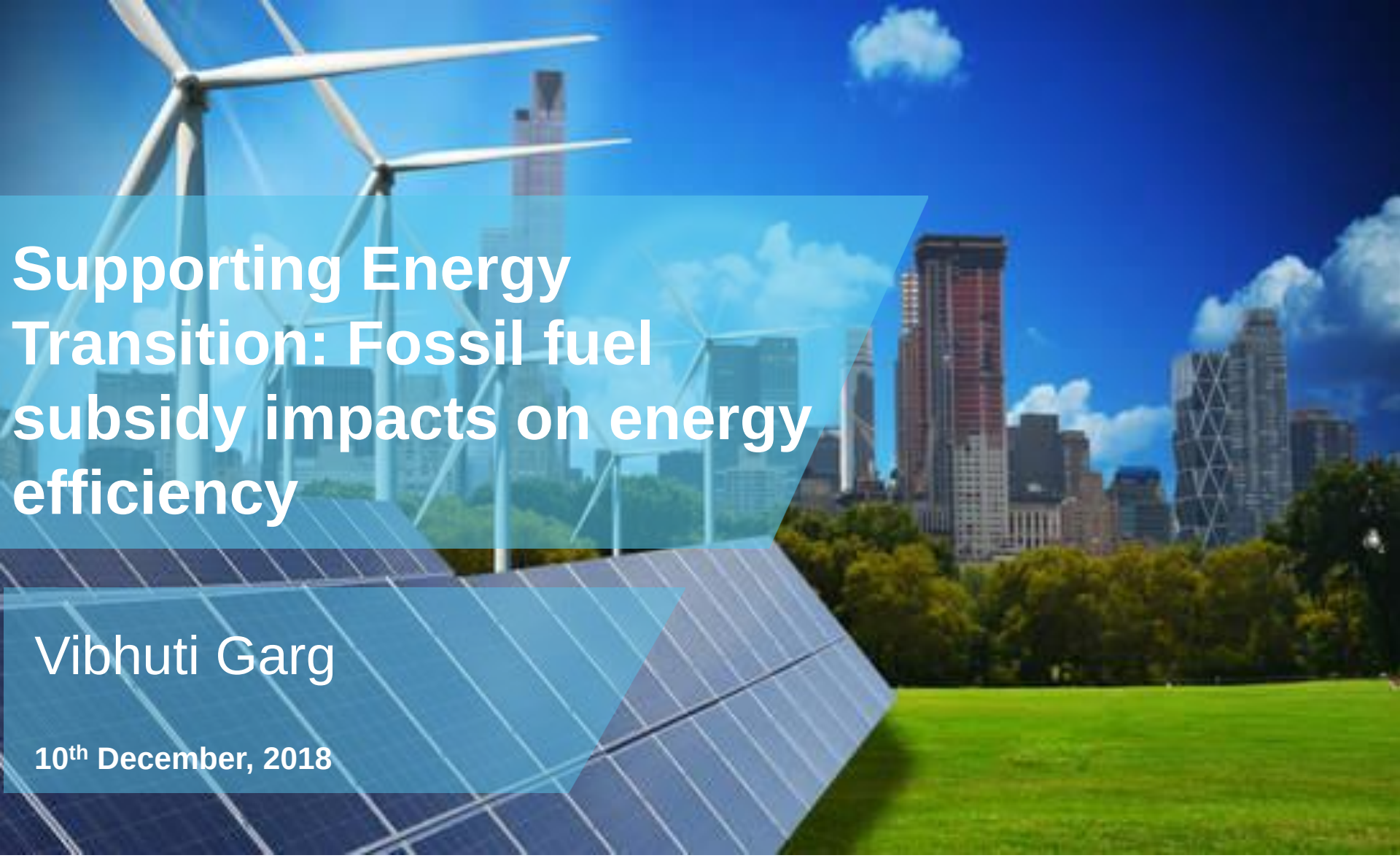

Supporting Energy Transition: Fossil fuel subsidy impacts on energy efficiency

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10th December, 2018

IISD
International Institute for Sustainable Development

Global Subsidies Initiative

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1. FFSR: why, where, how? Countries' concerns about reform

