Greening Infrastructure on the New Silk Road

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Presentation Topics

1. Linkage between infrastructure & SDGs/Paris Agreement
2. Infrastructure needs in Central Asia
3. Why integrated planning for sustainable infrastructure
4. Examples of integrated planning for sustainable infrastructure
5. Practical actions

1. Linkage between infrastructure & SDGs/Paris Agreement

1a. Linkage between infrastructure & SDGs/Paris Agreement

Source: Bhattacharya, Meltzer, Oppenheim, Qureshi and Stern, 2016

1b. Linkage between infrastructure & SDGs/Paris Agreement

Infrastructure directly underpins numerous SDGs

& is linked with others

Etc.

1c. Linkage between infrastructure & SDGs/Paris Agreement

But, there are also **sustainability risks** associated with infrastructure development:

- Loss of natural habitat (on-shore/off-shore);
- Land acquisition leading to loss of access to source of livelihood;
- Climate change impacts from energy consumption;
- Water, air & soil pollution;
- Resource depletion.

The proposed Polar Silk Road through the Arctic could put the fragile ecosystem at risk. Illustration source: Craig Stephens, South China Morning Post, 2017.

1d. Linkage between infrastructure & SDGs/Paris Agreement

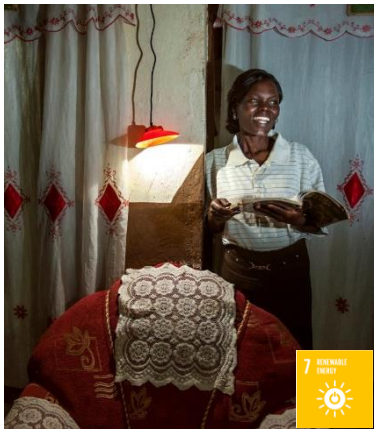
Effect of infrastructure choices on countries' ability to achieve their **NDCs**.

Source: Financial Tribune

Transport accounts for 25% of global CO^2 emissions, & its energy demand is **expected to more than double by 2050**. But investments in improved end-use fuel and electricity can help **reduce these emissions by 30%** by 2050 (IEA, 2012)

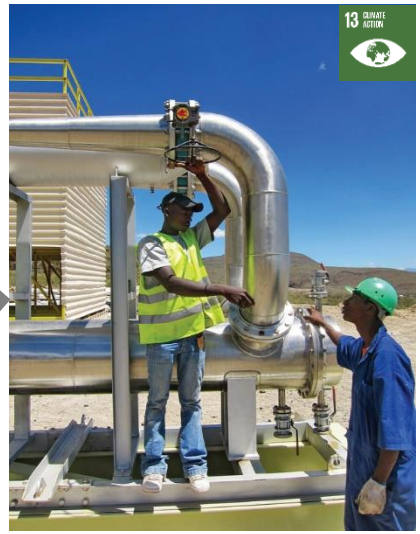
1c. Linkage between infrastructure & SDGs/Paris Agreement

China-Kenya geothermal partnership:
infrastructure
advancing the SDGs



Source: Gigaom

Source: Talk Africa



Source: POWER Magazine

Source: Operation Blessing International

Source: Oserian

2. Infrastructure needs in Central Asia

2a. Infrastructure needs in Central Asia

- Central Asia needs **$565 billion in infrastructure investment from 2016 to 2030, or $38 billion per year**, to maintain growth momentum, eradicate poverty, & respond to climate change (climate-adjusted estimate).
- Without climate change mitigation/adaptation costs factored in, $492 billion will be needed, or $33 billion per year.

Source: www.ozodlik.org

- Infrastructure investment needs equate to **7-8% of the GDP of Central Asian countries** (ADB, 2017)

2b. Infrastructure needs in Central Asia

Sector	Investment Need (ADB, 2017)
Transport	37.5 billion
Road	24.6 billion
Rail	10.2 billion
Air	1.4 billion
Maritime	1.1 billion
Logistics	0.2 billion
Trade facilitation	1.3 billion
Energy	40.9 billion
Total	79.7 billion

