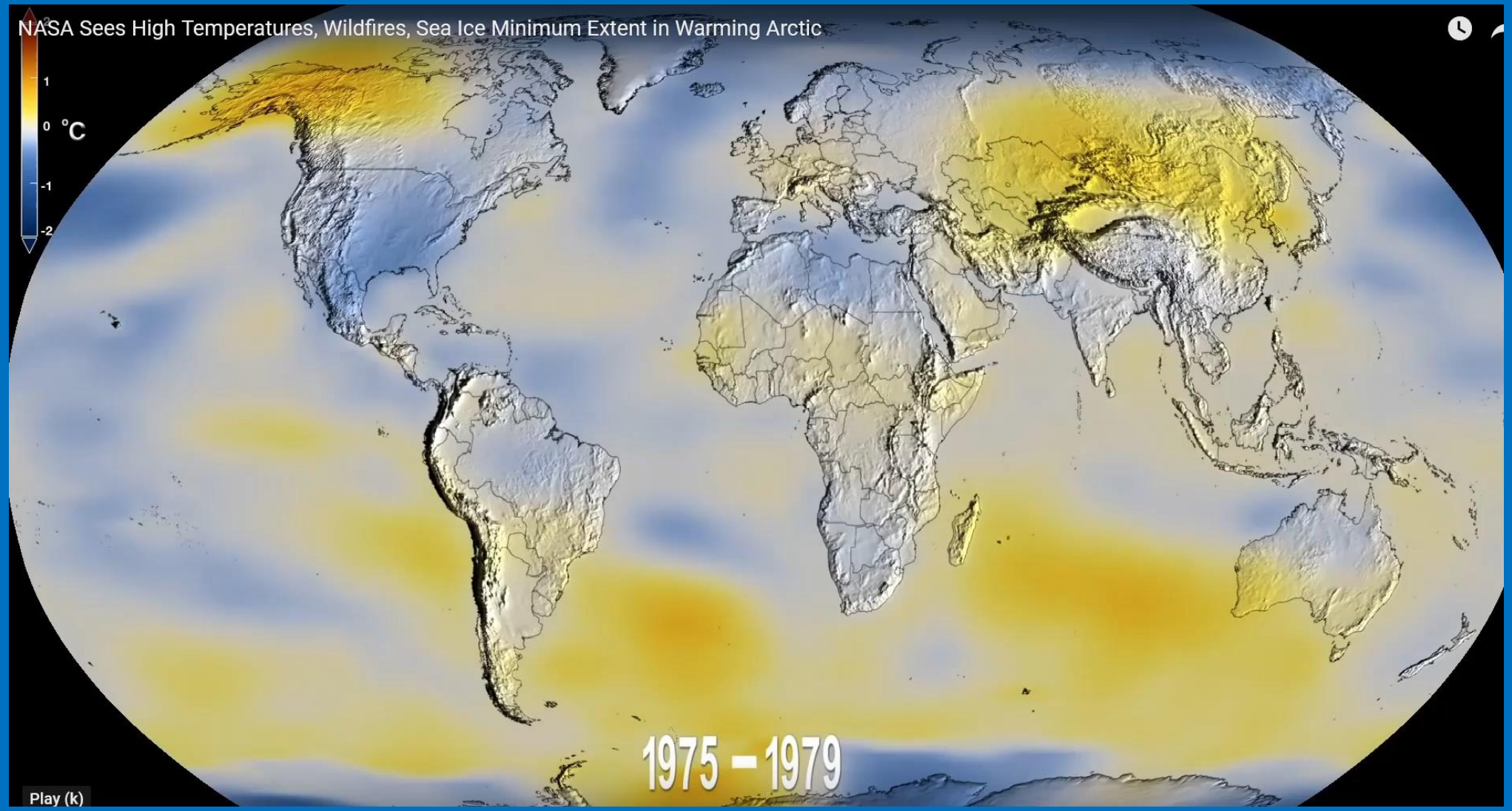
Global average temperature rise, compared with Land, Ocean & Arctic

Note base-year for temperature here c. 1960

http://data.giss.nasa.gov/gistemp/graphs_v4/

"Climate change has become a crisis & is pointing at catastrophe. Net-zero emissions by or before 2050 is required." Joe Biden

NASA Wildfires Arctic Warming



https://www.youtube.com/watch?v=vtM9KTVGFVw

Jetstream increasingly ‘wavy’ (up & down)

https://www.cbsnews.com/team/jeff-berardelli/

IPCC AR6 2021 - Table SPM.2 says: Carbon Budget **900 Gt CO2**

17% likely for 1.5°C but 83% likely for 2.0°C

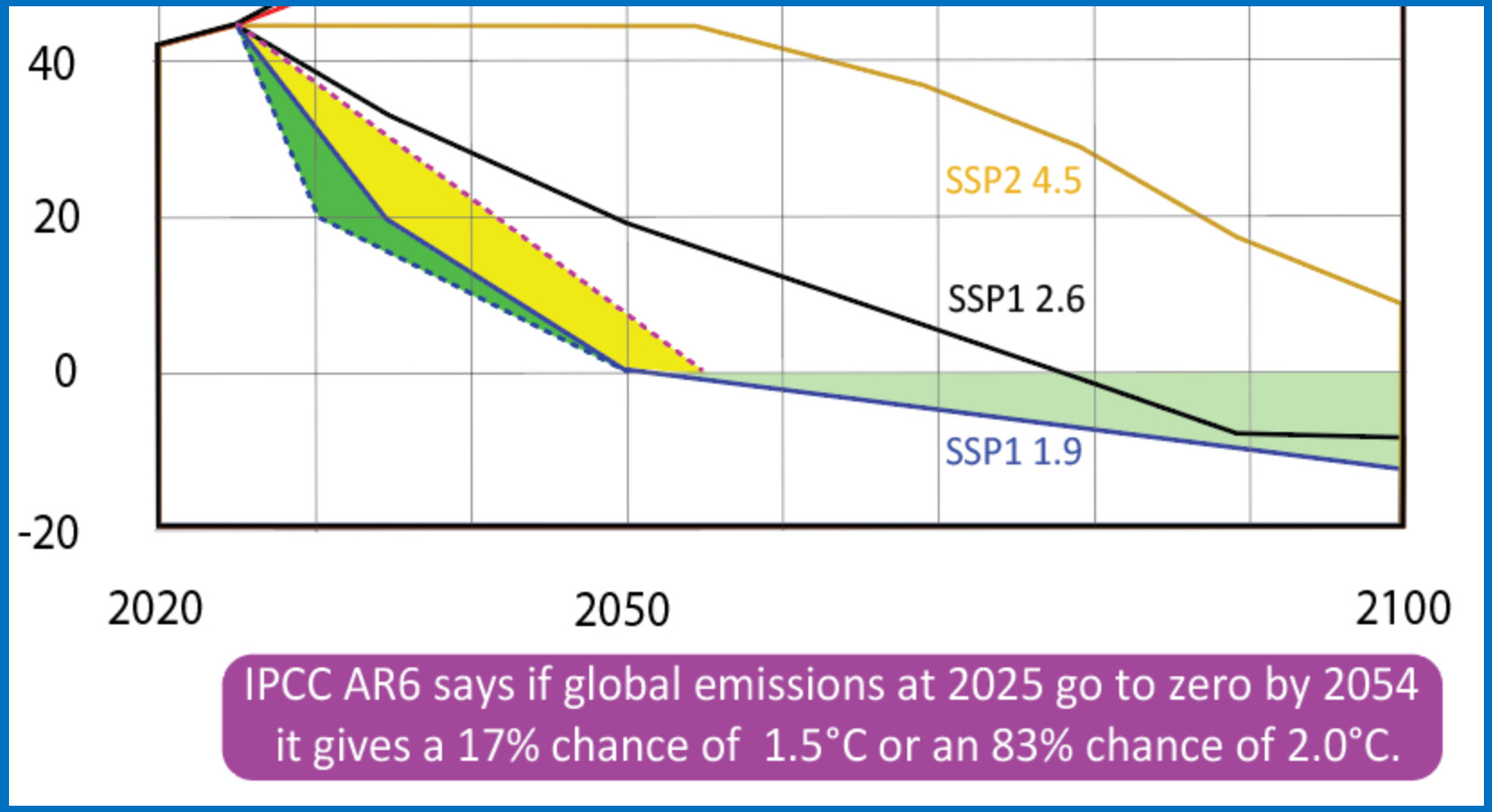
	Probabilities				
	17%	33%	50%	67%	83%
1.5	900	650	500	400	300
1.7	1450	1050	850	700	550
2.0	2300	1700	1350	1150	900

