

Adaptation Finance Needs

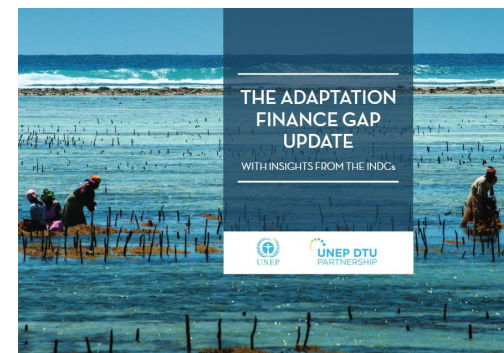
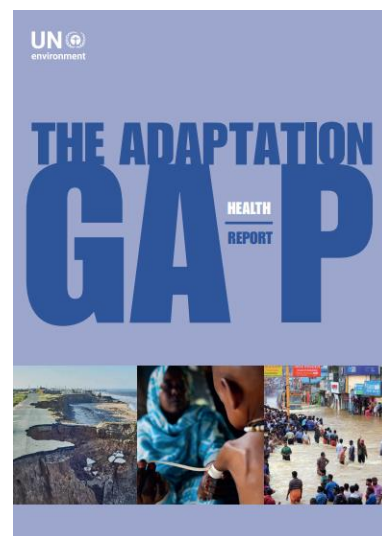
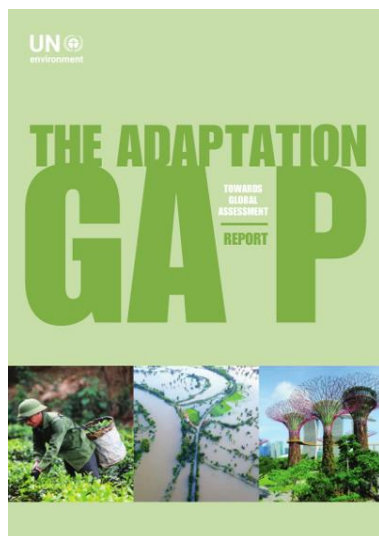
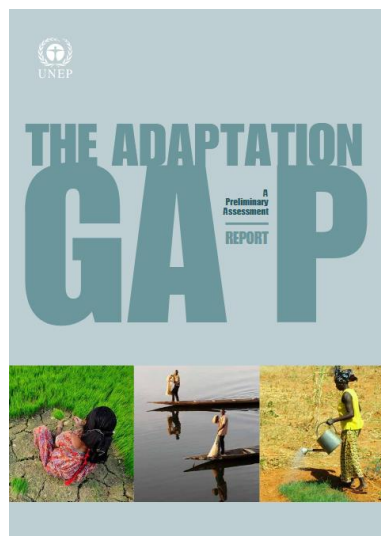
Estimates & Lessons from the Adaptation Gap Report



Paul Watkiss

UNEP Adaptation Gap Report

- Following the success of the Mitigation Gap report, UNEP developed a similar initiative for adaptation
- Adaptation Gap = Difference between the actual level of adaptation and the level required to achieve a societal goal