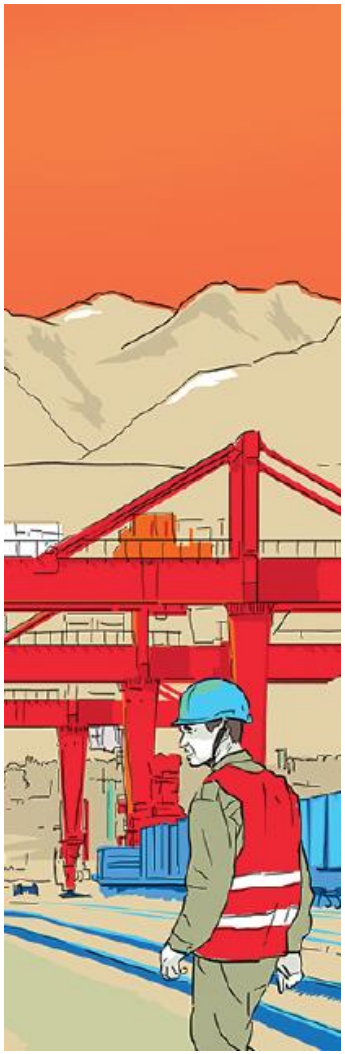
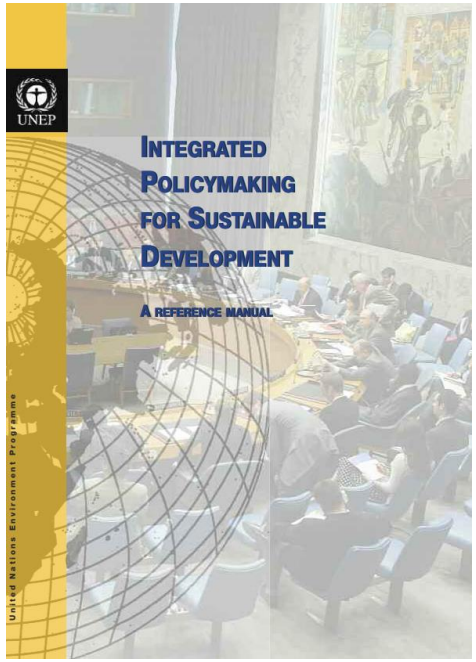


Illustration source: Eurasian Council of Foreign Affairs, 2018.

3. Why integrated planning for sustainable infrastructure

3a. Why integrated planning for sustainable infrastructure

- **Coordinates planning across sectors**, including transport, energy, water & waste;
- **Considers sustainable development implications** of infrastructure projects throughout planning process;
- **Establishes a long-term but flexible plan** for infrastructure development;
- **Addresses constraints** in terms of political support, administrative capacity, & analytical capacity.



3b. Why integrated planning for sustainable infrastructure

Lack of integrated planning can lead to serious issues…

- Continued reliance on brown infrastructure
- Waste of resources
- Transboundary conflict
- Project failure
- Broadly, countries' inability to achieve SDGs/NDCs

Source: NDTV

Source: Korea Joongang Daily

Source: Global Goals for Sustainable Development Scotland

3c. Why integrated planning for sustainable infrastructure

A Central Asian example

- Water management along the **Syr Darya and Amu Darya rivers** is shared between six countries (Kyrgyzstan, Tajikistan, Afghanistan, Uzbekistan, Turkmenistan and Kazakhstan)
- Lack of integrated planning contributes to **conflict/ competition between upstream & downstream countries**
- Lack of integrated planning has also caused **environmental degradation** & **waste of water and energy resources** due to inefficient management

Source: http://theonearmedcrab.com

3d. Why integrated planning for sustainable infrastructure

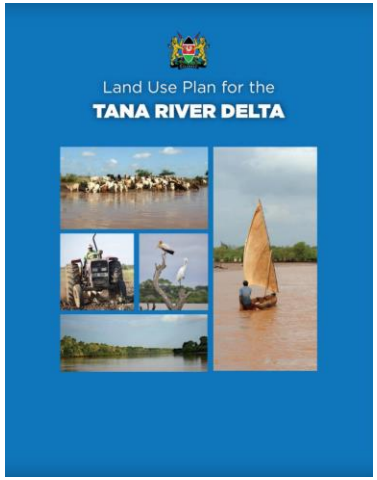
- The issue of integrated planning for infrastructure has long been recognized
- In 2007, OECD's "Infrastructure to 2030" project called for "**improved integration of the different levels of government** in the design, planning and delivery of infrastructure"
- In 2017, the World Bank's "Global Infrastructure Connectivity Alliance" identified "**multi-sectoral and multi-dimensional planning approaches with sustainable development objectives** as a core framework" as a major priority
- However, in practice, international discussions on infrastructure tend to focus on financing to overcome infrastructure gaps

4. Examples of integrated planning for sustainable infrastructure

4a. Examples of integrated planning for sustainable infrastructure

Kenya's Tana River Delta land use plan & strategic environmental assessment (SEA)

