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Climate change-related disclosures:

how they're changing our business



Russ Bowdrey FIA
Aviva

13 August 2020



“

WHY?

”

13 August 2020

2

WESTMORLAND.

O that we now had here
But one ten thousand of those men in
England that do no work to-day!

KING: (paraphrased slightly)

“Nah, bro! We’ll be fine 😊

We’re the people with the right tools.
And this is about survival.

It is our DUTY to try

If we fail, **then at least we did try, and
Not just for us...**and if we succeed then
How few we are didn’t matter...

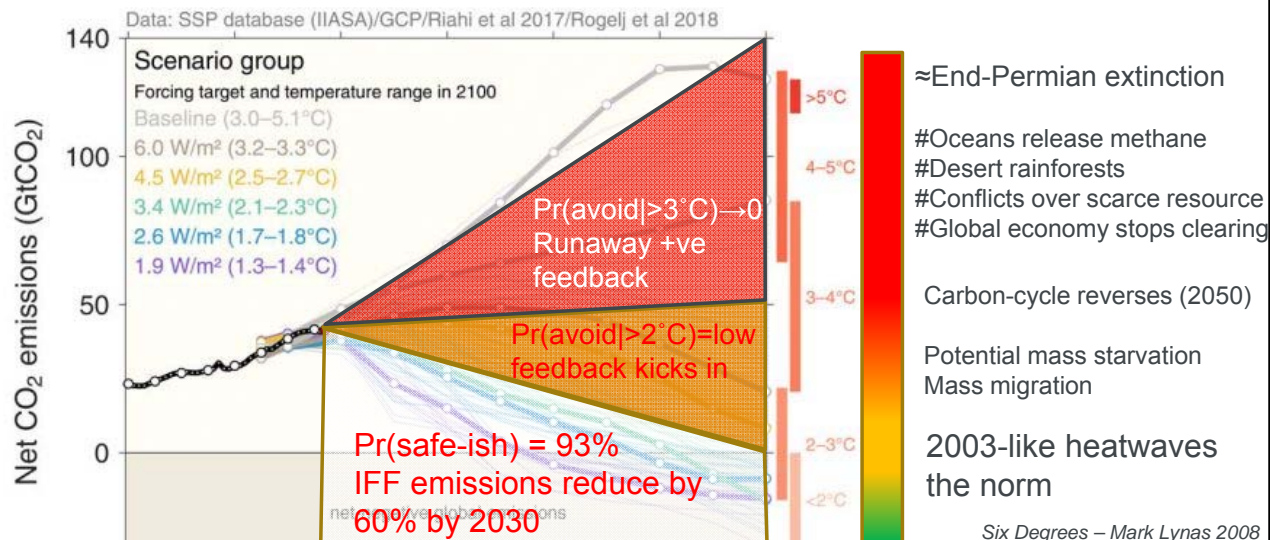
We lucky few...We band of brothers...”
Inspired by Henry V, Act 4.3



“

WHY?”

The science is now irrefutable – and of course there is uncertainty



But uncertainty is not a good reason for inaction

5

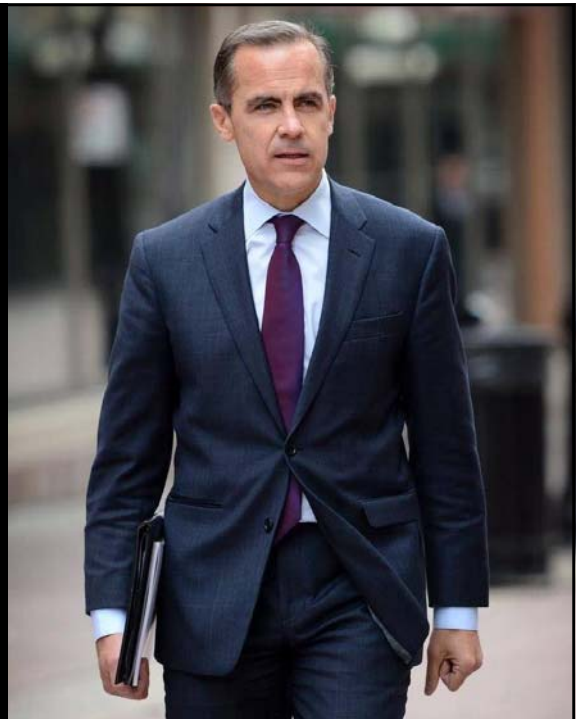






“ Once climate change becomes a defining issue for financial stability, it may already be too late.”

Mark Carney, Tragedy of Horizons, 2015





MY CONCERNED FACE

Do I Look Concerned Enough?
I've Been Practicing All Week

Politifake.org

The
regulator
is
deeply
concerned
(See PRA SS 3/19)
But arguably lacks the
mandate/instruments
to affect a change by
force/coercion

11

Why?

It's systemic and the PRA have high expectations

- PRA **SS 3/19** (climate change governance) and **CP 22/19** (PPP)

"Climate change, and society's response to it, present financial risks which are relevant to the PRA's objectives..."

"**ORSA**...should include at a **minimum**...all material exposures relating to the **financial risks** from climate change"

"... few firms are taking a strategic approach that considers how actions **today** affect **future** financial risks."

"...(robust) **governance**...embed climate change into **existing risk management**..."

"...use **long term scenario analysis** to inform strategy"