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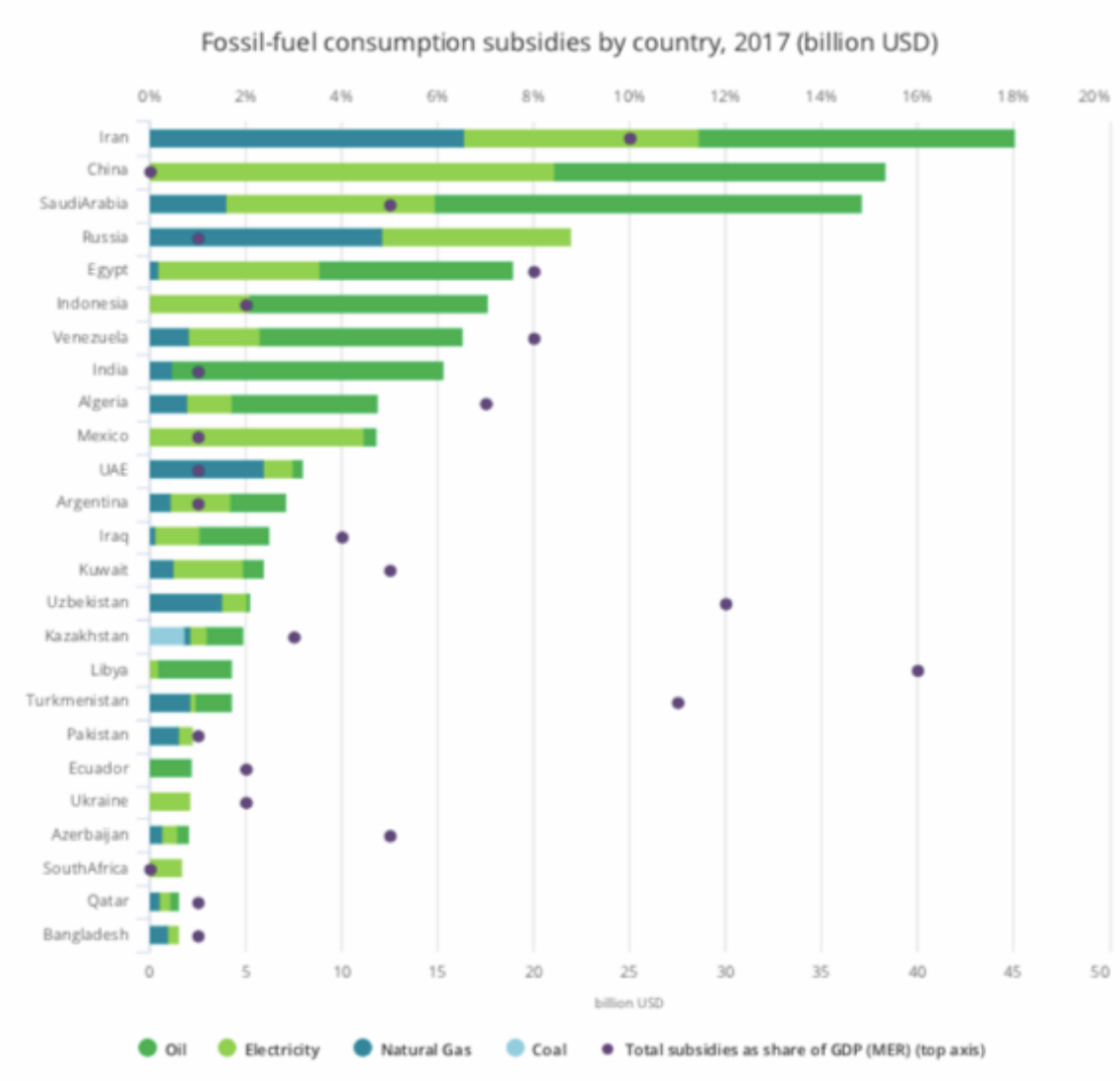
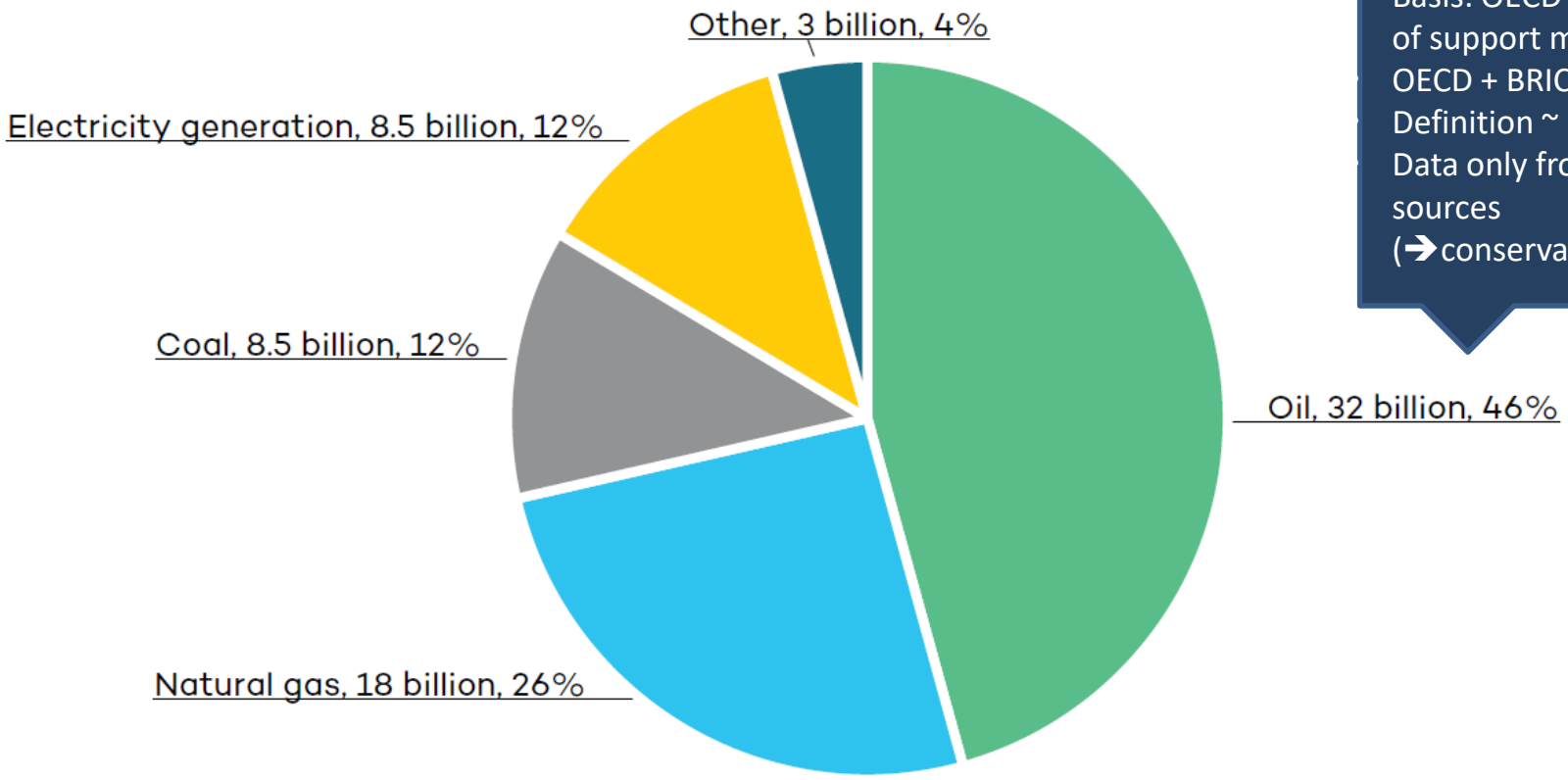
Consumer subsidies by energy type ($300 billion in 2017, IEA data)



- IEA = 41 developing & emerging economies
- IEA data, assumptions
- IEA definition ('subsidies change prices')
- Benchmarks based on global fuel market prices
- Non-application of 'normal' GST/VAT is a subsidy

Source: IEA (World Energy Outlook, 2018)

Producer subsidies by energy type ($70 billion on annual average in G20 countries)



Basis: OECD inventory of support measures
OECD + BRICSAM
Definition ~ OECD ASCM
Data only from govt. sources
(➔conservative)

Sources: GSI & ODI (2017) based on OECD (http://www.oecd.org/site/tadffss/, n.d.)

Why reform Fossil Fuel Subsidies (FFS)? Fossil fuel subsidies and the SDGs

- Fossil fuel subsidies disproportionately benefit wealthier households
- Subsidy reforms in combination with targeted social welfare programmes can address poverty

- Outdoor air pollution estimated to cause 3 million premature deaths worldwide in 2012
- Removing subsidies and taxing fossil fuels could cut global air pollution by half

- Women often do not benefit directly from fossil fuel subsidies
- Social welfare programmes and targeted cash transfer can be designed to empower w[illegible]n

- Subsidies can hinder the uptake of new low-carbon technologies
- Risk of creating stranded assets