IPCC AR6 Table SPM.2:

Global warming between 1850–1900 and 2010–2019 *(°C)*	Historical cumulative CO_2 emissions from 1850 to 2019 *($GtCO_2$)*
1.07 (0.8–1.3; *likely* range)	2390 (± 240; *likely* range)

Approximate global warming relative to 1850–1900 until temperature limit *(°C)**(1)	Additional global warming relative to 2010–2019 until temperature limit *(°C)*	Estimated remaining carbon budgets from the beginning of 2020 *($GtCO_2$)* *Likelihood of limiting global warming to temperature limit*(2)*					Variations in reductions in non-CO_2 emissions*(3)
		17%	*33%*	*50%*	*67%*	*83%*	
1.5	0.43	900	650	500	400	300	Higher or lower reductions in accompanying non-CO_2 emissions can increase or decrease the values on the left by 220 $GtCO_2$ or more
1.7	0.63	1450	1050	850	700	550	
2.0	0.93	2300	1700	1350	1150	900	

IPCC 900 Gt CO_2 = Zero by 2054 i.e. area under RED dotted line



Some say, *"halve emissions globally by 2030,"* to avert runaway.

Are the SSPs already irrelevant?

The IMF & Fat Tail Risks

IMF says - high-impact but low-probability . . .

Others now say - high-impact & increasing-probability . . .

*"There is growing agreement between economists & scientists that the **tail risks** are material & the risk of catastrophic & irreversible disaster is rising, implying potentially infinite costs of unmitigated climate change, including, in the extreme, human extinction."*

http://www.gci.org.uk/Documents/IMF_infinite_climate_damages.pdf

“The promises are simply not good enough. Many nations are sticking to their business-as-usual approach. Governments must go back and look – very, very carefully - at what they are able to offer. It’s incredible to think that just when nation are facing an emergency that could eventually end human life on this planet we are wandering into a minefield blindfolded where the next step could mean disaster."

Patricia Espinoza UNFCC Exec Secretary

“It’s a red alert for our planet."

Antonio Guterres UNSG

"We are today perilously close to tipping points that, once passed, will send global temperature spiralling catastrophically higher.”

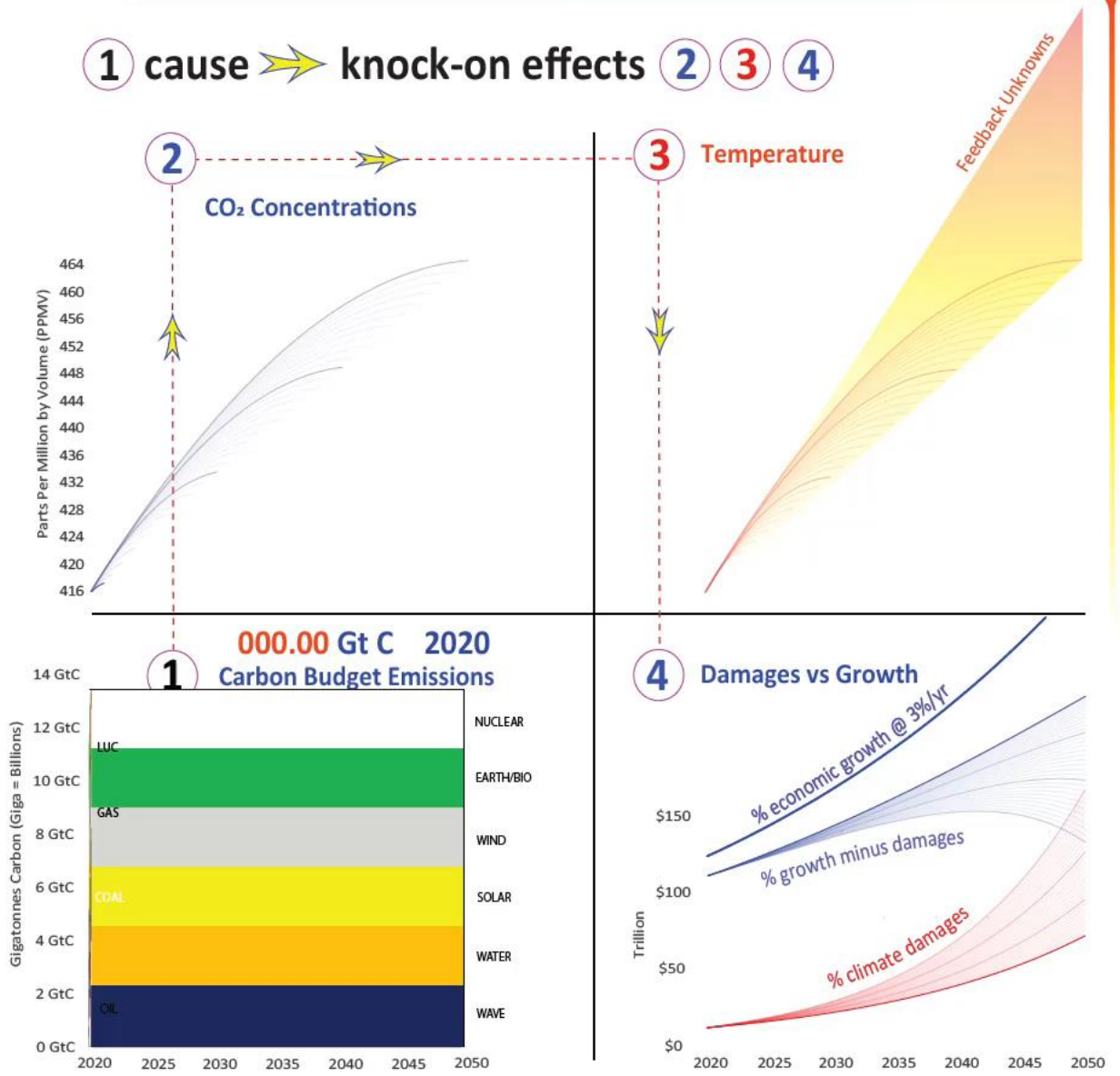
Sir David Attenborough at UN Security Council;

"We must hold governments accountable.”

Aubrey Webson, AOSIS Chairman

Zero emissions globally 2030-2040-2050

1 cause → knock-on effects 2 3 4



Globally averaged temperature is no more than a statistical construct afgter-the-facts

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1.000	**1.500**	**2.000**	**1.500**	**0.700**	2020	2020	**Global Average T° at 1.0° C in 2020 . . .**

Rising risks in this chain of causation . . .