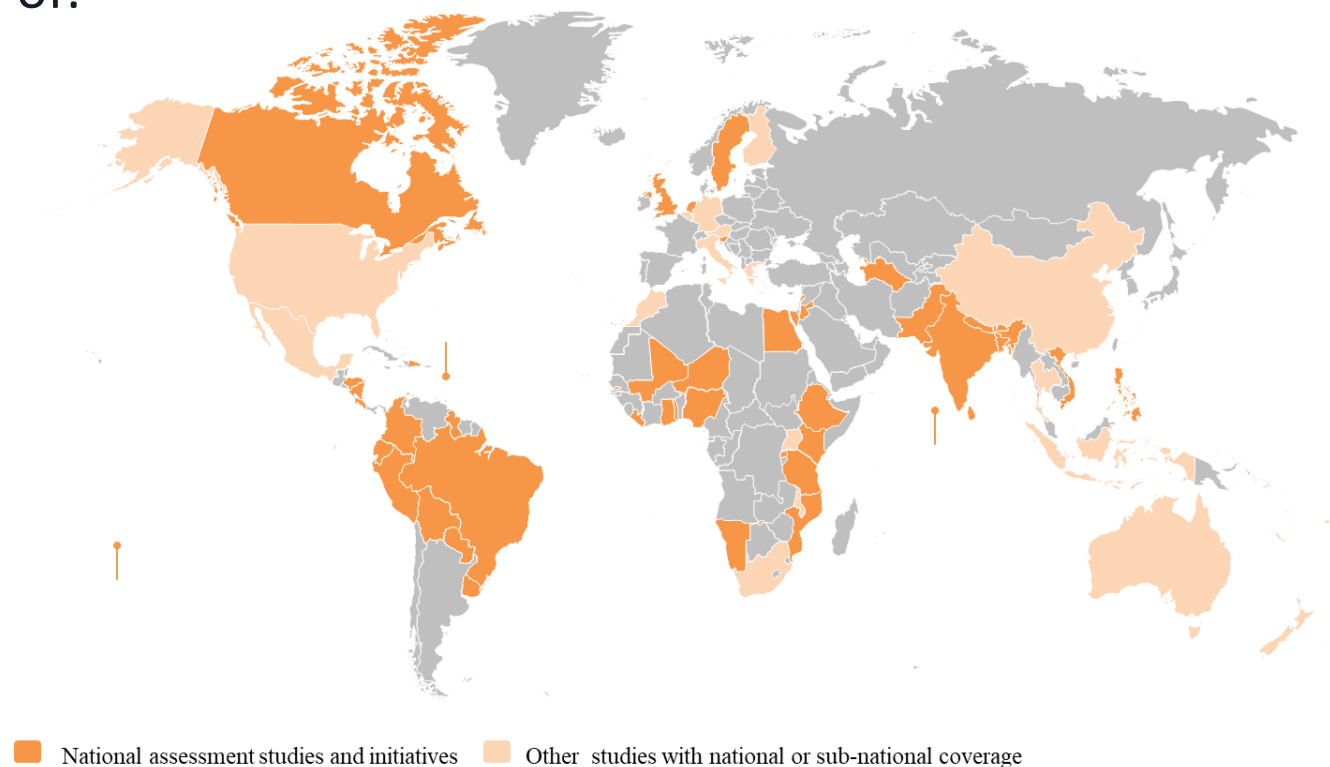


Adaptation Finance Gap

Adaptation Finance Gap = gap between the costs of meeting a given adaptation target and the amount of finance available

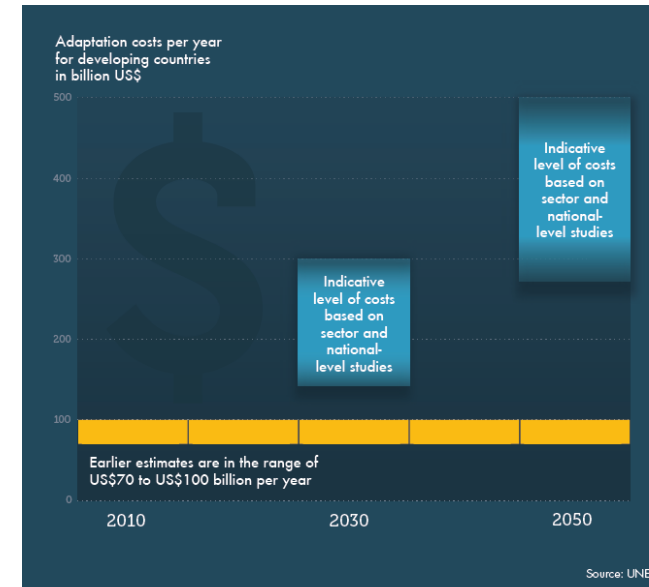
Analysis based on review of:

- Global estimates
- Country studies
- NDCs
- Climate finance flows



Adaptation Finance Gap – headlines 2019

- Analysis found that earlier estimates of the costs of adaptation (~\$100 bill/year) are likely to be significant underestimates
- Estimated costs of adaptation (developed countries):
 - US\$140 billion to US\$300 billion / yr by 2030
 - US\$280 billion to US\$500 billion / yr by 2050
- This compares to current adaptation flows of
 - \$23 billion in 2016 (CPI) from all sources
- So there is a very large adaptation finance gap !