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12



Investors control the flow of capital

Underwriters control coverage to do business

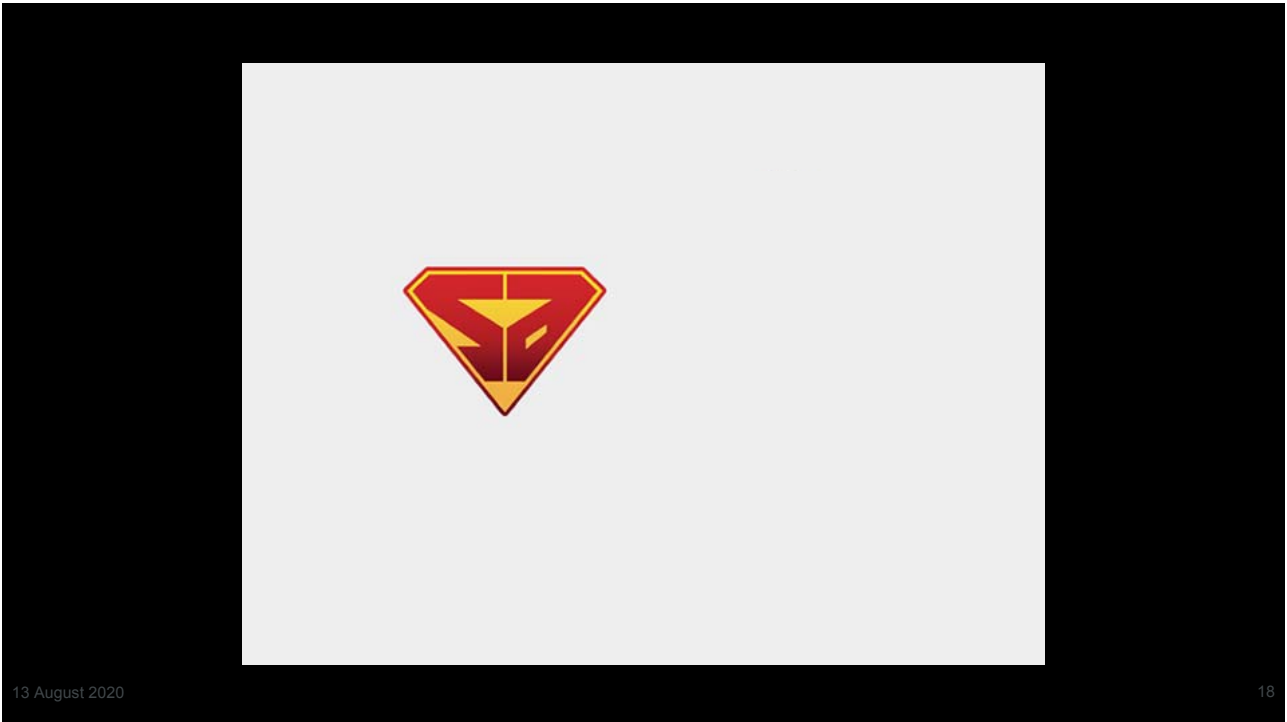


The flow of capital determines who gets the financing to succeed

13/08/2020 14



my "why"...



TCFD | Financial Stability Board spin out

“Increasing transparency makes markets more efficient, and economies more stable and resilient.”

Michael R. Bloomberg, Chair TCFD



Taskforce

Co-chairs

Mark Carney

Mike Bloomberg

+

Cross-sector:

Data users

(including Aviva!)

+

Data preparers

+

Scientists

19

“

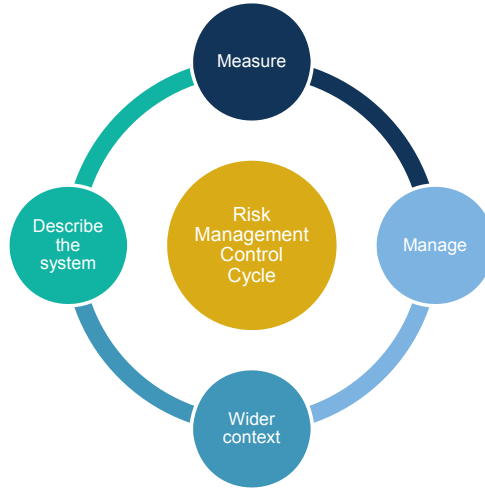
Not only are we long-term investors with a responsibility to act sustainably, we are also there to protect our customers against the adverse impacts of climate change itself.”

Maurice Tulloch, CEO, Aviva

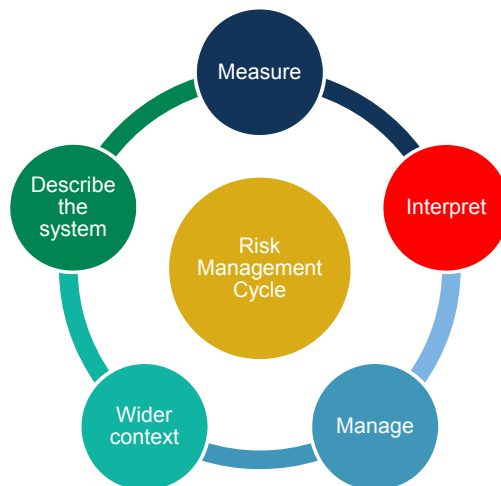


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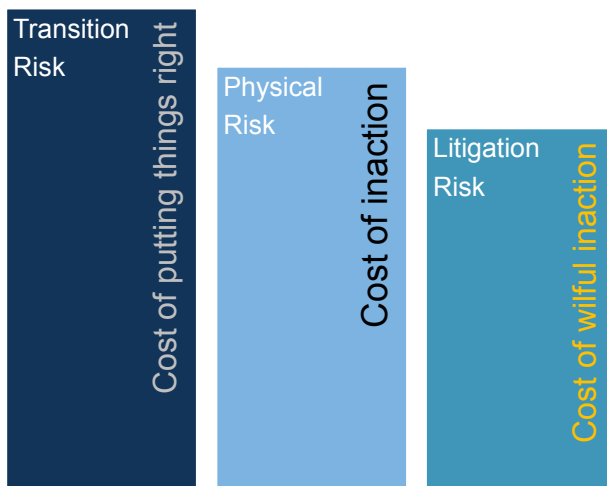
Measurement is the first step to management



But you need to understand what you're looking at...



3 Pillars of climate change's financial impact



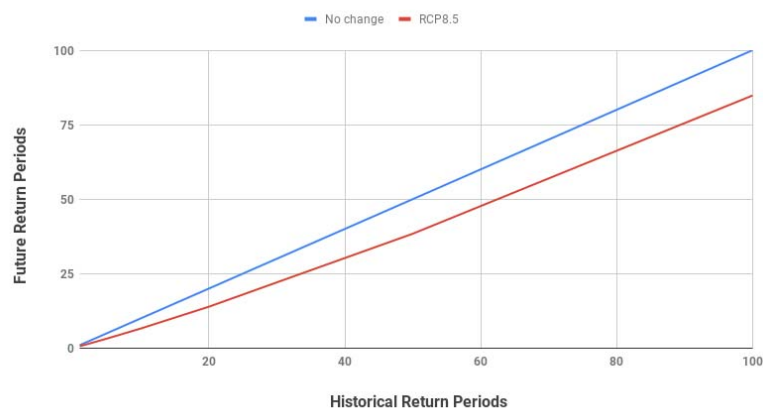
Transition risk: the cost of putting things right