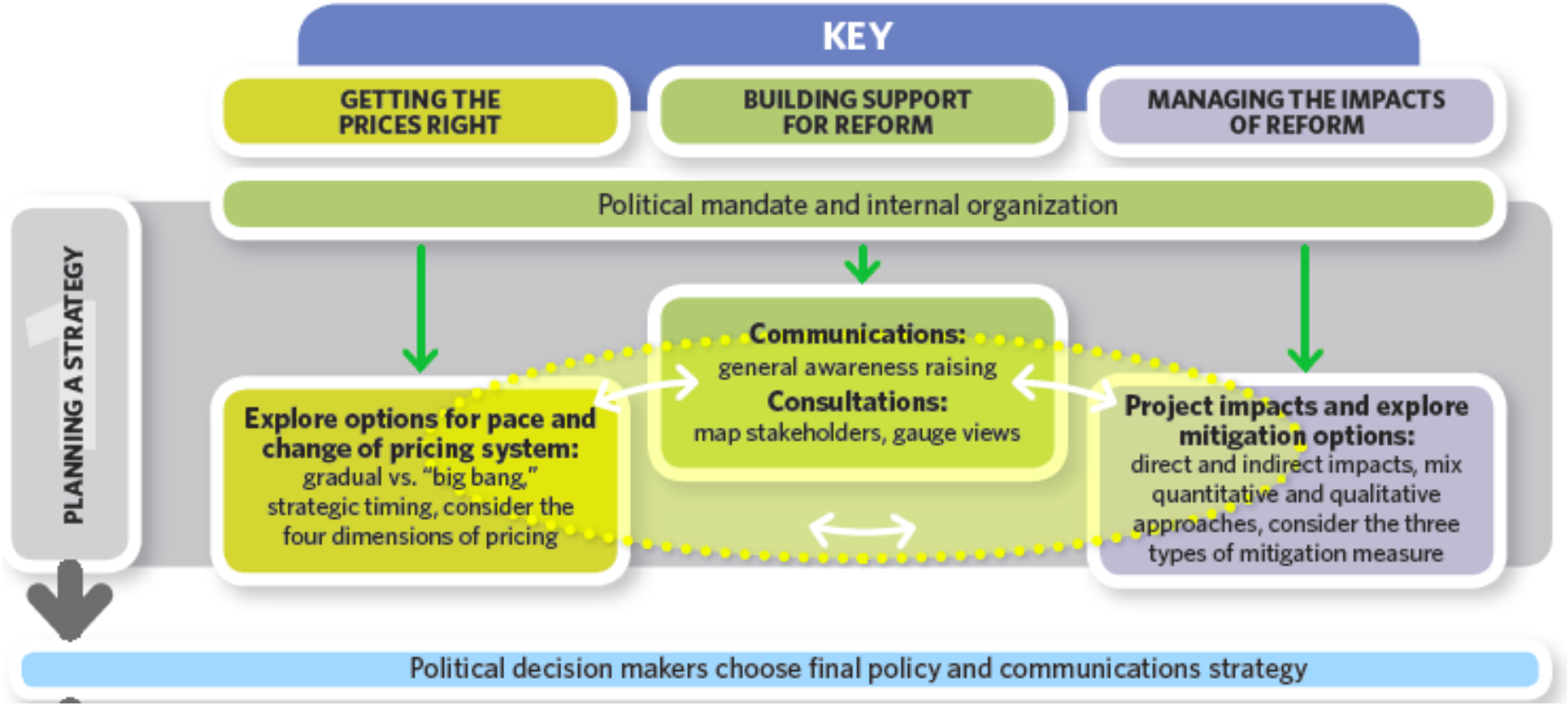
- Fossil fuel subsidy reform could result in significant emissions reduction[illegible]
- Risk of creating stranded assets

- Decoupling economic growth from natural resource use is [illegible]
- Removing fossil fuel subsidies reduces the global demand for fo[illegible] fuels

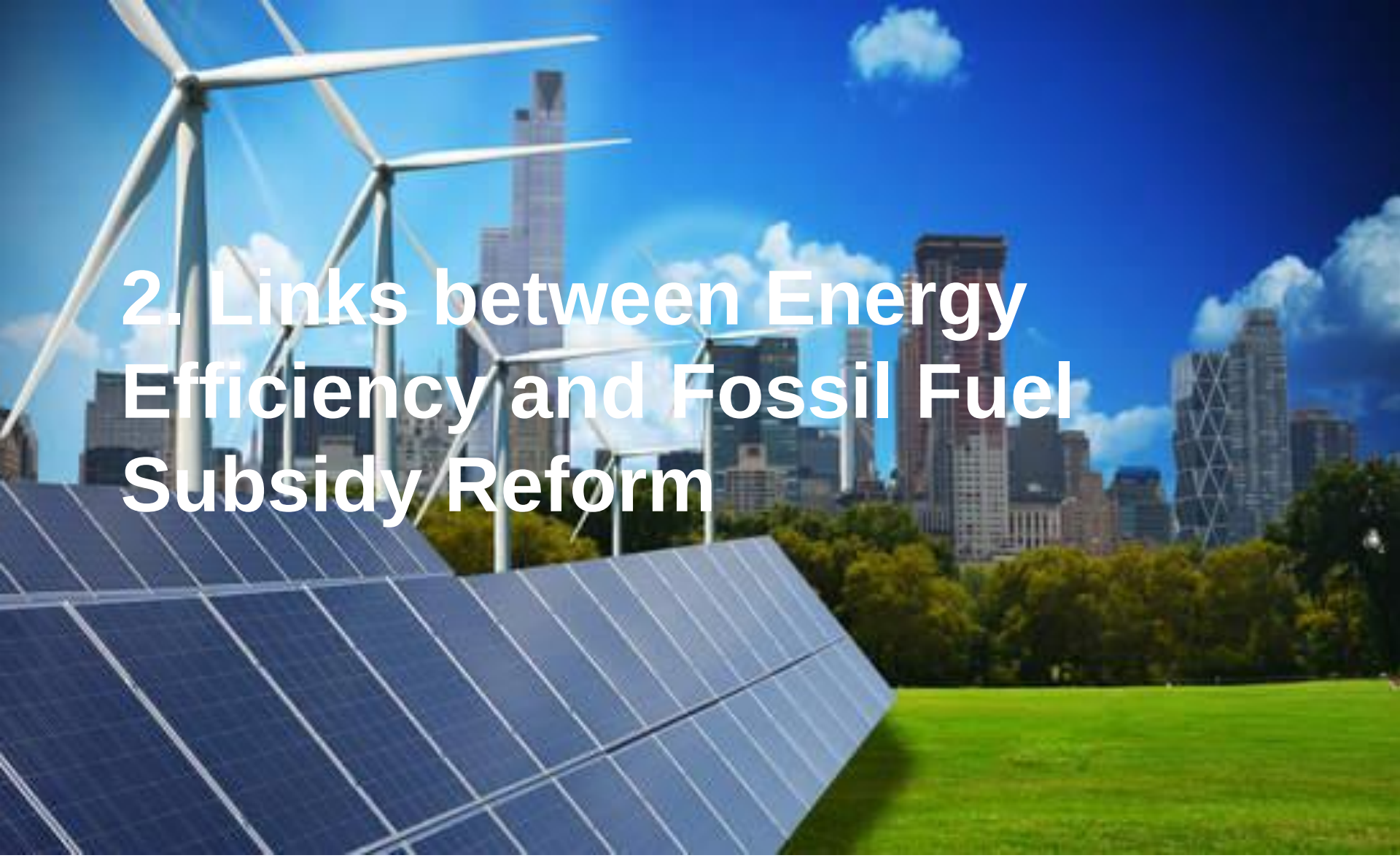
- **Fossil fuel subsidies are 3.5 times larger than the financing required to meet the SDGs for basic social protection, universal health and education [➔"Means of Implementation" (SDG17)]**

A primary reason for reform often Fiscal Pressure (e.g. Oil & Gas Exporters now)