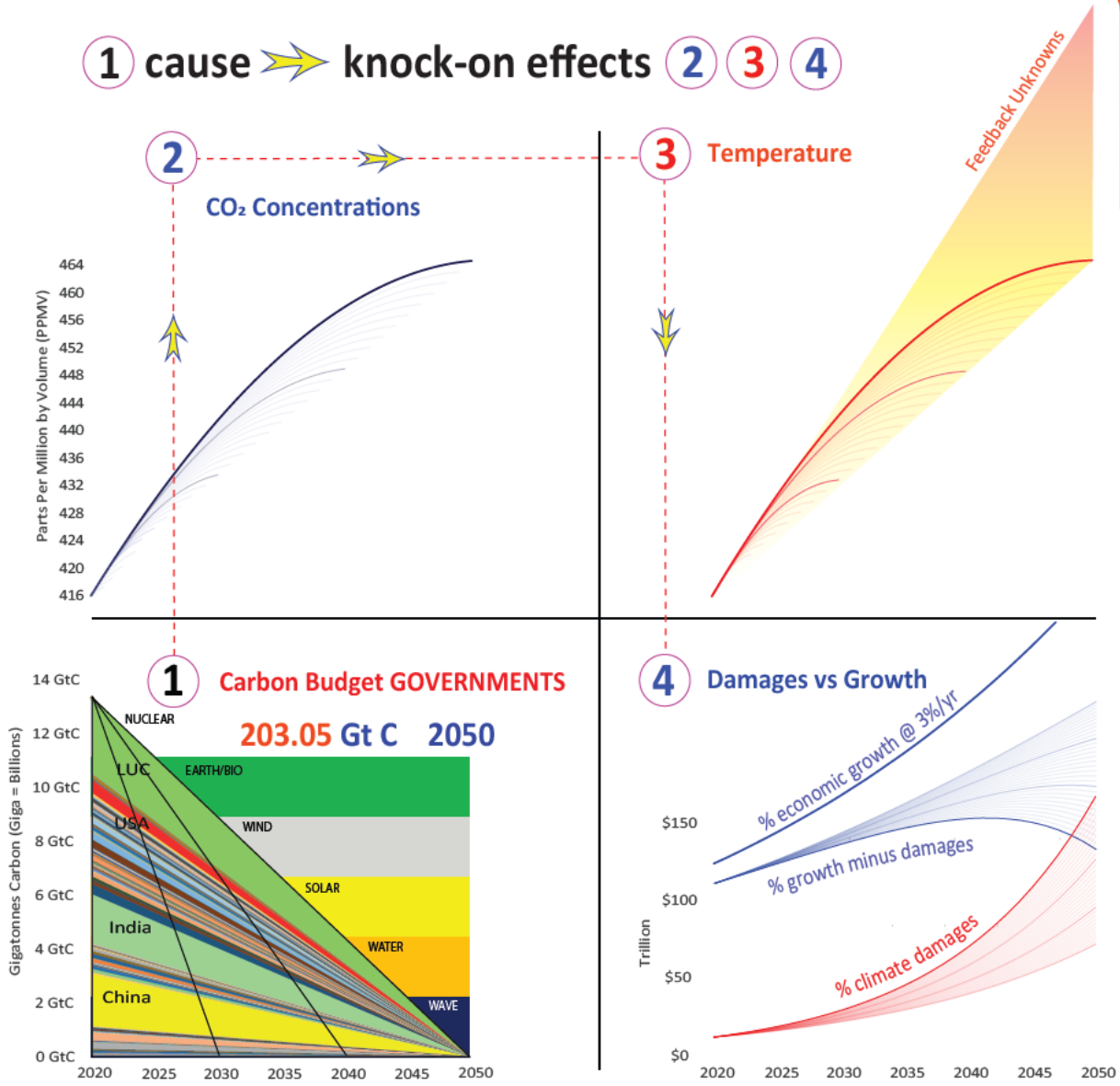
1. **Budget - Weight; Contraction-Rate; Zero-Date (needs to be 2030-2040)**
2. **CO_2 Concentrations - Accumulates Increasing Fraction of Budget**
3. **Rising Temperature Response to Rising PPMV & Rising Risks without/with Feedback**
4. **Damages vs Growth Minus Damages - Insured+Uninsured Losses starts @ 6%/annum**

2020 temperatures from GISS http://www.gci.org.uk/images/Temperature_Unmasked.png

More information re animation http://www.gci.org.uk/Sliding_Scale.html

Zero emissions globally 2030-2040-2050

1 cause → knock-on effects 2 3 4



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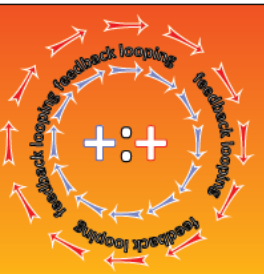
1.750	2.250	3.500	2.250	1.450	2042	2032	
1.688	2.188	3.375	2.188	1.388	2040	2031	
1.625	2.125	3.250	2.125	1.325	2038	2030	
1.563	2.063	3.125	2.063	1.263	2036	2029	
1.500	**2.000**	**3.000**	**2.000**	**1.200**	2034	2028	**Limiting T° rise to 1.5° C**
1.438	1.938	2.875	1.938	1.138	2032	2027	Emissions contraction to zero by 2025/30 required
1.375	**1.875**	**2.750**	**1.875**	**1.075**	2030	2026	
1.313	1.813	2.625	1.813	1.013	2028	2025	
1.250	1.750	2.500	1.750	0.950	2026	2024	
1.188	1.688	2.375	1.688	0.888	2024	2023	
1.125	1.625	2.250	1.625	0.825	2022	2022	
1.063	1.563	2.125	1.563	0.763		2021	
1.000	**1.500**	**2.000**	**1.500**	**0.700**	2020	2020	**Global Average T° at 1.0° C in 2020 . . .**

Feedbacks



Rising risks in this chain of causation . . .

1. Budget - Weight; Contraction-Rate; Zero-Date (needs to be 2030-2040)
2. CO_2 Concentrations - Accumulates Increasing Fraction of Budget
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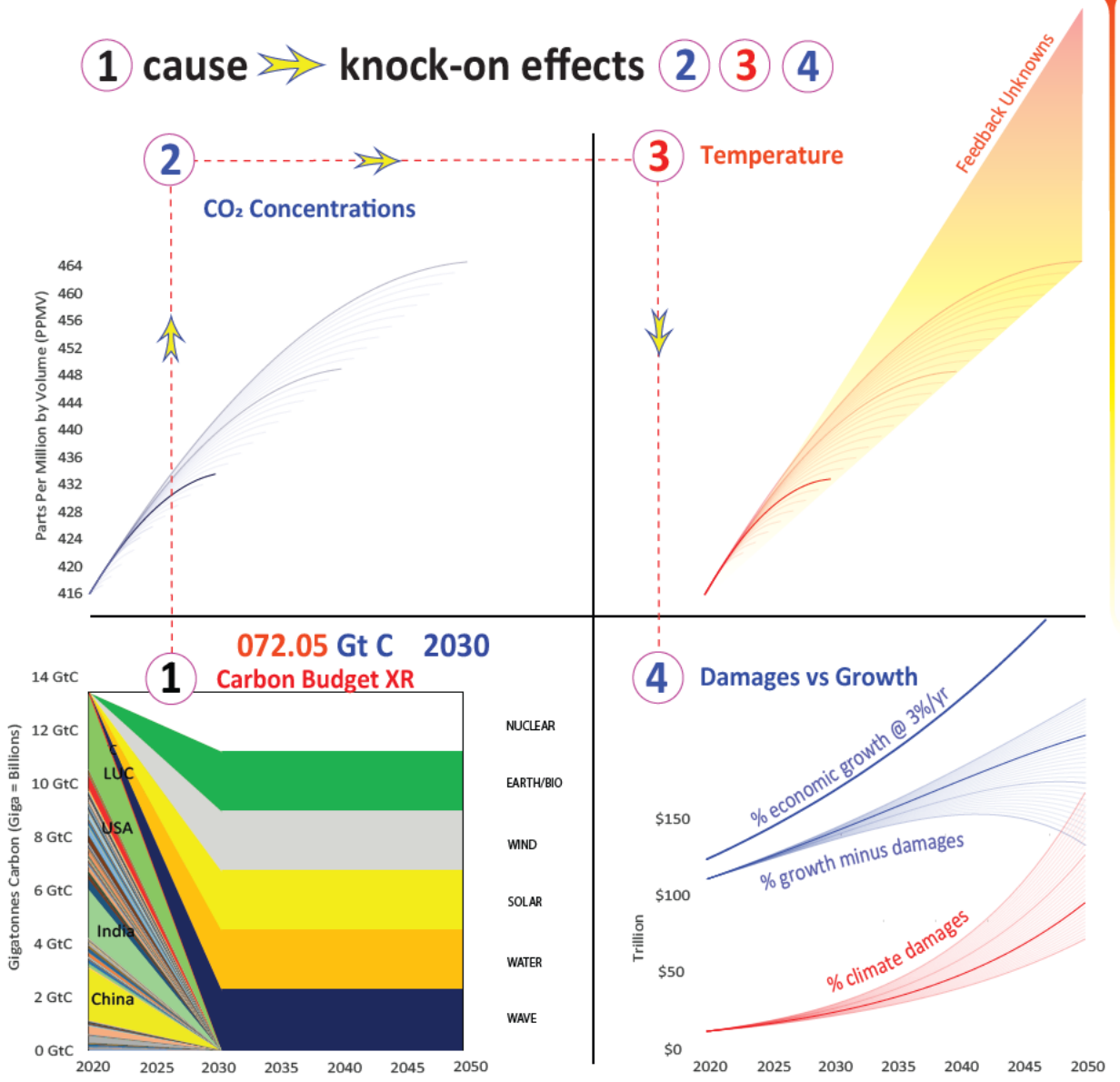
2020 temperatures from GISS http://www.gci.org.uk/images/Temperature_Unmasked.png