Physical risk: leveraging catastrophe models



Future changes in windstorm for Great Britain

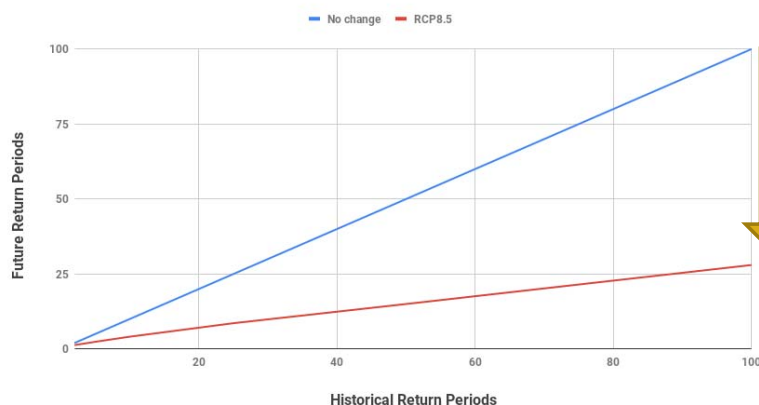


In a "BAU" scenario, the 1-in-100 year event could become the c.1-in-90



Physical risk: leveraging catastrophe models

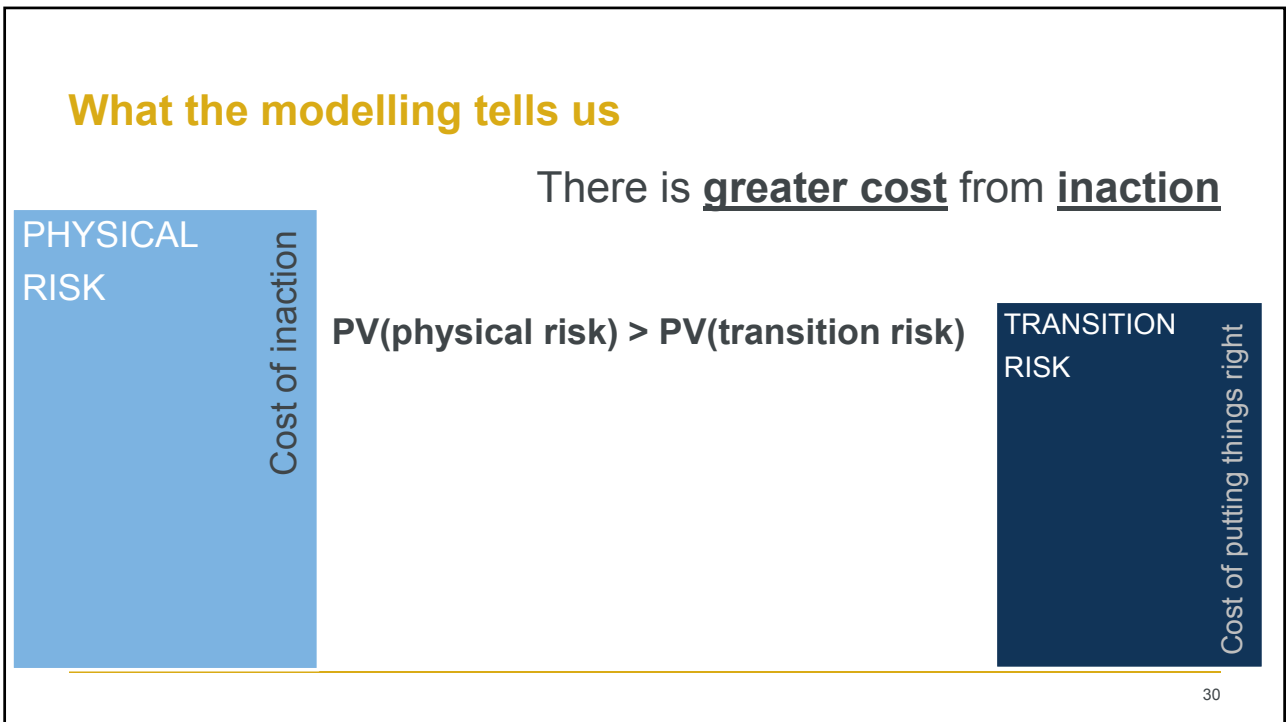
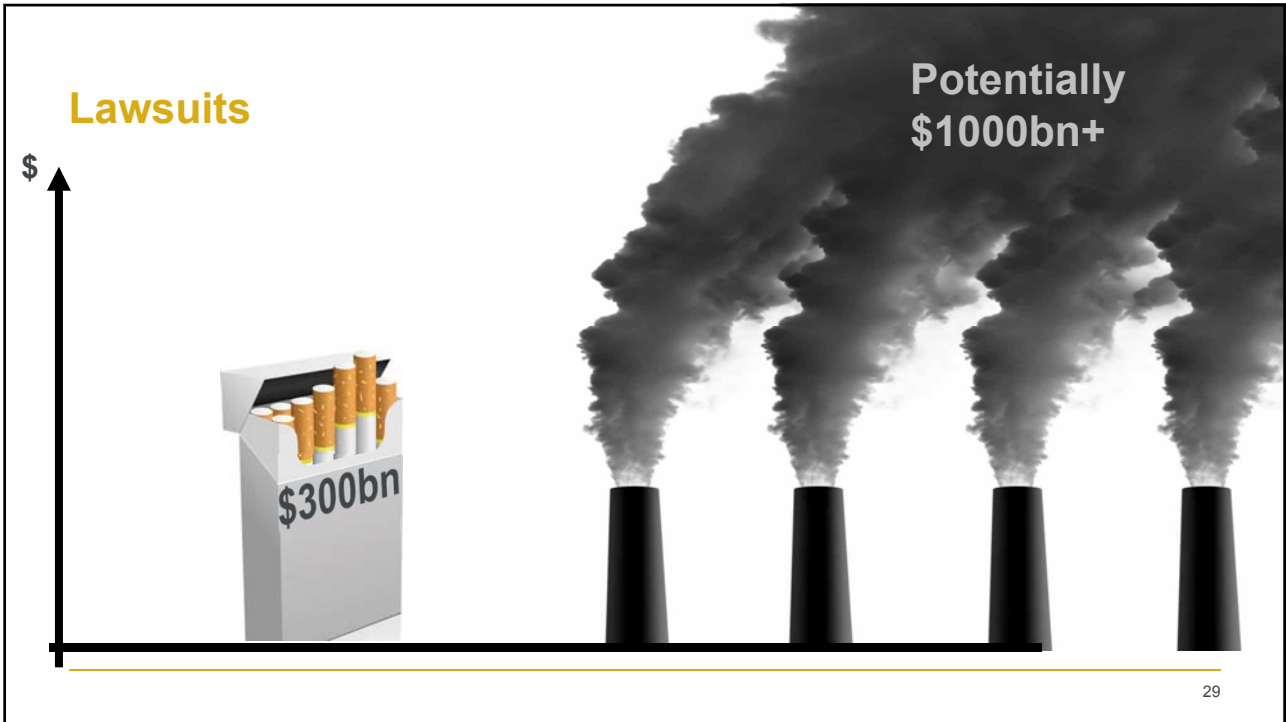
Future change in floods for Northumbria in 2050



In a "BAU" scenario, the 1-in-100 year event could become the c.1-in-30



Litigation risk:
It's all their fault!