Also reflected in findings of 2018 Biennial Assessment and Overview of Climate Finance Flows by the Standing Committee on Finance

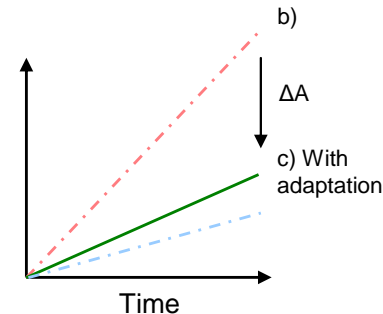
Backed up by additional evidence

- NDC adaptation financing needs - 50 countries provided \$ estimates
 - Total is ~\$500/Billion for period 2020-2030 (~\$50 Bill/yr)
 - But NDC use range of methods, approaches, different levels of detail
- MDB evidence
 - MDB adaptation finance flows \$7.4 Bill in 2017 for climate proofing infrastructure. Analysis of projects analysis indicates 0.5 – 10% cost uplifts
 - Set against global infrastructure investment needs of \$60–100 trill by 2030 (\$6Trill/yr) - indicates high adaptation costs
- Rising extreme event, total economic losses US\$330 billion in 2017 (Swiss Re)

But care is needed with any numbers

There is no single cost of adaptation or single estimate for country adaptation finance needs - it depends, because....

- Adaptation does not have defined target levels (unlike mitigation) and highly context and site specific
- Adaptation targets involves ethical choice - reduce down to optimal economic level of adaptation? or remove all residual damage ?
- Depends on what include – incremental costs of climate change? Or also include the existing adaptation deficit ?
- Varies with models and approach – as well as coverage of sectors / risks
- Differs if theoretical analysis or real world – and if consider uncertainty