Implementing reform: Process generic and understood, design specifics national



https://www.iisd.org/gsi/fossil-fuel-subsidies/guidebook



2. Links between Energy Efficiency and Fossil Fuel Subsidy Reform

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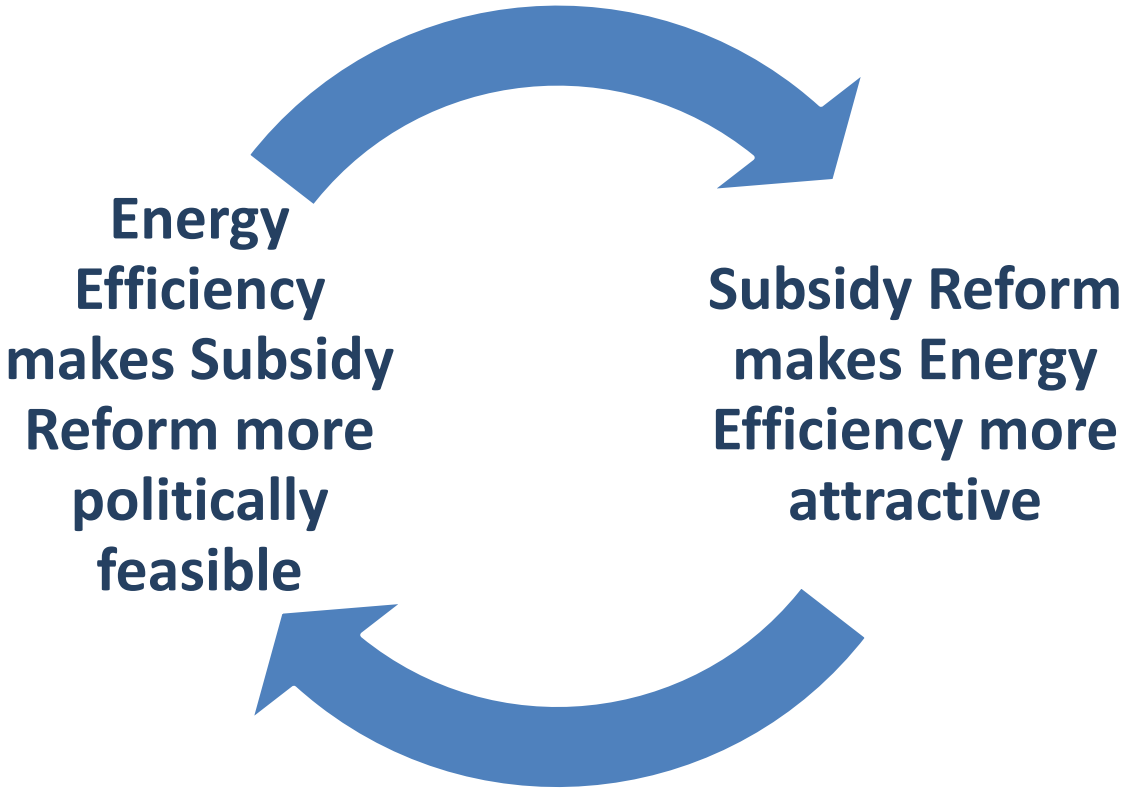
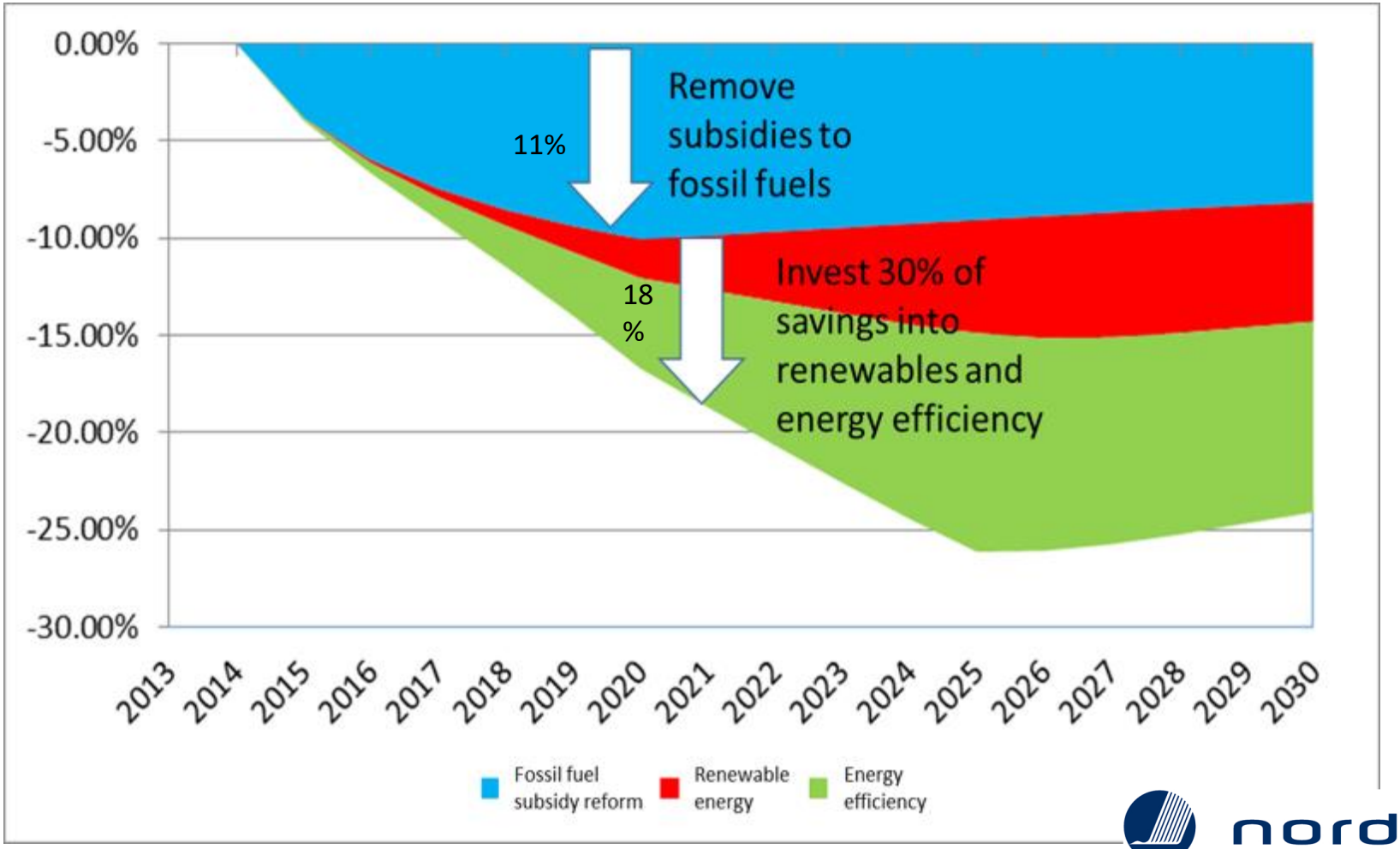
Energy Efficiency and Subsidy Reform: A Virtuous Circle



Reallocation to Clean Energy increases FFSR Impact



http://www.iisd.org/library/making-switch-fossil-fuel-subsidies-sustainable-energy

Nordic Council of Ministers

Reallocation of Carbon Pricing Revenues: Sometimes energy efficiency is included

Mechanism	Jurisdiction	Policy Assessment
Carbon Tax	British Columbia (Canada)	All revenues must be recycled. Has essentially gone to tax reductions (personal and business)
Carbon Tax	South Africa (Proposed)	Government stated that it will consider the impact on the poor and the competitiveness of key industries
Carbon Pricing (Emission Trading Scheme)	EU	Free allocation of permits to industry dominates. Recommended >50% auction revenues to CC measures
Carbon Pricing (Emission Trading Scheme)	California	Mandates revenue recycling, to Investment Fund for clean and efficient energy, transportation, environment
Carbon Pricing (Emission Trading Scheme)	Quebec (Canada)	Revenues raised to CC Action Plan: 2/3 to Transportation, some of remainder to industrial energy efficiency
Carbon Pricing (Emission Trading Scheme)	Australia (Proposed)	All revenues raised recycled to vulnerable population and industries (free allowances and a technology fund)

http://www.iisd.org/sites/default/files/publications/icmm_the_cost_of_carbon_pricing.pdf