What the modelling tells us

- The output is decision useful, despite the uncertainty
- Simple actions can have large impacts
 - Typical of first passes through unmanaged risks
- Modelling sophisticated but immature
 - How useful are dollar losses given the huge modelling uncertainty?
- Learning to interpret the data
 - Expert insight, pragmatism experience required.



31

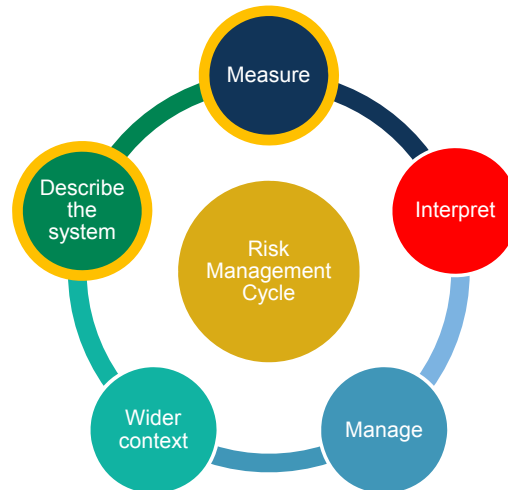
“The how-to bit” - Aviva’s TCFD journey: Governance

- Executive sponsors
- Run out of Risk function
- Very wide participation
 - Investment | Actuarial | Underwriting | Reinsurance
Risk | Public policy...
- Governance in line with risk calibration
 - Expert judgement panels
 - Robust challenge from wide body of stakeholders
 - External expert input and specialist review



32

Stepping through...



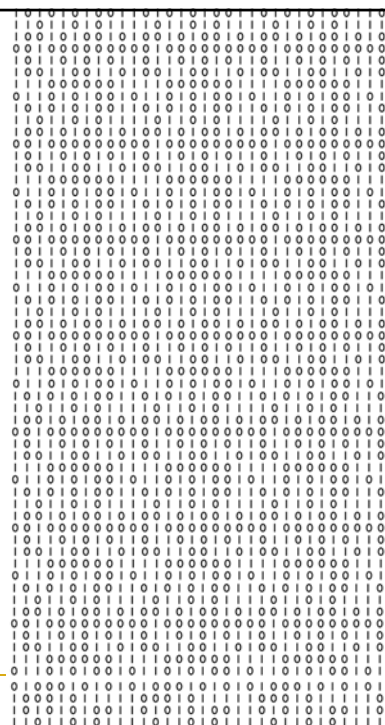
“The how-to bit” – Getting the modelling done

- The modelling is specialist and non-trivial
- Growing number of specialist vendors
- Physical risk looks similar, but is different, to catastrophe modelling
 - Time horizon and use of output
- Transition risk requires strong (equity/credit analyst) skills in:
 - Cost projection
 - Company valuation
 - Instrument valuation
 - Scenario analysis
- Litigation risk requires deep legal, policy and climate change



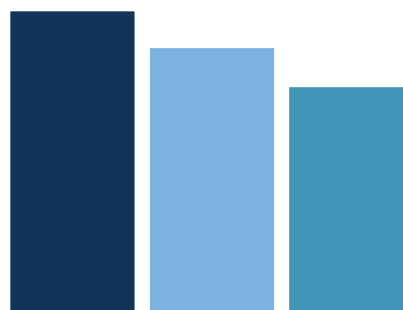
“The how-to bit” – Data is crucial

- Listed securities are relatively easy
- Unlisted less so
- Real estate-linked
 - Location and building type needed for physical
 - Transition risk data is a challenge, so proxies needed
- Sovereigns is a puzzle
 - Large portfolio exposures
 - Opaque and complex exposure to climate change
 - Based our analysis on ND-GAIN, but room for improvement



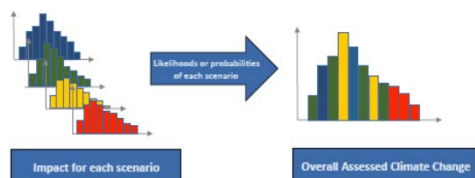
“The how-to bit” – Outputs by pillar

- Dollar “losses”
 - Be wary of Climate “VaR” measures, is it a Value at Risk or stressed value?
 - Take time to due diligence the modelling
 - How meaningful/useful is a dollar loss?
- Some providers output exposure indices
 - More intellectually honest? More useful?
- How will we use this data?
 - Share it and walk through
- How trustworthy is it for BIG decisions?
- Litigation risk not quantifiable

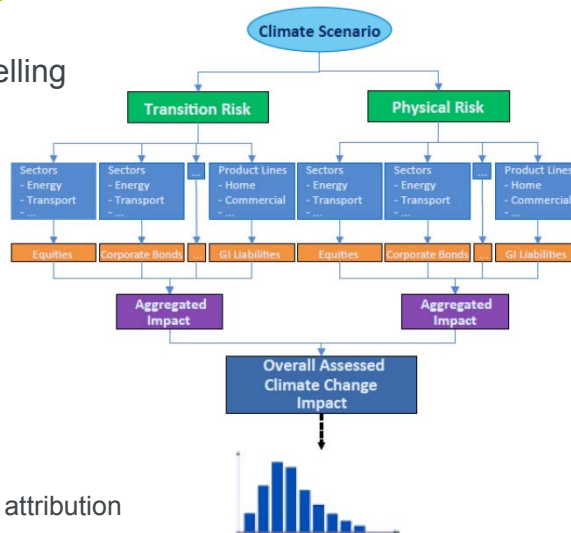


“The how-to bit” - Aggregation

- Borrowed from our Operational Risk modelling

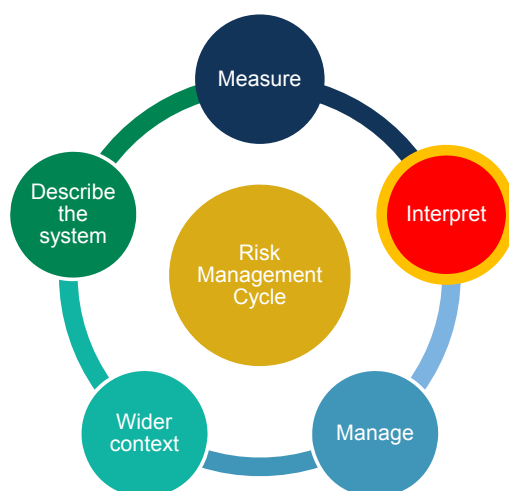


- Bayesian networks
 - Map together interactions
 - Better reflect uncertainty
 - Provide overall exposure figures and granular attribution



37

Stepping through...