More information re animation http://www.gci.org.uk/Sliding_Scale.html

Zero emissions globally 2030-2040-2050

1 cause → knock-on effects 2 3 4



Globally averaged temperature is no more than a statistical construct after-the-facts

Global Av	24-90° N	Arctic	Land	Ocean	Excluded / Included		Feedbacks
2.875	3.375	5.750	3.375	2.575		2050	Positive Feedbacks control Rise of PPMV & T°
2.813	3.313	5.625	3.313	2.513		2049	
2.750	3.250	5.500	3.250	2.450		2048	
2.688	3.188	5.375	3.188	2.388		2047	
2.625	3.125	5.250	3.125	2.325		2046	
2.563	3.063	5.125	3.063	2.263		2045	
2.500	**3.000**	**5.000**	**3.000**	**2.200**		2044	
2.438	2.938	4.875	2.938	2.138		2043	
2.375	2.875	4.750	2.875	2.075		2042	
2.313	2.813	4.625	2.813	2.013		2041	
2.250	2.750	4.500	2.750	1.950		2040	
2.188	2.688	4.375	2.688	1.888		2039	
2.125	2.625	4.250	2.625	1.825		2038	
2.063	2.563	4.125	2.563	1.763		2037	
2.000	**2.500**	**4.000**	**2.500**	**1.700**	2050	2036	**Limiting T° rise to >2.0° C**
1.938	2.438	3.875	2.438	1.638	2048	2035	Emissions contraction to zero by 2035/40 required
1.875	2.375	3.750	2.375	1.575	2046	2034	
1.813	2.313	3.625	2.313	1.513	2044	2033	
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1.000	**1.500**	**2.000**	**1.500**	**0.700**	2020	2020	**Global Average T° at 1.0° C in 2020 . . .**

Rising risks in this chain of causation . . .

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Zero emissions globally 2030-2040-2050

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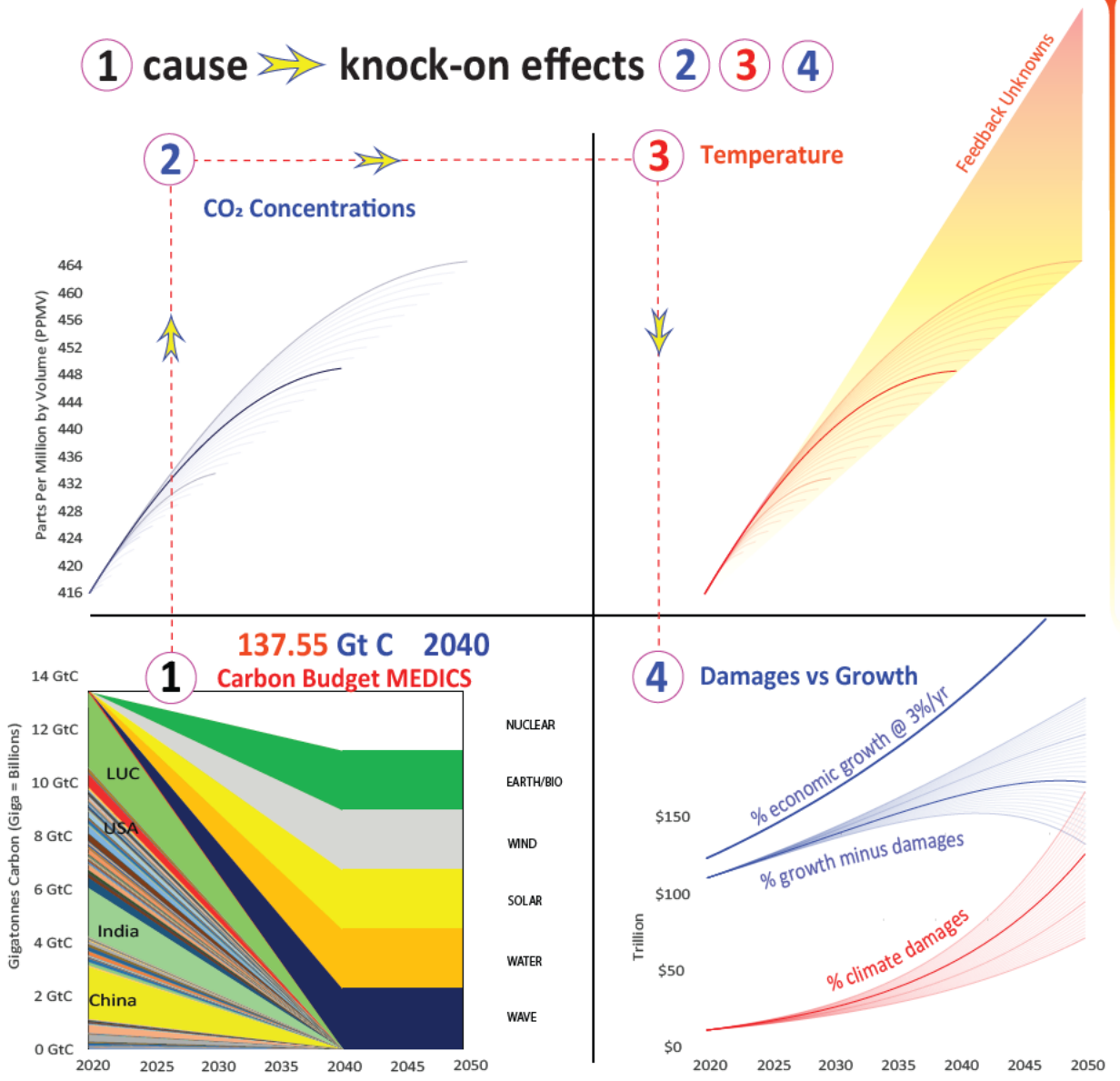

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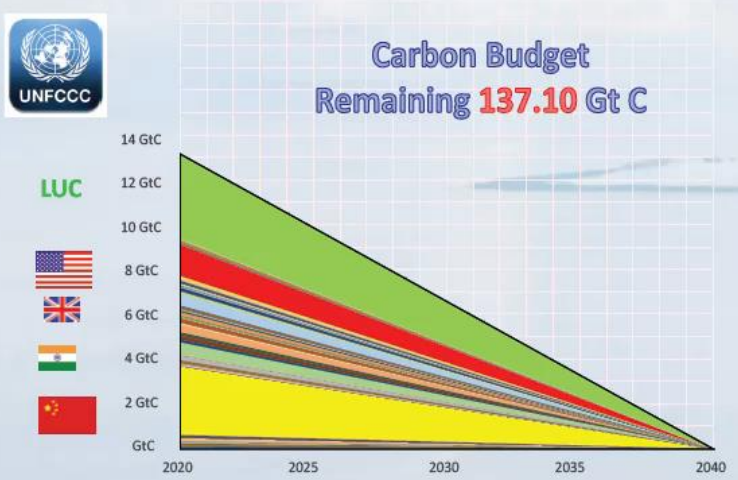
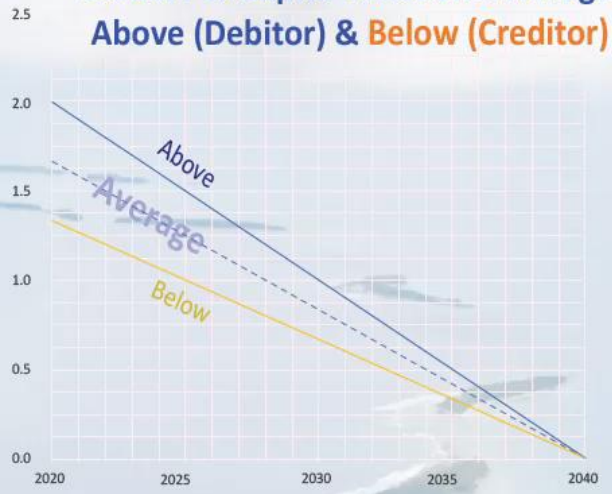
C&C & the Global Carbon Incentive