3. FFS in India

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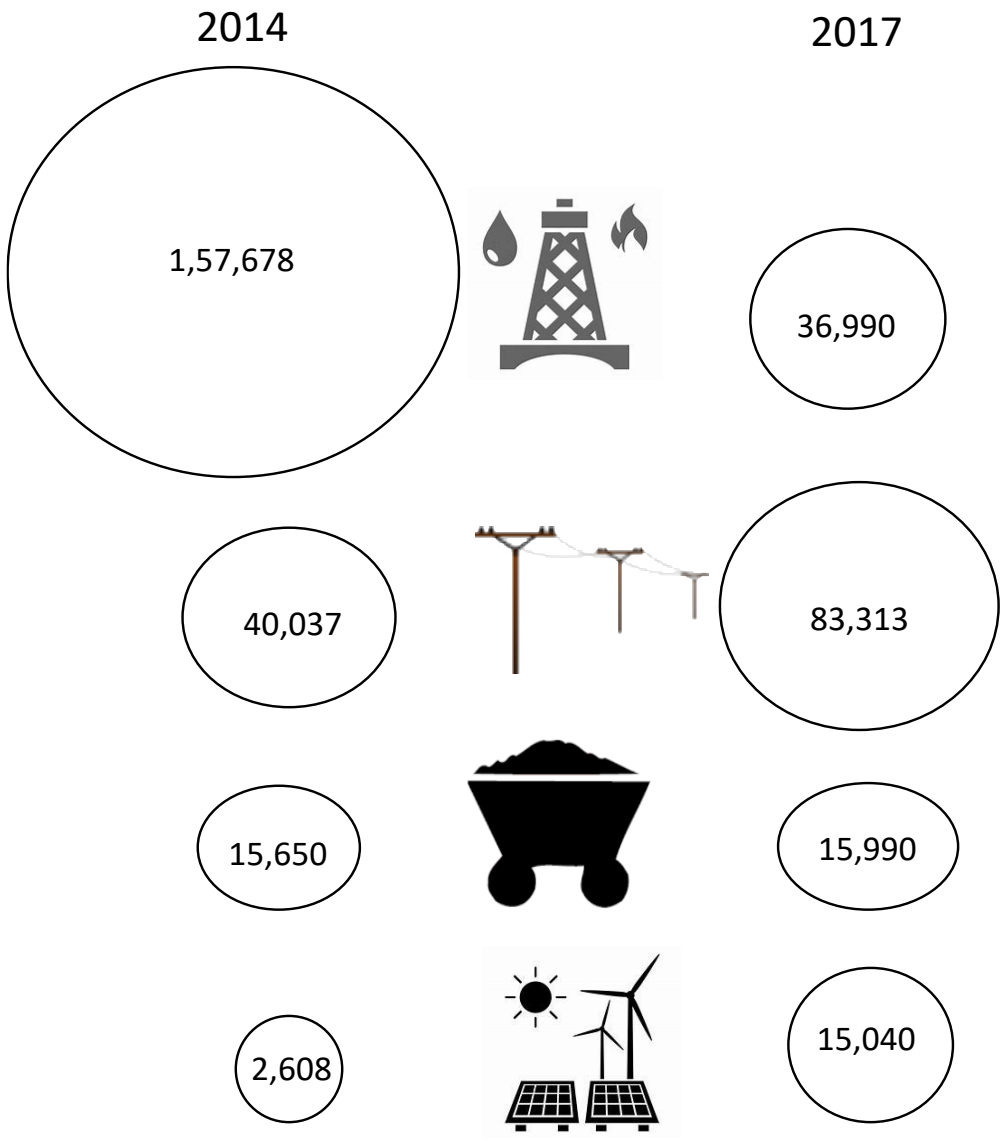
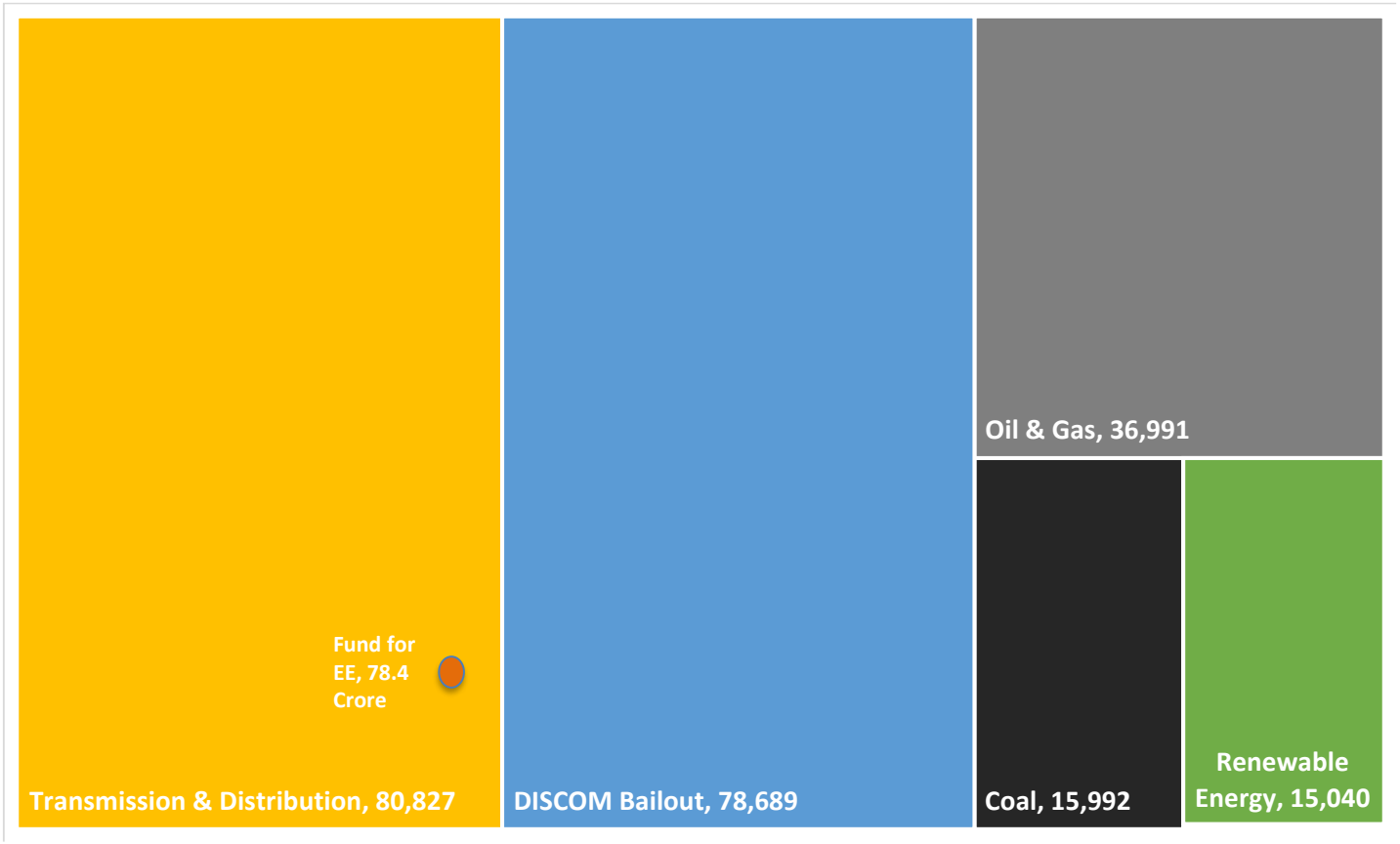
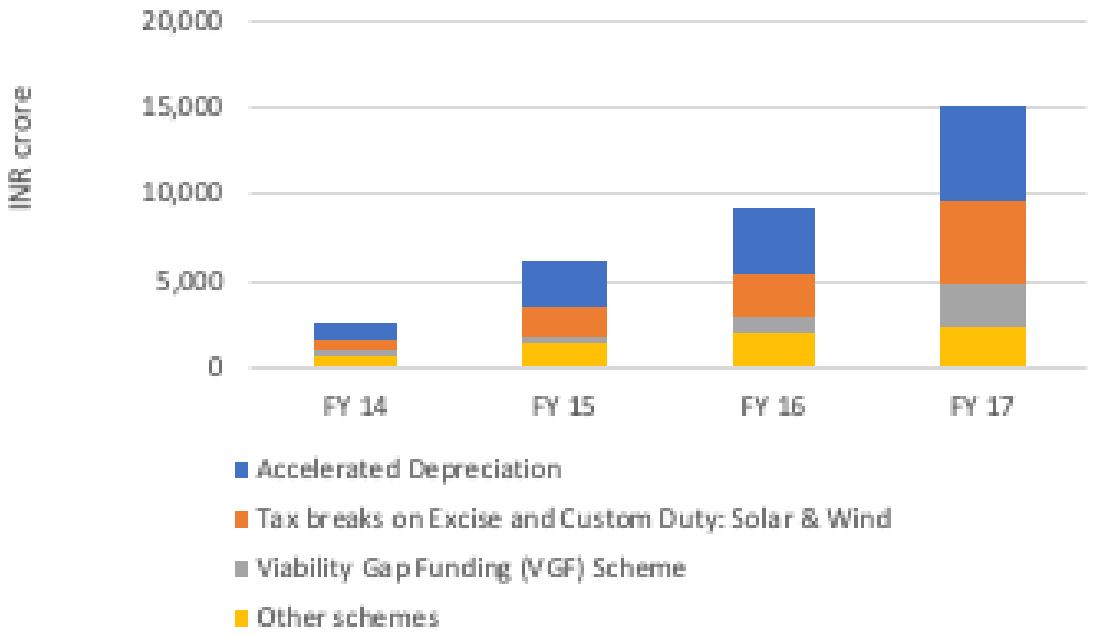
India’s Energy Subsidies, INR Crores



