



**lessons learned and best practices on  
analysis and assessment of impacts of  
the implementation of response  
measures / KCI-2**

**Example on Energy Subsidy Reform in E**

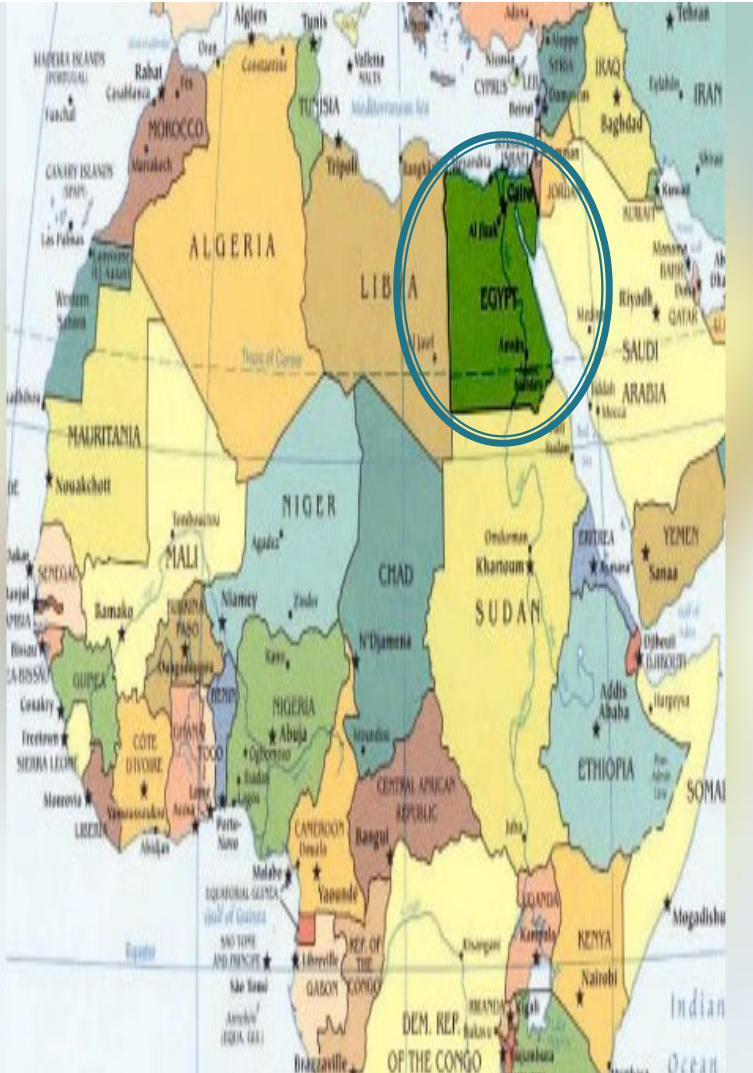
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# OUTLINE

- ▶ **Key data**
- ▶ **Positive & Negative impacts of RM**
- ▶ **Ways to mitigate the negative impacts**
- ▶ **Conclusion & Recommendations**

# 1

## Key Data.(Geographic )



- Egypt, located in **the northeast** corner of the continent of Africa.
- The area :**1,002,000 square kilometers** and the **populated area of around 7.8%** of the total area.
- Population: 99.3 million(CAPMAS).**

## 1

## Key Data.(Economy)

## GDP contribution by selected economic sectors, FY 2014/2015 (CAPMAS, 2016)

Sector	GDP Value (Million EGP)	Contribution to Total GDP (%)
Agriculture	274,959	11.18%
Mining (Oil ,Gas & Other)	313,738	12.75%
Manufacturing industries	407,868	16.58%
Construction	118,035	4.8%
Tourism	45,144	1.83%
Other services	1,299,281	54.69%
Total	2,459,025	100%

•Egypt's economy is one of the economies **diversified, with agriculture, industry, tourism and services sectors.**

•**GDP of Egypt: 250 billion US dollars in 2018 (World Bank)**







*By 2030, the new Egypt will achieve a competitive, balanced, diversified, and knowledge based economy, characterized by justice, social integration and participation, with a balanced and diversified ecosystem, benefiting from its strategic location and human capital to achieve sustainable development for a better life of all Egyptians*

The SDS serves as the national umbrella; through which the SDGs, NDCs will be implemented in the light of national circumstances