[A] National Emissisons Pro Rata

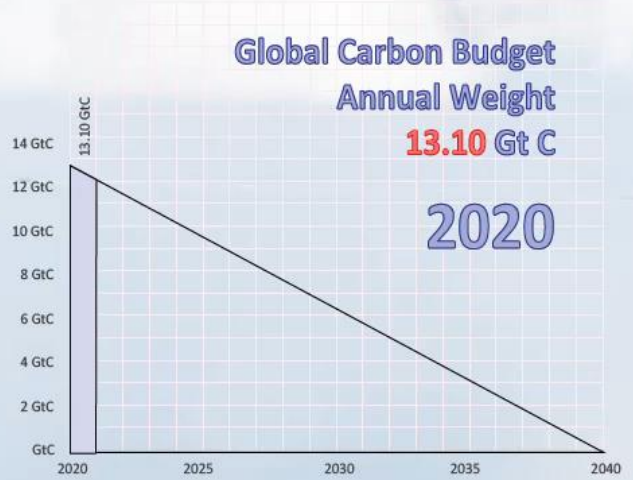


Global Per Capita Emissions Average

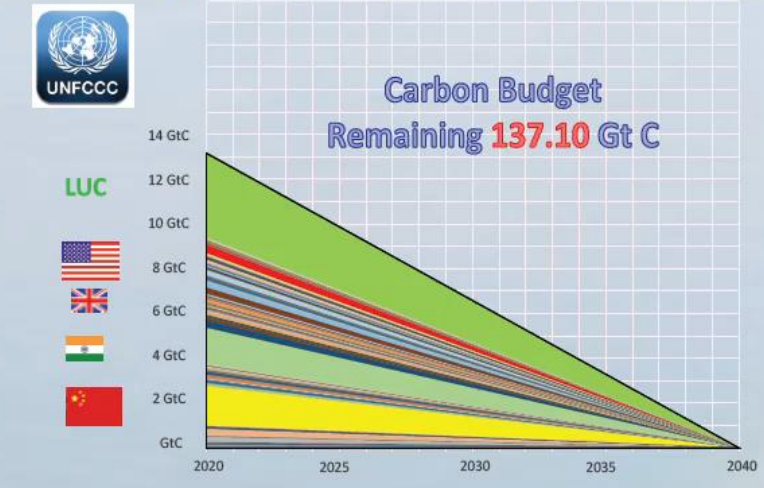
Above (Debitor) & Below (Creditor)



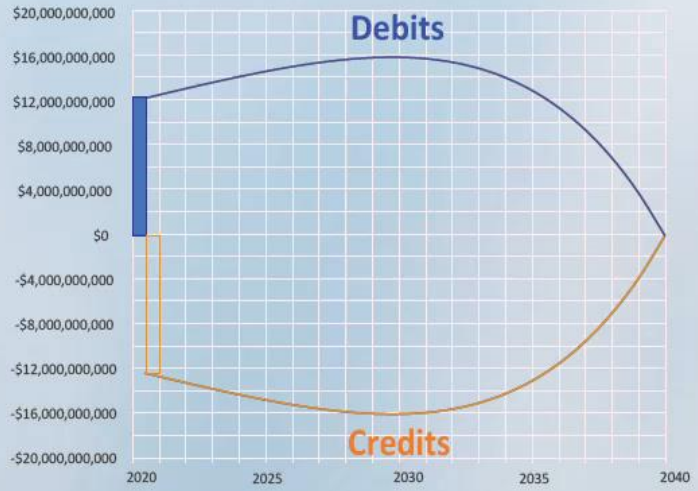
Contracting Carbon Cap . . .



[B] National Entitlements equal Per Capita

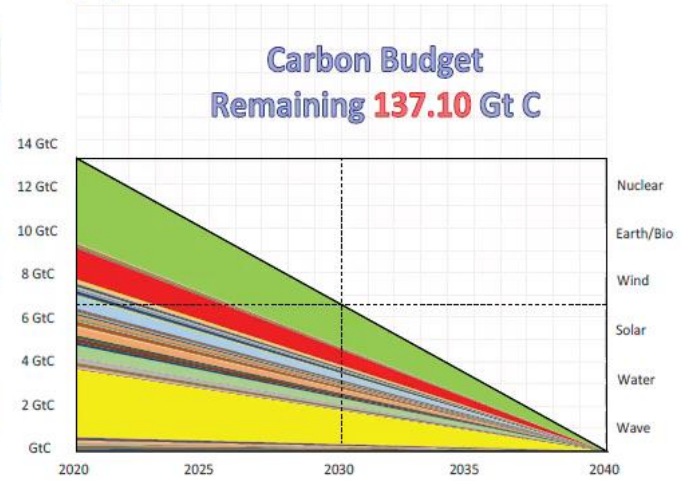


Carbon Price & Revenue

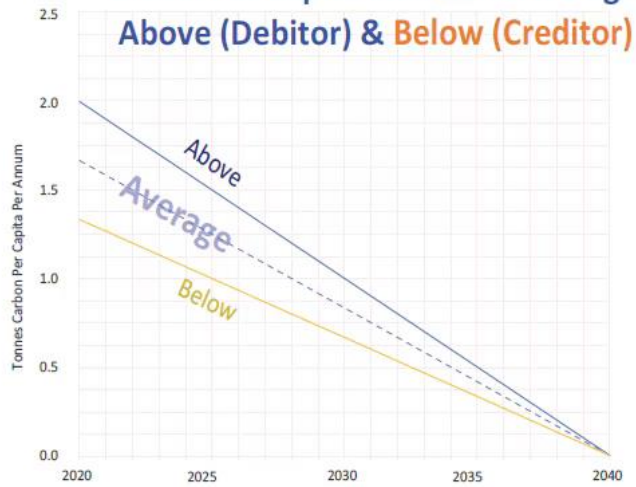


Renewables energy sources just replacing 100% cut in CO_2 emissions by 2040.

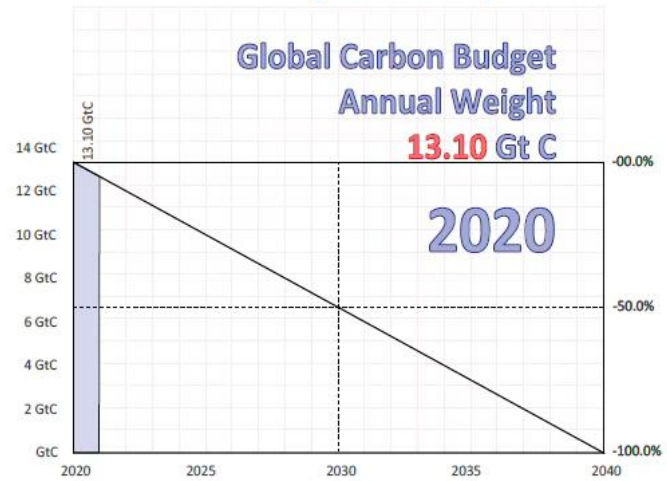
[A] National Emissions Pro Rata



Global Per Capita Emissions Average
Above (Debitor) & Below (Creditor)



Contracting Carbon Cap . . .