Renewables and electric vehicles get just a small share of India's energy subsidies in 2017 (INR Crore)



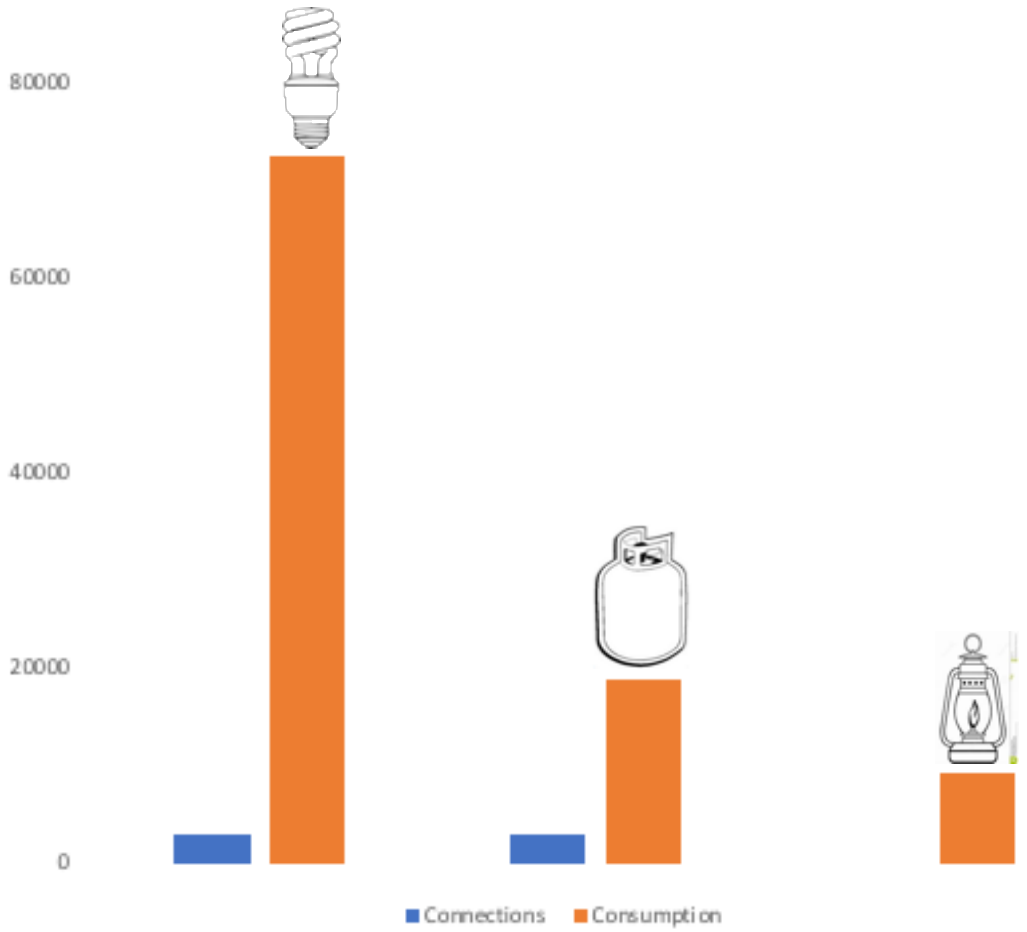
Subsidies for renewable energy



- RE subsidies INR 15,040 crore
  - A six fold increase from 2014 subsidy levels
  - But still only one third of subsidies to oil, gas and coal

- DRE solar applications comprise only 11.2% (INR 1,690 crore) of RE subsidies. >90% of DRE subsidies are for grid-connected solar PV rooftop and small solar power programmes

India's 2017 subsidies for energy access – Support for consumption dwarfs support for connections



Further reforms required – will liberate INR

- 72% of FY17 energy subsidies are for energy access
  - connecting consumers to power or LPG
  - reducing the price of energy
- But consumption subsidies are untargeted
  - Need to ensure subsidies only going to the poor
- Coal subsidies have remained stagnant despite growing concerns about
  - air pollution
  - greenhouse emissions and
  - stranded assets