### Social Dimension

Social Justice

Health

Education and Training

Culture

### Environmental Dimension

Environment

Urban Development

### Economic Dimension

Economic Development

Energy

Knowledge, Innovation and Scientific research

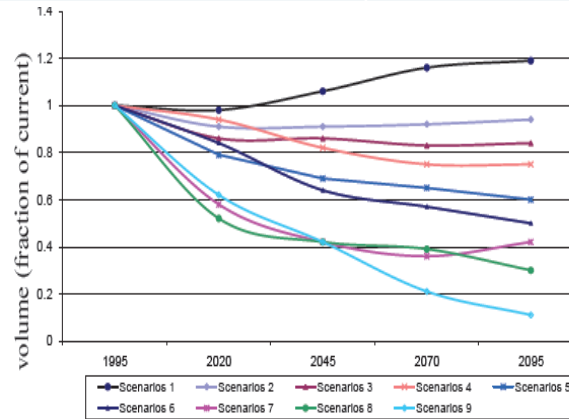
Transparency and efficiency of Governmental Institutions

# Emissions / Vulnerability

Year	1990 (INC,99)	2000 (SNC, 10)	2005 (TNC, 16)
GHG Emissions	116.7	193.3	247.9
Egypt's Global share	0.4 %	0.58%	0.6%

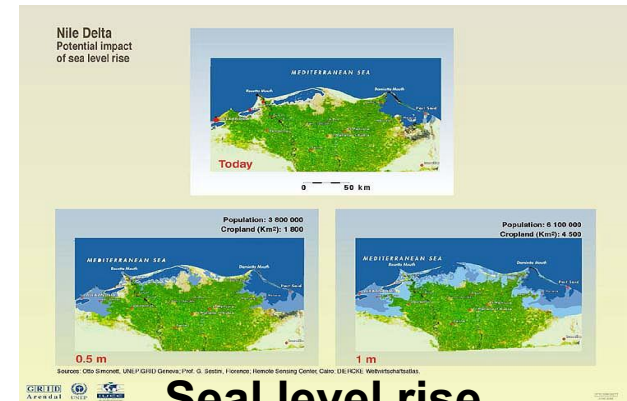


**Extreme weather events**



**Water stress**

Source: Strezpek et al., 2001



**Seal level rise**

**Salt water intrusion**  
source: [Simoneit & Sestini, 2002]



**Health – Diseases**



**Food Security**

Source: IPCC AR3



**Biodiversity**  
**Coral reefs bleaching**



# Mitigation Policies / Strategies

## **Noting that:**

- Lack of including the aspect of response measures analysis and assessment for mitigation actions, due to lack of capacities, tools & methodologies and expertise in this field.
- The need for mapping of these response measures across different sectors, and make needs assessment for the analysis of impact of response measures.

In 2015, a new Strategy for Integrated Sustainable Energy 2035 targeting energy diversification, **increasing share of renewable energy and a subsidy reform plan:**

A target to reach the share of **renewable energy 37% by 2035.**

•**Enabling public and private investment in RE** (RE Law Decree No 2013/2014).

# Energy Subsidy Reform

- ▶ **The GoE has taken substantive steps to reform the energy sector. Why?**

Energy subsidies had exceeded 20% of the national budget in 2013/2014.

**In 2014**, the Ministry of Electricity announced a **five-year program** (FY 2014/2015 – FY 2018/2019) to reform **energy subsidies and encourage rationalization**.

**Egypt has been subsidizing energy for a long time** with the well-intentioned objective of providing inexpensive energy services to the low income class, helping some **industries to compete** internationally and attracting FDI.

However, subsidizing through controlling prices means that those who use energy more are subsidized more so the greatest beneficiaries are the rich who ride cars and have air conditionings in their houses.

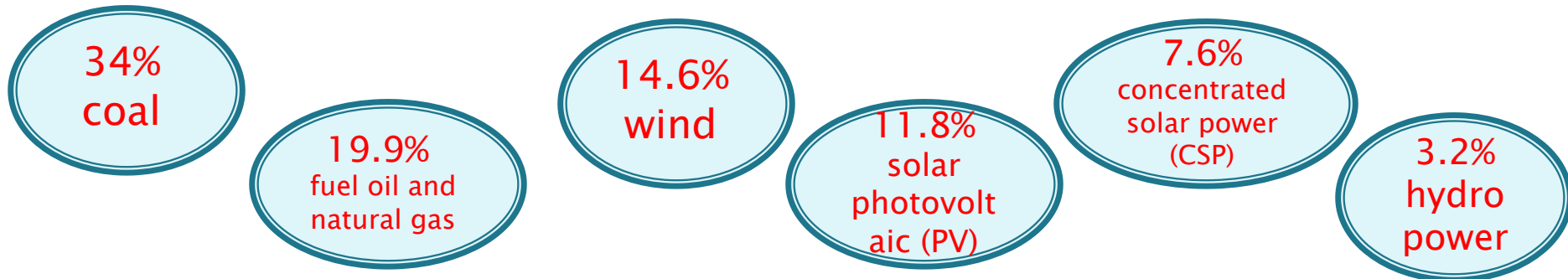
**By analyzing Egypt's household surveys, it is found that the richest 40% of the population get about 60% of the energy subsidy** while the poorest 40% of the population enjoy only about 25% of the subsidy.