Numbers differ with approach used

Methods

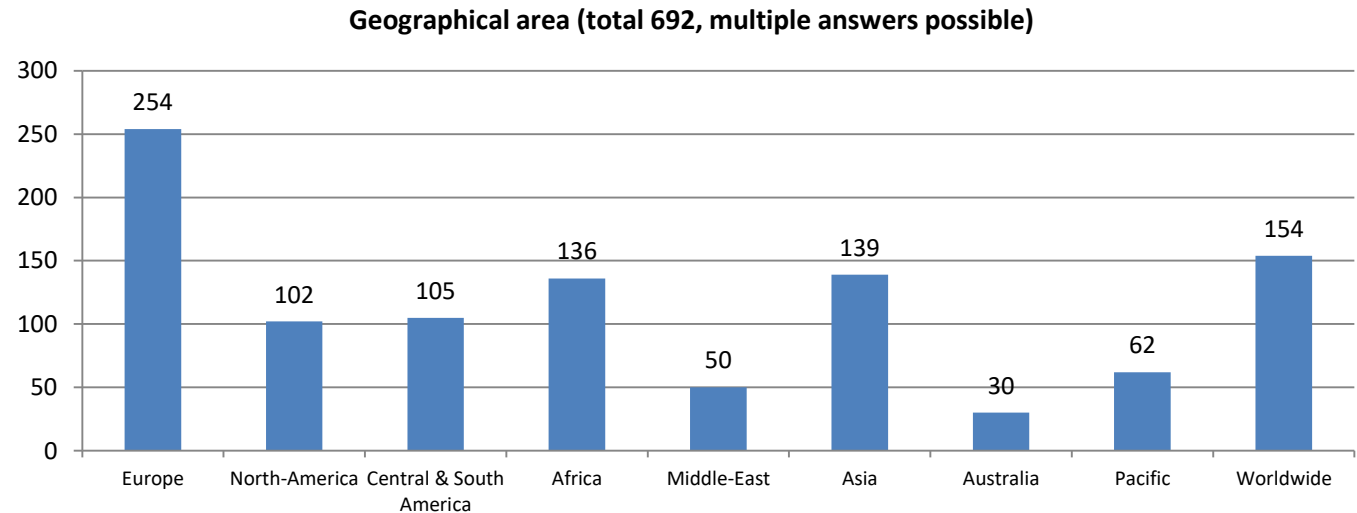
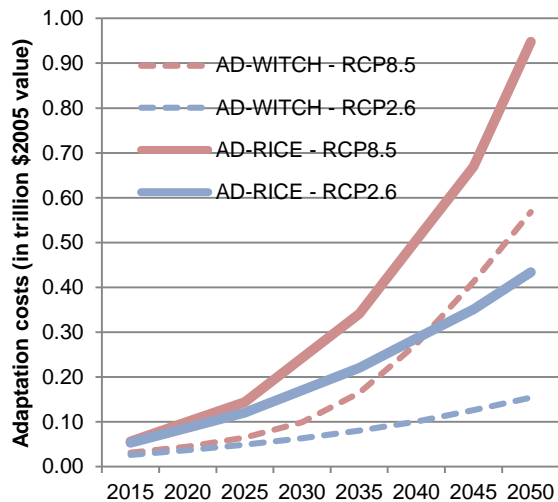
- Needs based assessment
- Investment and financial flow analysis
- Global economic integrated assessment models
- General equilibrium models
- Impact assessment models (sector)
- Other

Decision support analysis

- Costs
- Cost-benefit analysis / other DS
- Decision making under uncertainty (DMUU)

How did we analyse and aggregate?

- Undertaken as part of major EC project – ECONADPT <https://econadapt.eu/>
- Global review of costs of adaptation literature – 700 studies
- In AFG we undertook new IAM runs to frame long-term costs 2 v 4C path, and detailed analysis of country and sectors studies – and used to derive estimates



Some insights

- Coverage across non-Annex I although major gaps
- Coverage of sector / risk leads to large variation in estimates – in all cases ‘sub-total’ of total needs
- Global studies lead to much lower estimates than national studies (for the same countries)
- Needs-based studies lead to higher \$ values than economic studies (b/c adaptation deficit & not optimal)
- Real world studies show higher costs (10-20% over technical costs), as shown in GCF and AF analysis
- Higher costs if consider uncertainty

	Evidence
Coastal zones & coastal storms	✓✓✓✓
Floods including infrastructure	✓✓✓
Agriculture	✓✓
Energy	✓✓
Health	✓✓
Tourism	✓✓
Transport	✓✓
Business, services and industry	✓
Water management (& deficits)	✓
Forestry and fisheries	✓
Macro-economic analysis	✓
Tipping points	✓/ x
Biodiversity / ecosystem services	x

Some challenges

- The adaptation finance gap is unlikely to be filled by the private sector in developing countries – this is different to mitigation
- Insurance can help – but only so much (events not trends)
- Emerging new instruments, but will need public investment
- Likely to be large increase in domestic budget contributions or else rising damage costs (L&D)
- Increasing problem of distributional impacts of climate change and inequality of adaptation – as well as sector gaps (ecosystems)
- Focus on finance (TCFD) and physical climate risks likely to have negative as well as positive outcomes

Some suggestions for moving forward

Would be useful to have

- New global stocktake (e.g. a new WB EACC/UNFCCC IFF)
 - Along with national programme of country studies (good practice)
- Greater harmonisation / standardisation for adaptation need assessments
 - Transparency (what included, what method)
 - Some mandated consistency (e.g. what years, if adaptation deficit)?
 - More explicit guidelines (which methods, how to do) ??
- Better alignment with national and sector development planning