4. Way forward: Mutual support between Energy Efficiency and FFSR

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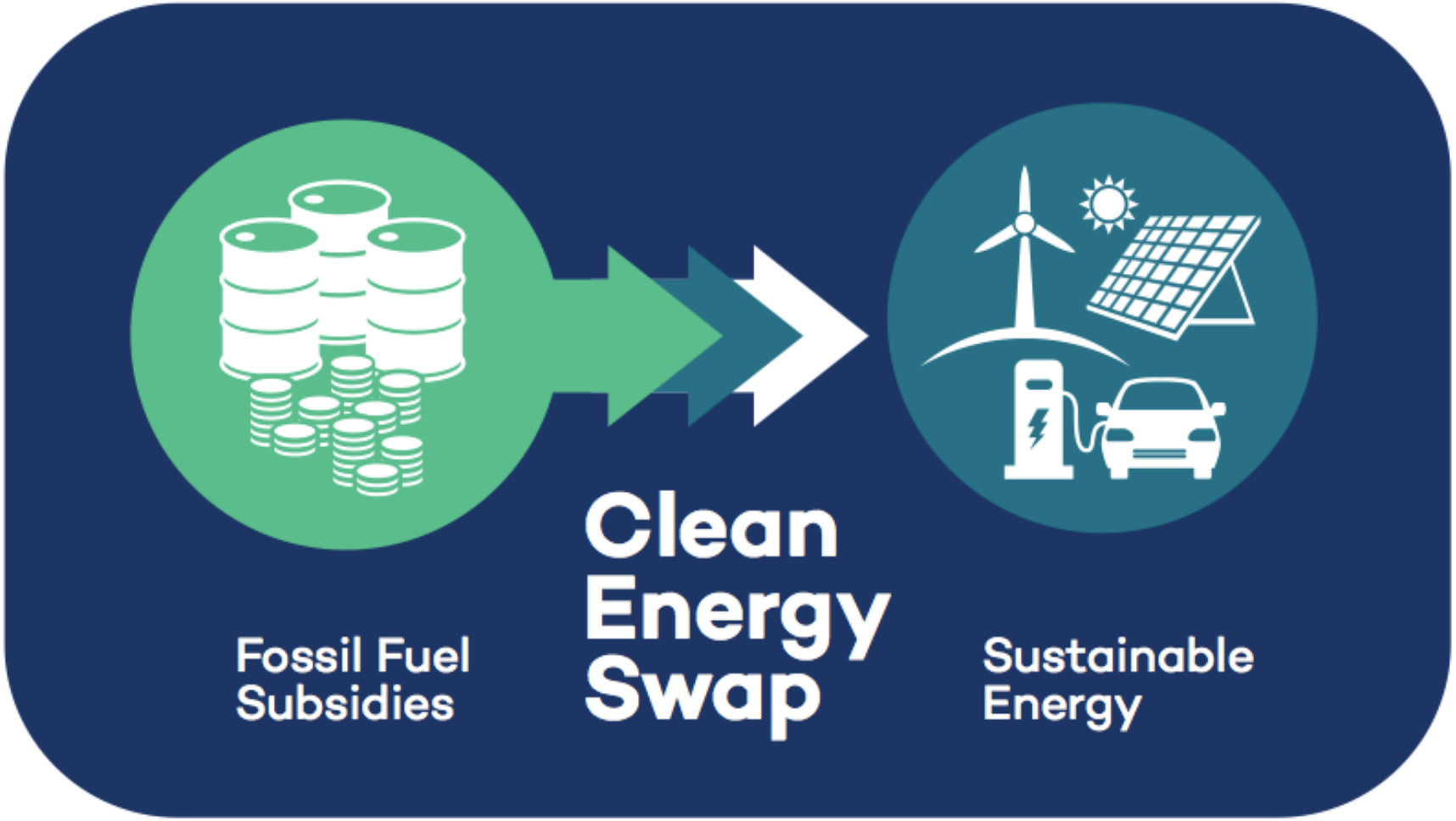
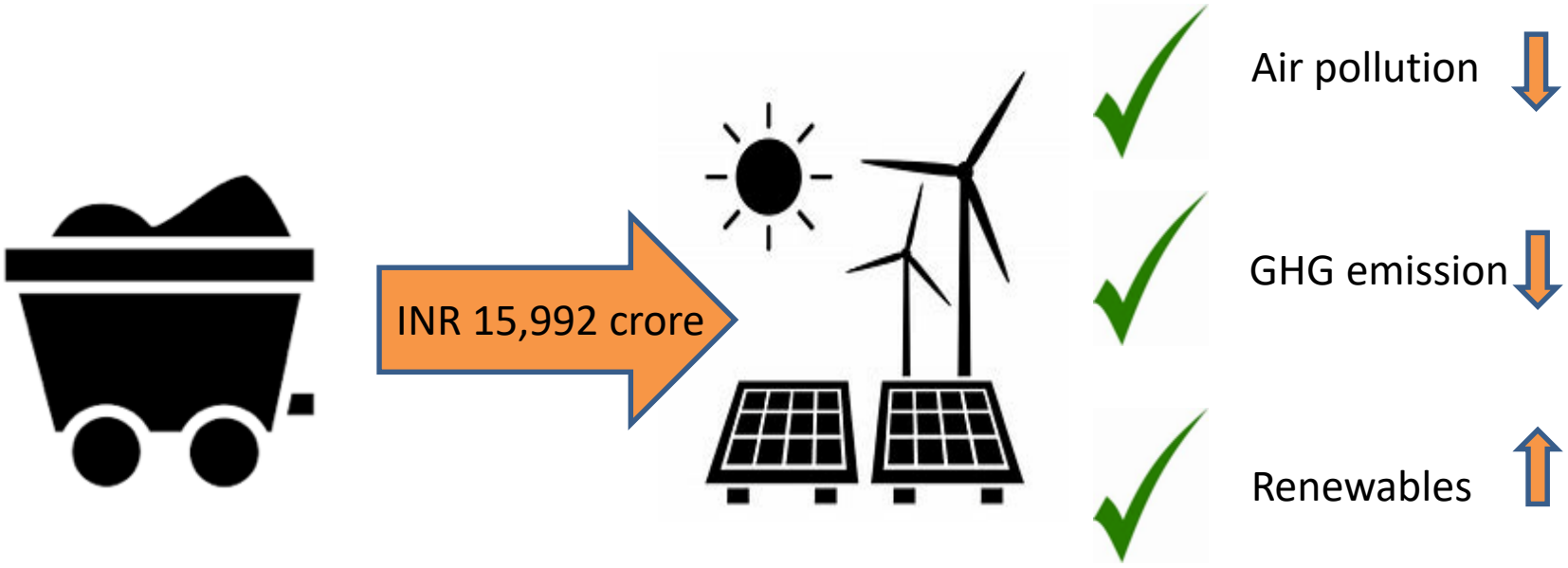


Reforming **fossil fuel subsidies** will generate $avings that can be re-invested towards **sustainable energy**.