# Energy Subsidy Reform

Untargeted subsidies benefit the high income households because the rich, constitute a relatively higher proportion of total income and consumption.

Reform is **not limited to price reform, but includes actions to improve energy efficiency, enable alternative energy sources, and promoting the transition to clean and renewable energy.**

The fuel mix target for electricity generation in FY 2034/2035 is,,,,,,



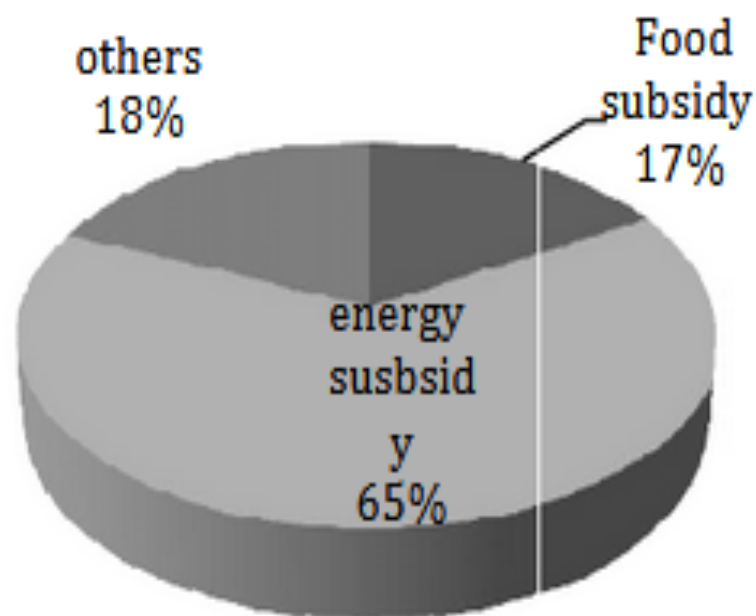
# Positive impacts of Subsidy Reform

## 1 – Narrowing the Budget Deficit

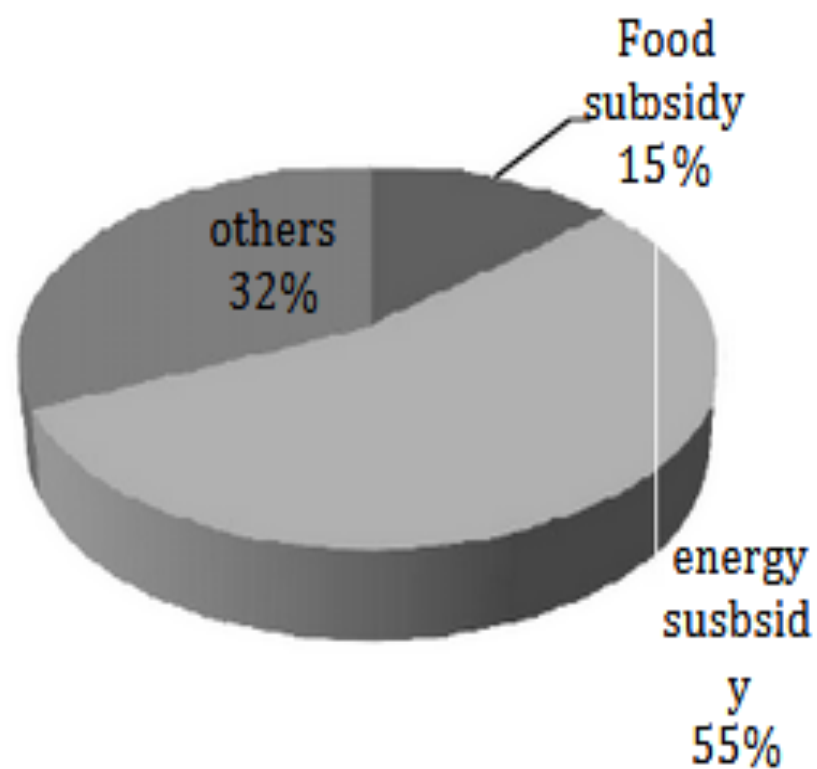
- On the spending side, the government is moving on with its plan to reduce energy subsidies.
- “The main impacts of the subsidy cuts are an **improvement in the government budgetary results**, and hence a better control over domestic public debt towards fiscal sustainability, (but **it led to a short-term increase in the rate of inflation because of upward price adjustments in energy-dependent goods and services**)

**Efficient allocation of resources** (Before the subsidy reform in 2014, spending on the energy subsidy was more than spending on health and education together)