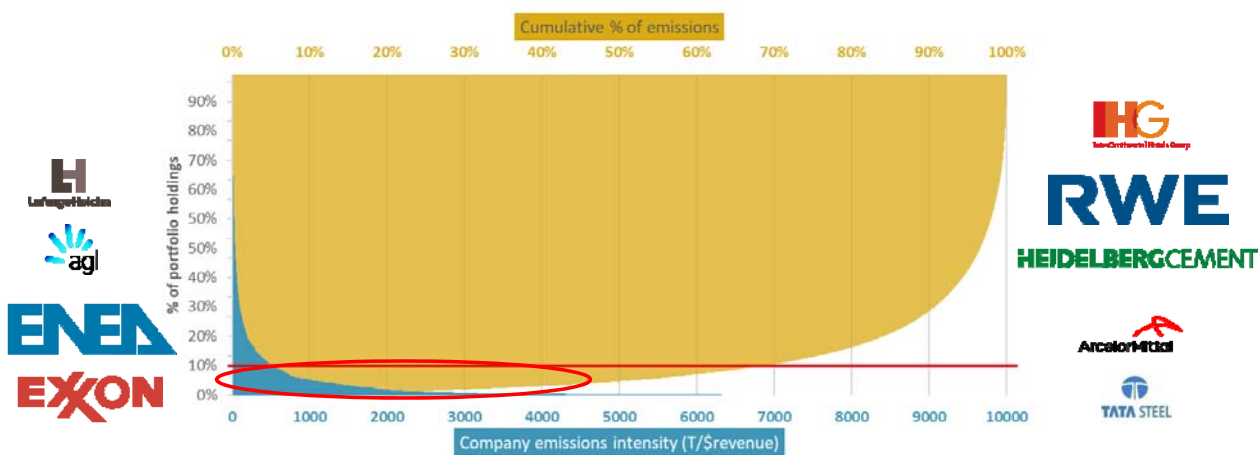
38

“The how-to bit” – The “use test”

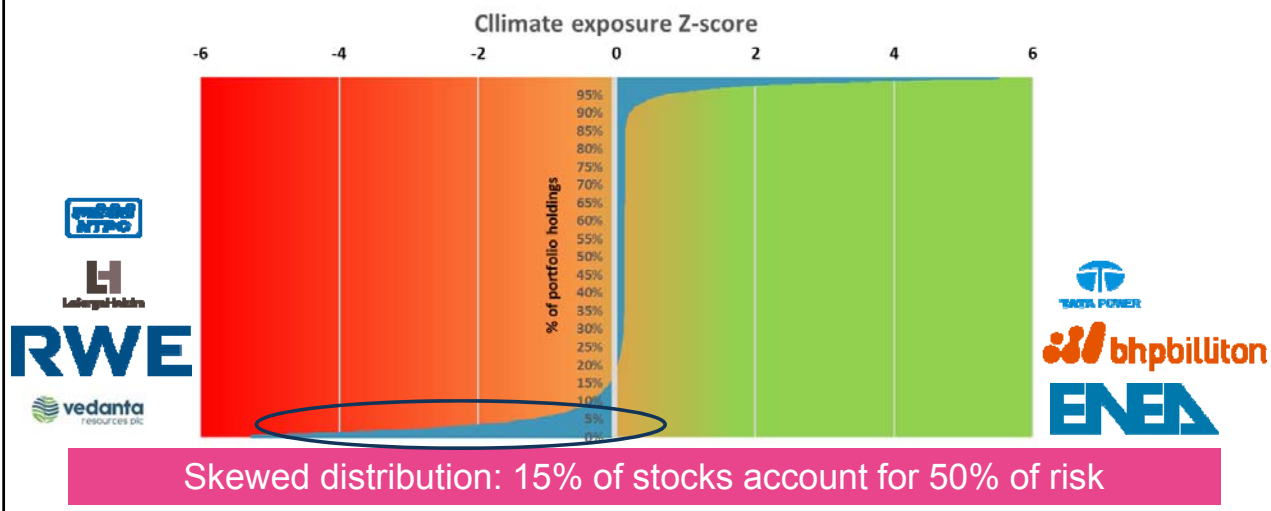
- Feed up into ALCO/Board/Exec
 - Huge education piece
 - Named senior manager responsible
- Run out of Risk function
 - Risk appetites
 - Data services to other teams
- Funnel down into investments, underwriting/pricing
 - Interpreting data and risk appetite statements
 - Converting to portfolio metrics/mandate requirements