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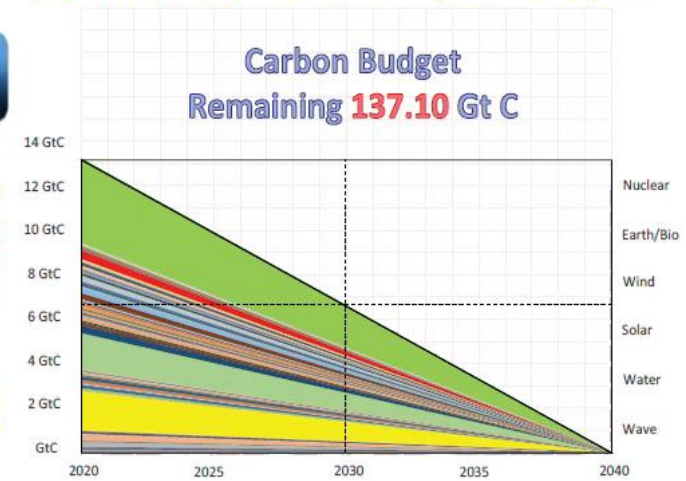
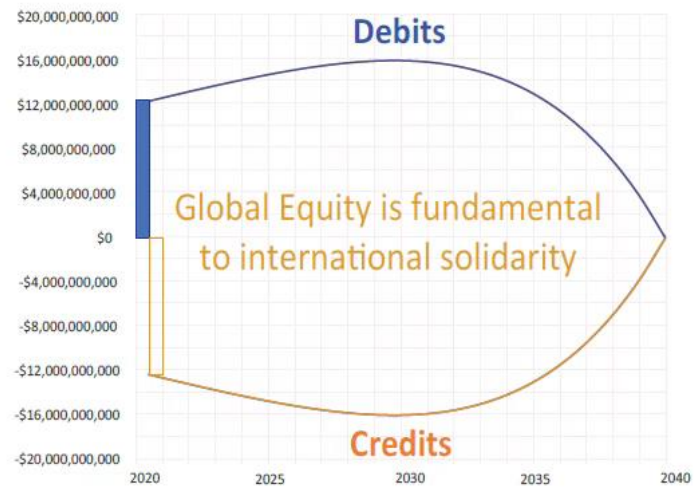


Carbon Price & Revenue



International Support for the C&C Principle

Click logo to return to 'links-page'

UNFCCC-Compliance & Support for the C&C Principle
C&C has always been about levelling up while slowing down
Fluminism

UNFCCC-Compliance
UK Government 2000 -2020
Sliding Scale
UNFCCC-Compliance *"inevitably requires"* C&C UNFCCC Executive
Massive Support for C&C principle remains completely unrivalled
12 UN Bodies support C&C Principle
Support from High Ranking Eminent Persons (ADB)
Extensive Political Support from Eminent Persons for C&C principle
Extensive expert support
Support for C&C Principle from many Blue Planet Award winners & others
All UK Political Parties strongly endorsed C&C
C&C supporting Early Day Motions (EDMs) in the UK Parliament
C&C becomes the UK Climate Act in 2008
Unrivalled Support
Religious consensus supporting C&C principle
Sustainability Endorsements for C&C
Publications Endorsements for C&C
Institutions Endorsement for C&C
Capitalist Socialist Endorsements for C&C
Equity Fairness Endorsements for C&C

Academia Endorsement for C&C
Economics Endorsements for C&C
Flyer for COP26 from Colin Challen

Transition
XR & UK government differ primarily about the rates of C&C
Chinese Government advocate C&C before COP-15 2009

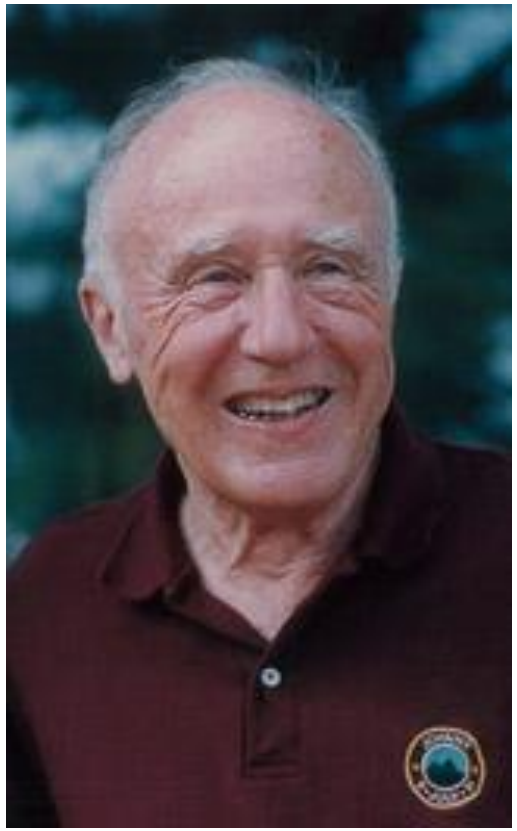
"The C&C principle is unchallenged" Herman Daly
Huge support for C&C Principle accompanies
this submission to UNFCCC 2012
An ALLIANCE FOR UNFCCC-COMPLIANCE
Submission to the Talanoa Dialogue 2016
More eminent persons support (some overlap here)

Submission to Talanoa Dialogue
C&C and the Rajan Global Carbon Incentive

Global emission zero by 2040 by 2030

Internationally Health Professional are increasingly uniting around this simple full-term strategy for UNFCCC-Compliance.
Editorials have now been published in over 200 Medical Journals worldwide base on this template from the UKCHA.

Averting Climate Disaster needs a Well-Tempered ‘numeraire’ which is a musical unit of measurement.

