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CLIMATE-RESILIENT INFRASTRUCTURE: GETTING THE POLICIES RIGHT

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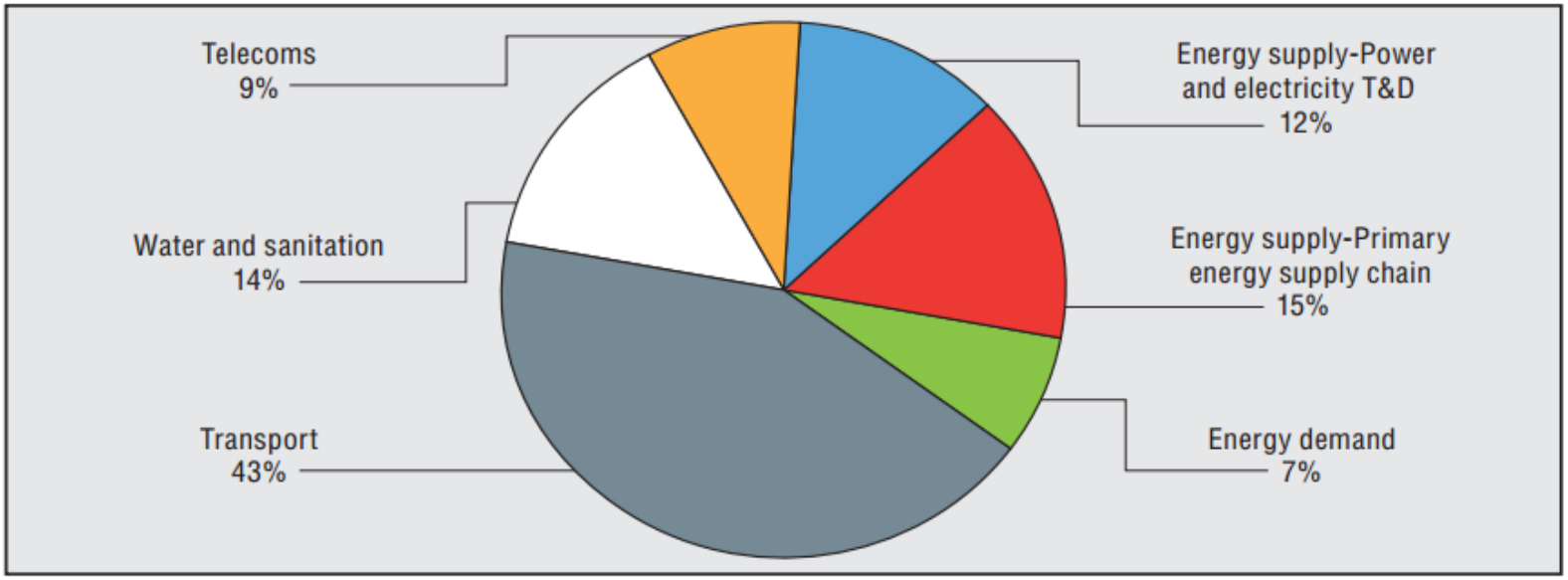
OECD
BETTER POLICIES FOR BETTER LIVES

Direction of investment flows will shape vulnerability to climate change

- Global infrastructure investments needs (2016-2030): USD 95 trillion for 2016-2030



Source: OECD (2017)

Climate-resilient infrastructure covers a broad spectrum of actions

- Construction of combined road and storm water tunnel in Kuala Lumpur
- Construction of drainage infrastructure in Copenhagen through a network of permeable roads, greenspaces and waterways
- Integrating climate risks in the refurbishment of the Quairokkum hydropower scheme in Tajikistan
- Modifying the maintenance regime of France's power plants to account for summer temperatures

Potential benefits of climate-resilient infrastructure

- Increased **reliability** of service provision
- Reduced **depreciation**, repair and maintenance costs
- The use of green infrastructure can generate **co-benefits** such as amenity value and reduced urban heat island

Scope of this analysis

- Research questions
  - In which ways can governments ensure their infrastructure is climate-resilient?
  - What's the current state of adaptation action?
    - Focusing on *national-level* action in OECD countries
    - Building a framework for action
- Approach:
  - Lit review
  - Expert workshop
  - 3 case studies (Slussen Lock, SE; Central Artery – Tunnel, USA; Delta programme, NL)

Range of policy levers needed to strengthen resilience

Policy levers	How much are they used?	Future challenges?
1) Evidence provision	High	Capacity-building
2) Accounting for climate risks in projects financed by governments	Low	Transparency
3) Enabling resilience through policy and regulation	Med	Cost-effectiveness
4) Disclosure of climate risks	Low	Coordination with financial sphere