Unmanaged risk profiles – GHG Emissions

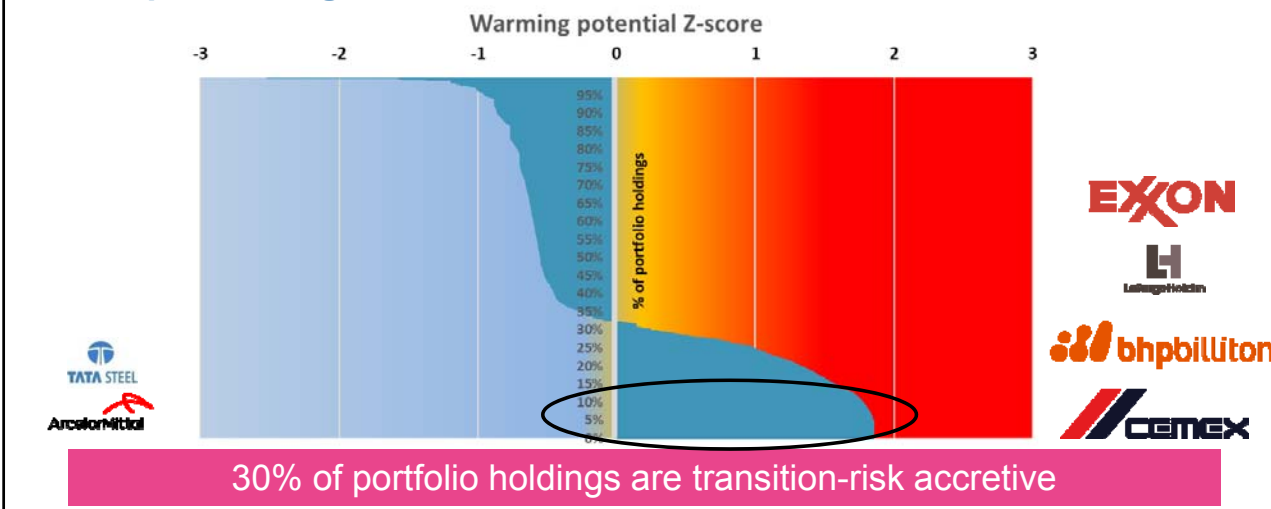


Using Z-scores to look passed spurious precision Overall climate exposure



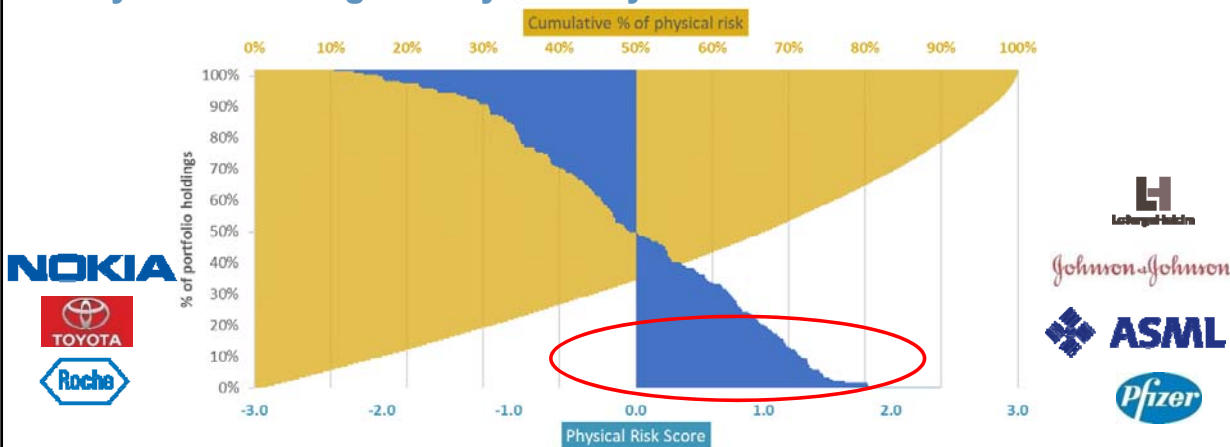
41

Using Z-scores to look passed spurious precision Companies' alignment to a less hot future



42

Using Z-scores to look passed spurious precision Physical Risk is generally more symmetrical



Companies with long/complex supply chains and located in high-risk areas need a closer look

So what do I do with “immature modelling output”?! It’s all RELATIVE

- Hot spotting
 - Identify names/sectors for deep dive by Risk/Asset managers

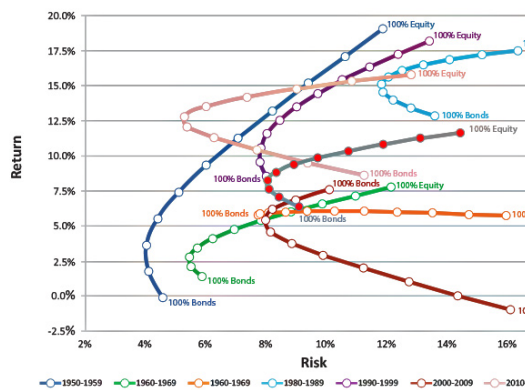
- Needs a close and expert look
 - Many assumptions embedded in climate change models

- Challenge your asset manager to up their game
 - Redesign mandates

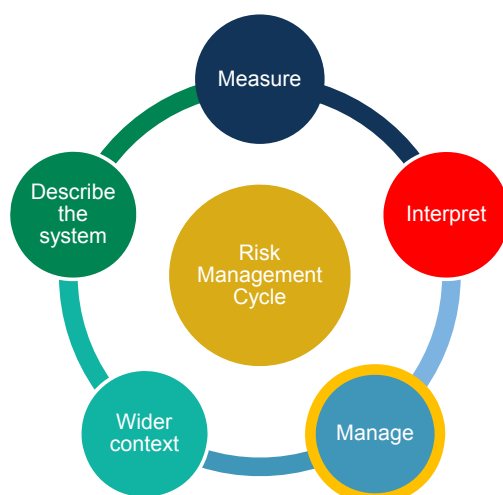


“The how-to bit” – Open issues

- Confusing precision with accuracy
- IEA derived scenarios
- Analysis of sovereign exposure
- Regulatory intervention
- Carbon price rises
 - What/when/how?
- Integrating more deeply into SAA
 - Requires climate-change aware economic models



Stepping through...



Responding to the call | Aviva Group

Designing Aviva's climate change strategy

- **Problem/need**
 - “What on earth do we do about our exposure to climate change?”
- **Process**
 - Worked with climate scientists, investors, underwriters to develop a climate change strategy that positions to the business to respond to climate change
- **Solution**
 - Aviva's Strategic Response to Climate Change (2015)
 - The 2020 update is in the final stages of governance and has moved on considerably...



47

Aviva's 2015 - climate change strategy



Integrate climate risk in investment (and underwriting) considerations



Invest in lower carbon infrastructure



Support strong policy action on climate change



Active stewardship on climate risk – actively engaging with companies



Divest, after engagement, where necessary

48

Bring strategy to life | Aviva France

Launching solutions to help with capital allocation

- **Problem/need**

- Following their Article 173 (climate change) disclosure Aviva France understood better their exposure to climate change the demands from their customers for products that address it. They asked Aviva Investors for a fund to bring this to life.

- **Process**

- Close collaboration to develop a number of ESG solutions that meets investment needs combined with meeting low carbon outcomes

- **Solution**

- Delivered a number of solutions that allows Aviva to improve it's overall carbon footprint



49



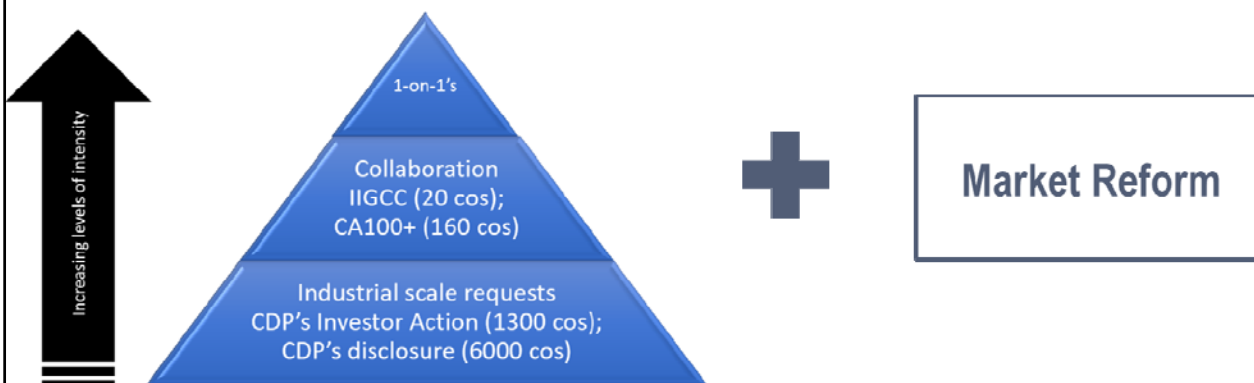
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50