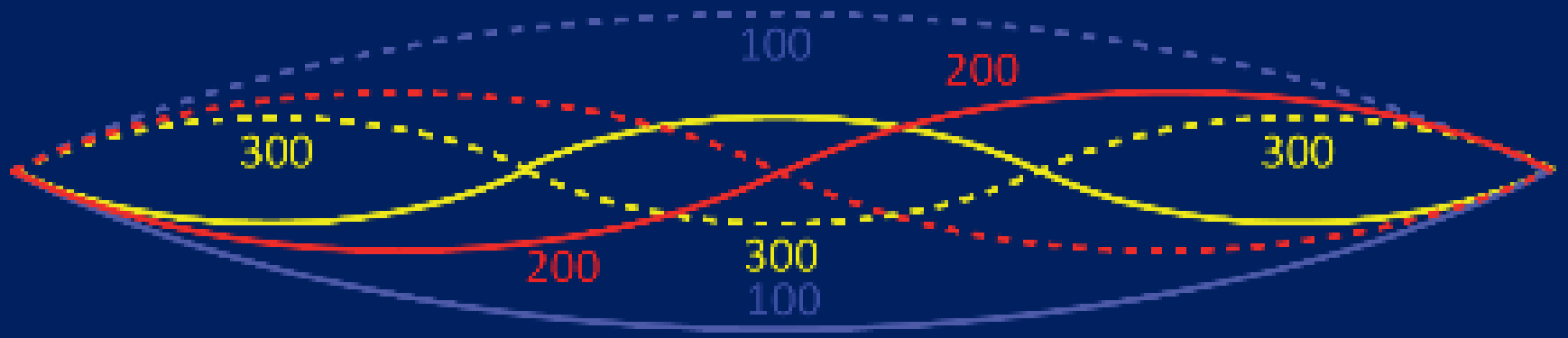


John Archibald Wheeler

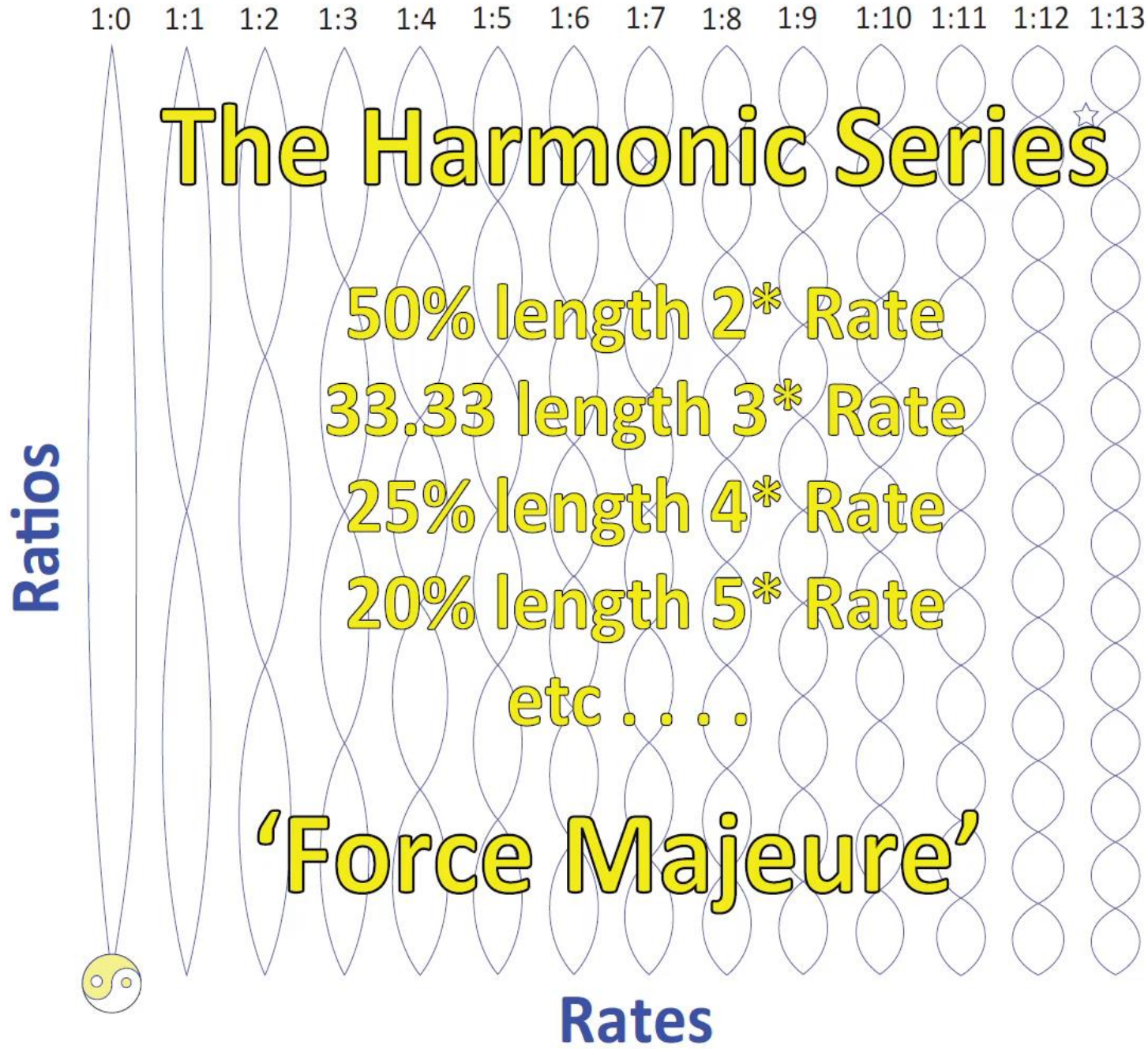
“Behind it all is surely an idea so simple, so beautiful, that when we grasp it - in a decade, a century, or a millennium - we will all say to each other, how could it have been otherwise? How could we have been so stupid?”

“Atoms are musical instruments” (Frank Wilcek), Indeed, the universe itself is a music instrument.

UNFCC&C-Compliance raises the numeraire-question asking: *“are we just trying to extend our world of monetary disorder into the full feedback reality of a musical universe?"*