Source: Vallejo and Mullan (2017)

1) Evidence provision

- National infrastructure risk assessments in all OECD countries
  - 14 qualitative, 21 quantitative
  - Mostly multi-sectors and multi hazards
  - Growing consideration of interdependencies between operators and across sectors
- Guidelines and tools on *how* to integrate resilience in investment projects
  - Governance (EU)
  - Economic analysis (UK, Canada, ADB)
  - Planning (US FHA, NZ)

- Risk assessment can start off qualitatively then built up
- Growing body of methodological guidance

2) Accounting for climate risks in publicly financed projects

- Screening and decision-support tools
  - Prevalent in development banks: Multilateral (EBRD, Nordic Investment Bank, ADB, WB), bilateral (JICA, AfD, KfW)
  - Rare evidence in OECD domestic investment (EU structural funds commitment, EIB)
- Contractual arrangements
  - Belgium's state and national railway operator (SNCB) management contract
  - Australian local governments infrastructure plans

- Procurement/concession framework may be an obstacle… but hard to influence
- Several tools developed by those investing in most vulnerable countries

3) Enabling resilience through policy and regulation

- Sectoral regulation
  - Technical e.g. nuclear power in France, hydropower in Switzerland
  - Economic e.g. UK energy, rail and water sectors
- National and international climate-resilient standards
  - Governance (ISO, UK, USA, Oz) or technical (Eurocodes)
  - Led by industry (PIANC, CIBSE) or by public standards institutions
  - Mostly across sectors, but the specific ones focus on transport (particularly road drainage)

- Growing use of national standards
- Critical role of regulatory frameworks in setting incentives

4) Disclosure of climate risks

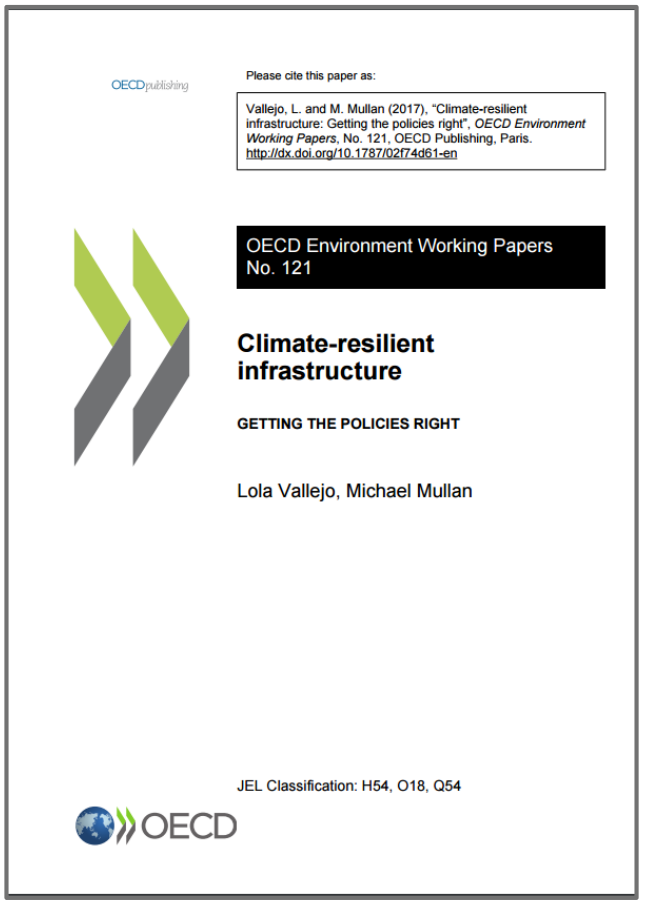
- Resilience rating for infrastructure assets
  - 4 emerging standards from civil engineers societies, e.g. CEEQUAL by UK's ICE certified over 300 projects worth £27 billion in 2015
- Financial disclosure of climate risk
  - Already done by some investors e.g. Hastings FM
  - Industry-led initiatives to scale up e.g. FSB disclosure task force on climate-related risks
  - Voluntary reporting initiatives, led by both public and private sectors e.g. UK's ARP, CDP

- Growing interest from the financial sector on physical aspects of climate risk

Concluding remarks

1. Dealing with uncertainty: need to discuss, decide and communicate levels of risk
2. Improving information supports, but not sufficient for resilient investment
3. Policies should support resilience throughout the entire process of designing, building and operating infrastructure
4. Complexity of identifying the climate-related component of financing needs

Thank you!



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