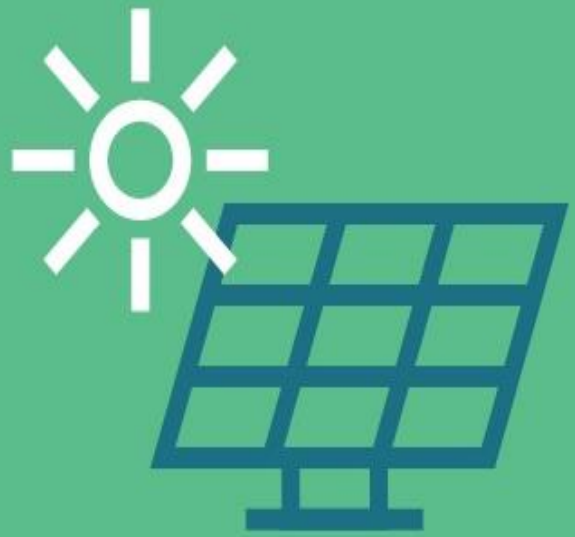
Further a clean energy swap would help achieve the government's targets of…



Future of Clean Energy Swap

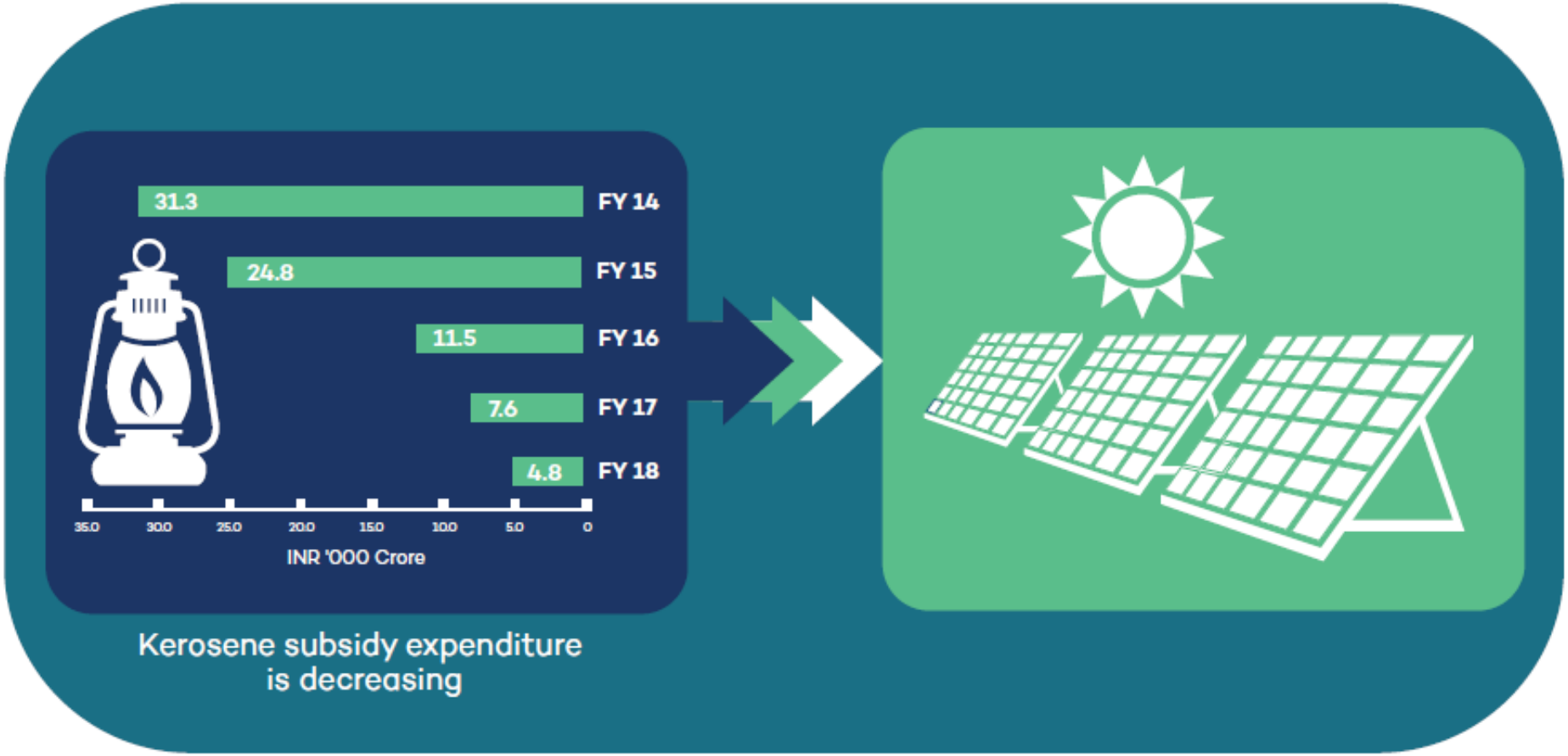
- Priority should be where public funds are most needed:
  - disadvantaged households
    - ✓ Solar lighting and electricity
    - ✓ Clean cooking
  - penetration of renewables
    - ✓ Grid balancing
    - ✓ Integration costs including for DRE
    - ✓ Electric vehicles
  - ✓ energy efficiency
  - ✓ smart grid and smart meter

SWAP



Shift fossil fuel subsidies to investments in renewable energy, energy efficiency or public transport

Case study: Kerosene to Solar Swap



- Since 2014-15 kerosene subsidy savings > INR 86,560 crore
- Could have funded 481 million solar lanterns or 3.4 million tonnes of oil equivalent (40 terawatt hours) of electricity from mini-grids

Subsidy swap in Zambia

IISD are currently working with the Ministry of Energy and CUTS Lusaka to develop two subsidy swaps to tackle these problems:

1. **Phase out diesel generators and replace with cheaper solar energy.** Recent auctions show that prices for solar are now lower than diesel generation, so a transition would reduce costs for the national utility ZESCO;

2. **Reduce access to subsidized electricity in the mining sector.** Some of the additional revenues generated could be allocated to fund energy efficiency and clean energy projects to further improve mining sector efficiency;

CUTS International

ZAMBIA MINISTRY OF ENERGY

IISD International Institute for Sustainable Development

Case study: Mining sector subsidy reform

1. **Design:** Mining sector consultation on business models of energy efficiency investment (ongoing as of September 2018)
2. **Define subsidy reform and support mechanism:** Potentially increased standard tariffs but combined with new up front support or back end reward for verified investment in energy efficiency.
3. **Political economy:** Can a proposal that reduces subsidies and increases energy efficiency get political and industry buy in?
4. **Result:** Mining sector electricity consumption falls, cost recovery improves. **A win win**

Conclusions

1. Subsidy reform is moving forward in much of the world.
   - Focus more on (larger) consumer subsidies rather than producer subsidies
   - Fiscal pressure (savings) often a primary driver
   - Reform concerns centre on the poor and vulnerable, and industrial competitiveness
2. Energy Efficiency and Fossil Fuel Subsidy Reform form a Virtuous Circle

   Only few examples of formally reallocating fiscal savings to energy efficiency
3. FFS in India

   FFS is moving forward but support to energy efficiency is limited
4. Way forward: Mutual support between Energy Efficiency and FFSR
   - Both Energy Efficiency and FFSR contribute to improving Health, Environment, etc.
   - Clean Energy Subsidy Swaps very promising – link into ongoing FFSR around the world
     - ➢ **Swaps can help fund the Clean Energy Transition**
   - Must promote the advantages of reallocation to Energy Efficiency to Countries, Forums
   - Increasing energy taxation is the natural next step after subsidy reform

THANK YOU

For more information

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