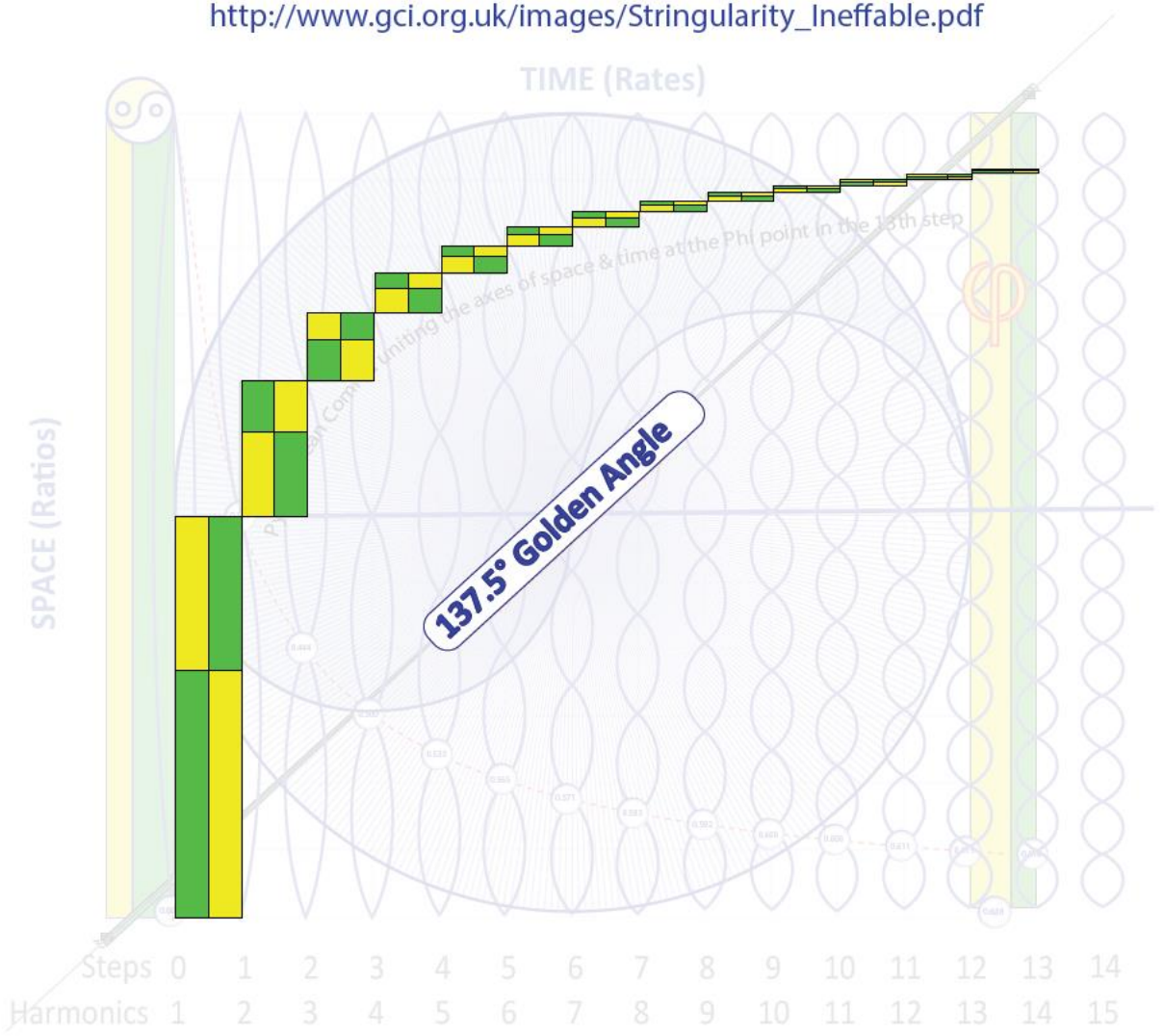


Structure of harmonic series both seen & heard

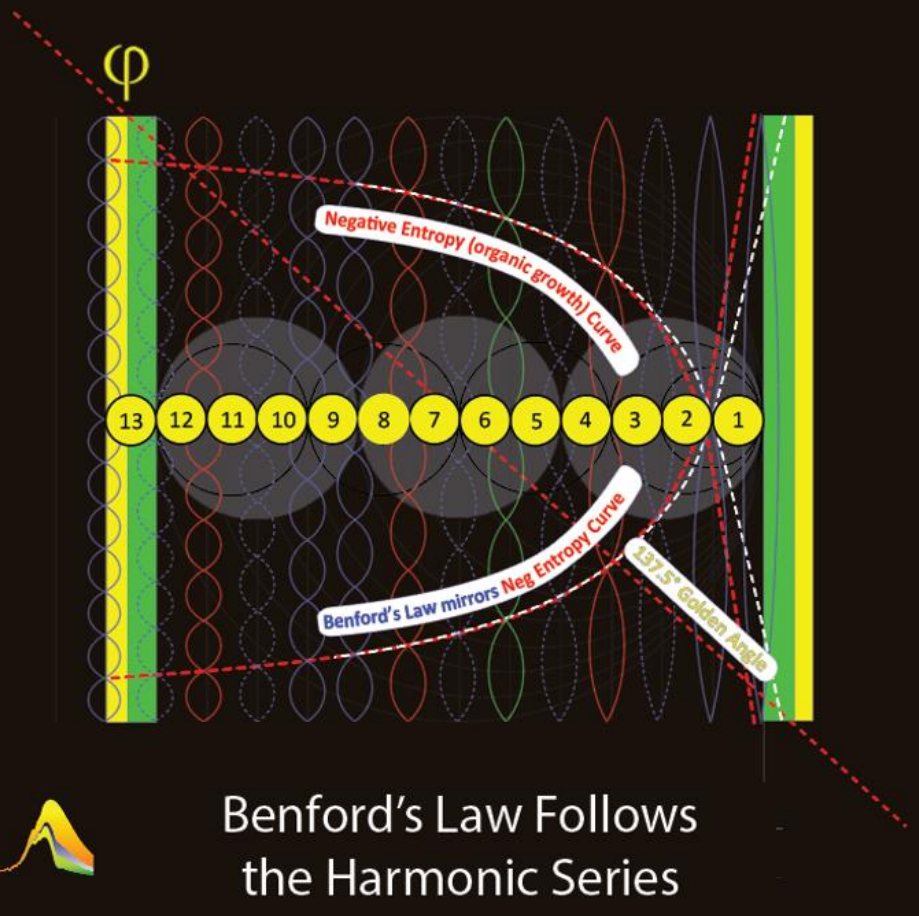

1:0
1:1
1:2
1:3
1:4
1:5
1:6
1:7
1:8
1:9
1:10
1:11
1:12
1:13
The Harmonic Series
50% length 2* Rate
33.33 length 3* Rate
25% length 4* Rate
20% length 5* Rate
etc . . . .
‘Force Majeure’
Ratios
Rates

Organic Growth is Levelling-up while slowing down . . .

http://www.gci.org.uk/images/Stringularity_Ineffable.pdf



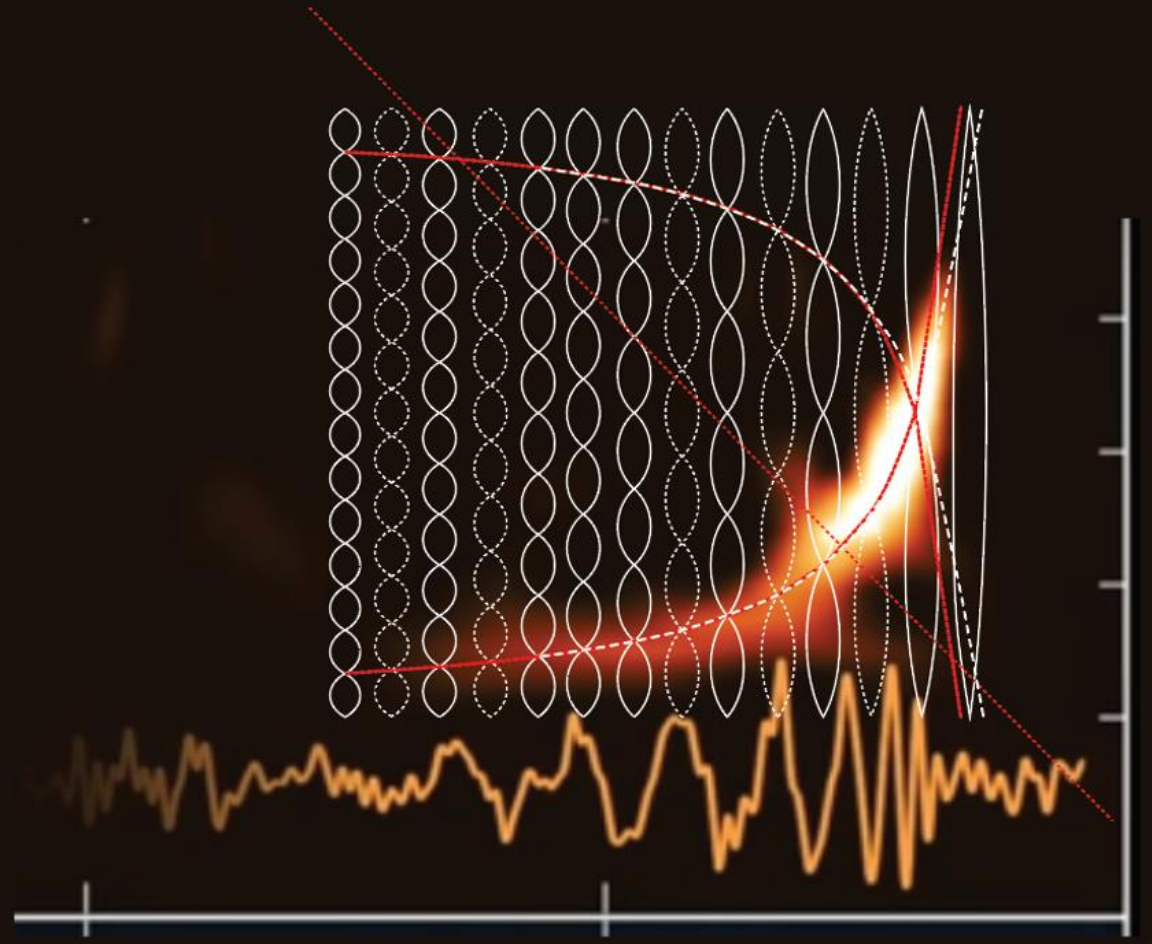
Harmonic Series gives rise to
the neg-entropy or Phi derivation Curve



Benford's Law Follows
the Harmonic Series

Benford Law little-known, but widely-used in fraud detection.

The LIGO Curve of two black holes coliding
follows the Phi derivation Curve



Recordings from both LIGO detectors May 2019

To have hope
we must exist & hope exists
because the harmonic series exists.

The harmonic series is force-majeure;
it gives the numeraire & the hopes
of all our existence.

Comments, Questions & Answers

FS Club

Platinum Sponsors

Invest Northern Ireland

CDI China Development Institute

Finance Montréal

AIFC

Seoul Together we stand

Busan Finance Center

HK Financial Services Development Council 香港金融發展局

LuxembourgforFinance Agency for the Development of the Financial Centre

ADGM An International Financial Centre

Dubai International Financial Centre

The Government of Moscow — The Department for External Economic and International Relations of Moscow

GT Global Times Consulting

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cuff associates Part of Thebes Group

Volanté

Transparency Task Force

Cygnetise

Catalina Consulting

AMSOM

Gibraltar Stock Exchange

Thank You For Listening

Forthcoming Events

- Fri, 29 Oct (15:00-16:00) Global Security Challenges: Existential Threats & Geopolitics
- Tue, 02 Nov (11:00-11:45) How We Talk About How We Work: The Emerging Landscape of Skills Taxonomies & How AI Is Improving Them
- Wed, 03 Nov (16:00-16:45) Accounting Standards & Discount Rates In DB Pension Scheme Evaluation: The Contractual Accrual Rate
- Tue, 09 Nov (15:00-15:45) Where have All The £300k+ Jobs Gone? Challenging Presumptions Existing Within The Executive Job Search Arena

Visit https://fsclub.zyen.com/events/forthcoming-events/