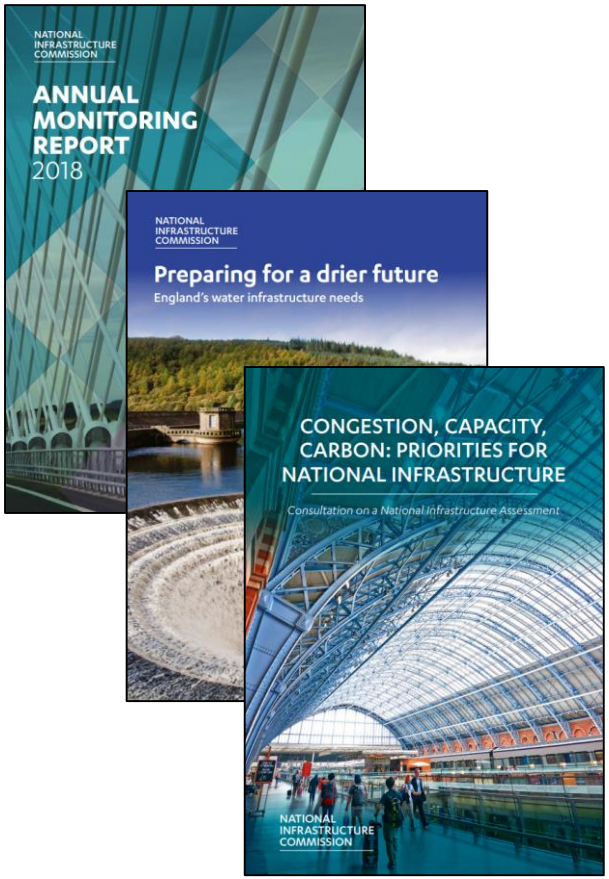
- Tana River Delta, one of Africa's most important wetlands, faced serious droughts & fierce conflicts over land rights
- Land Use Plan was developed involving an Inter-Ministerial Technical Committee composed of 18 ministries, international experts & governments of Tana River & Lamu Counties, relying on extensive consultation
- Land Use Plan aimed to protect fragile ecosystems through safeguards, create economic opportunities, reduce conflict & guide public/ private investment



4b. Examples of integrated planning for sustainable infrastructure

UK National Infrastructure Commission

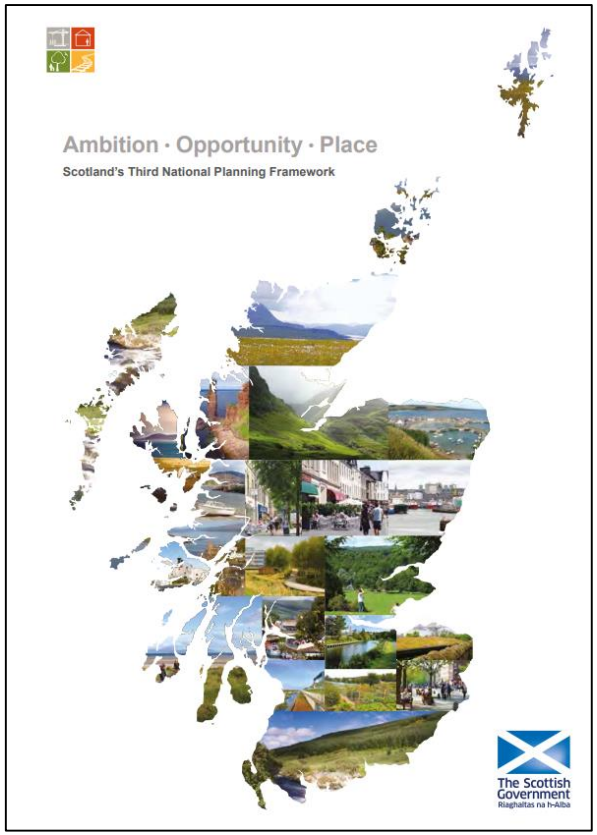
- Independent body that advises government on infrastructure needs and solutions
- Every Parliament, delivers a National Infrastructure Assessment setting out long-term infrastructure needs and offering recommendations
- Produces research and monitoring reports



4c. Examples of integrated planning for sustainable infrastructure

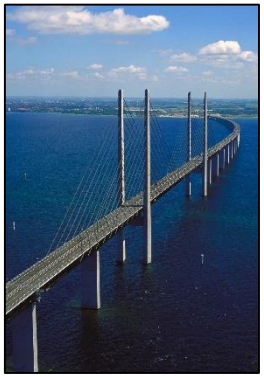
Scotland National Planning Framework

- Provides a spatial representation of the country's priorities
- Ensures sustainability considerations are central in infrastructure planning
- Promotes viewing different infrastructure such as transport, energy and waste as a system



4d. Examples of integrated planning for sustainable infrastructure

Oresund Fixed Link (between Sweden and Denmark)



Source: Peeters et al., 2009

- Connects two countries by road and rail with bridge and tunnel since 2000
- Project first discussed in the 1950s but stalled due lack of consensus between governments and levels of government
- Independent commission, the Oresund Commission helped create political space for consensus
- This commission (now renamed Greater Copenhagen & Skåne Committee) brings together representatives from local and regional government to promote regional collaboration and address cross-border issues
- The commission has produced joint strategies on topics relating to sustainability including land planning and the environment

5. Practical actions

5a. Some practical actions

At UN Environment, our work seeks to:

- Propagate the exceptional significance of infrastructure for SDGs
- Improve the assessment of sustainable infrastructure options (NBS, climate-resilience) via an upstream integrated planning process
- Promote transparency and accountability of infrastructure development (including through monitoring and evaluation)
- Enable stakeholder participation in related policy and project planning cycles (through capacity building, institutional setup, knowledge-sharing)

5b. Some practical actions

UN Environment initiatives

- Geneva Forum for Sustainable Infrastructure (March 2017)
- Expert Meeting on Sustainable Infrastructure Planning – Fuzhou, China (October 2018)

Thank You