Active ownership - Voting

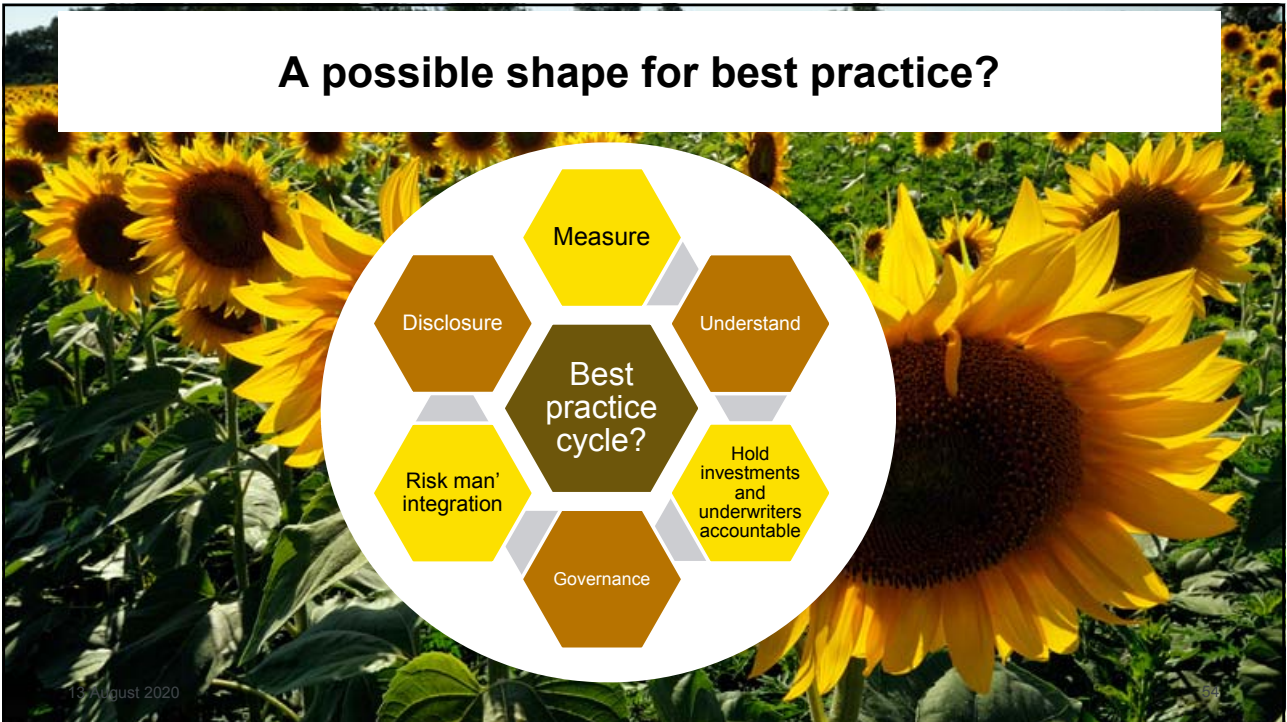
	Shareholder Resolutions (SHR)							ESG disclosure	
	Climate Change strategy	Greenhouse gases	Deforestation	Methane	Renewable Energy	Water	Total SHR	# com parties	# com parties CDP specific
2015	28	15	3	5	5	0	56	181	6
2016	35	11	1	5	12	1	65	176	88
2017	33	12	3	4	13	0	65	184	104
2018	8	11	2	6	14	2	43	183	111
Total	104	49	9	20	44	3	229		

Active Ownership - Engagement







A possible shape for best practice?



Insurance is pivotal

INVESTOR  UNDERWRITER

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55

Key messages | We can, so we must

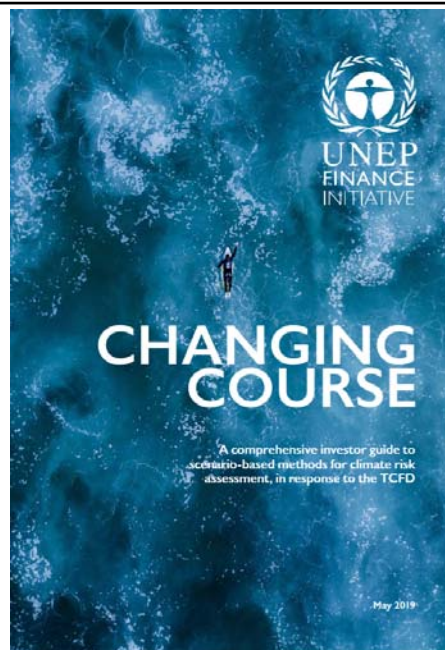
- 1) **Why?** It's systemic and the PRA have high expectations
 - The PRA are paying attention – read SS 3/19
 - Measurement is the first step to understanding
 - It is unambiguously part of the prudent person principle.

- 2) **Why?** The greatest cost to shareholders and customers is from **inaction**

- 3) **How?** First Measure. Then Do.
Plenty can be done by taking an active approach to asset ownership

Some further information

- <https://www.unepfi.org/investment/tcfd/>



57



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A Practical Guide to Climate Change for Life Actuaries

by David Ford (Chair); Bradley Ashton; Kyle Audley;
Marjan Qazvini; Yixuan Yuan; Yvonne McLintock



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58

*“Our greatest fear should not be of failure,
but of succeeding at something
that doesn't really matter”*

Bruce Lee 1940-1973



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Questions

Comments

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60

APPENDIX:

Climate change psychology

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61

What is the link?



The Oracle – *The Matrix*

DELPHI

“γνῶθι σεαυτόν”

(Know thyself)

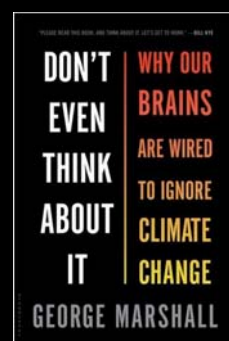
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63

Know thyself

How we are wired to ignore climate change

- **George Marshall**
- **Humans are irrational**
 - Unlikely to respond to long term risks
 - If not aligned with short term reward systems/biases
- **Psychology of how we condense our world and react to disasters:**
- **Framing effect**
- **Confirmation bias**
- **Abstraction / Distance**

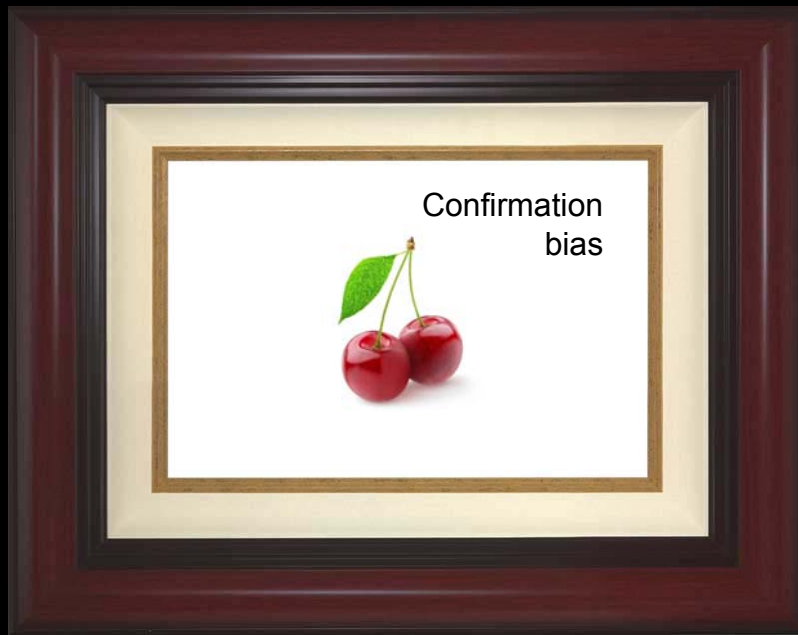


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13/08/2020 • Don't even think about it – George Marshall

64

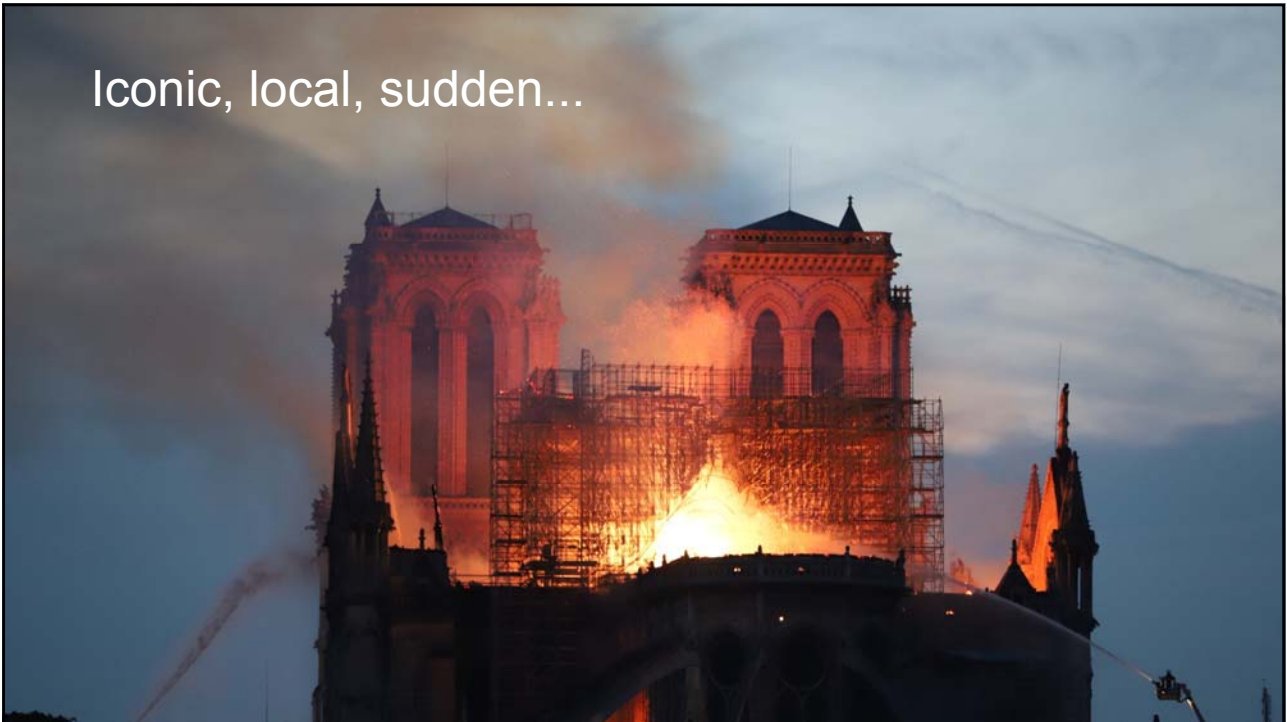
Framing



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65

Iconic, local, sudden...









Familiar



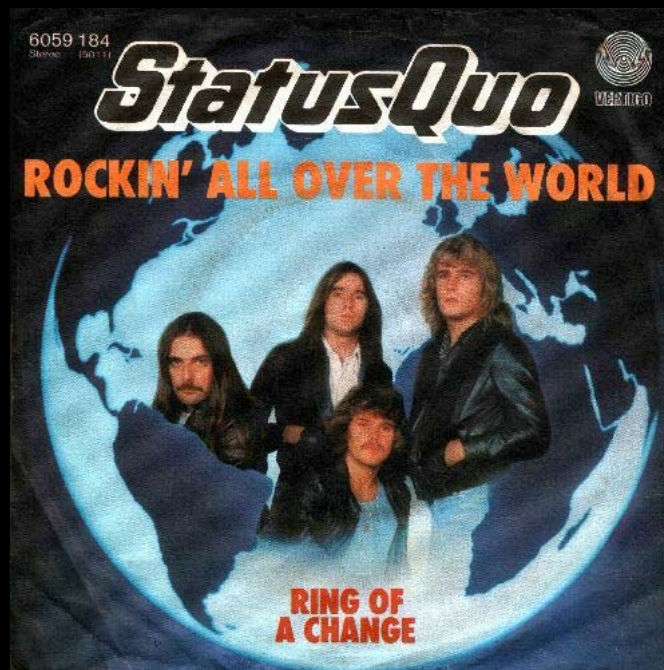
Visually devastating





People hate and fear change.

Unless it is obvious it is about survival, then we are masters of adaptation.



They lose the day in expectation of the night,
and the night in fear of the dawn.

Seneca 4BC-61AD



Our greatest fear should not be of failure, but
of succeeding at something that doesn't
really matter

Bruce Lee 1940-1973