### Subsidy structure 2012/2013



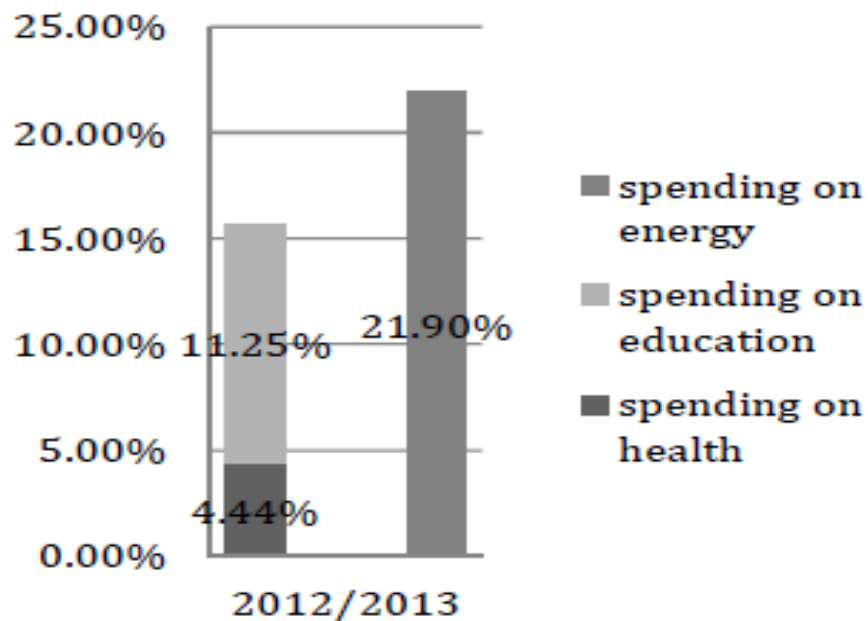
### Subsidy structure 2014/2015



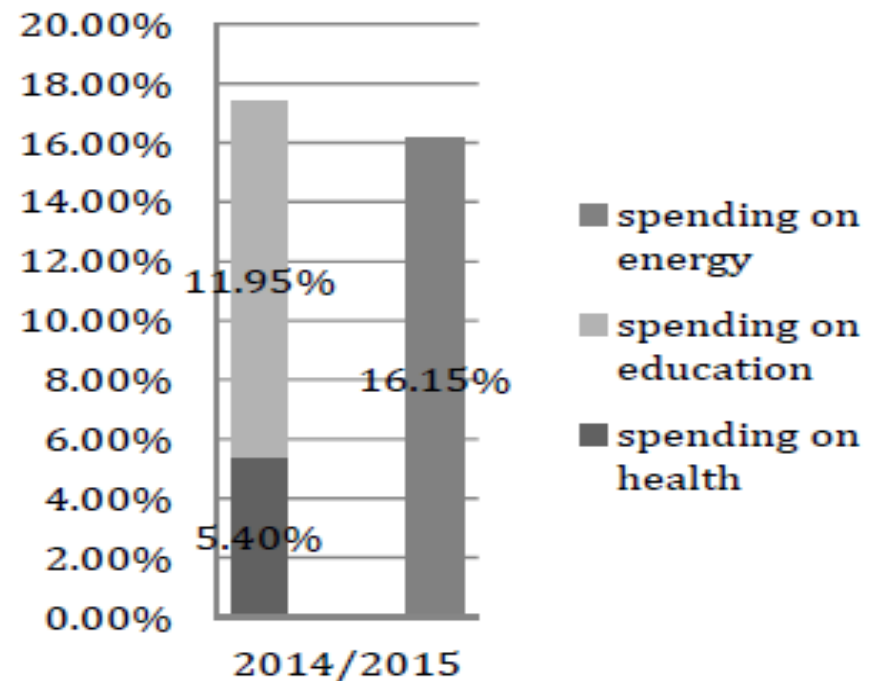
Source: Ministry of Finance 2014/2015

# Comparing government spending on energy subsidy to spending on health and education

**Government expenditure on health, education and energy subsidy as a percentage of total (2012/2013)**



**Government expenditure on health, education and energy as a percentage of total (2014/2015)**



Source: Ministry of finance 2014/2015.

# Positive impacts of Subsidy removal

**2– Reduced fossil fuel / energy consumption**

**3– Reduced GHGs emissions/ Reduce air pollution / Protect health.**

**4– Opportunities for investments and technologies in renewables and in more efficient fossil fuel consumptions**

**5– Opportunities for new employment opportunities (in RE)**



# Negative impacts of Subsidy removal

**Inflationary pressures** that reduce households' welfare & social effects due increased prices of goods and services

However, removing the energy subsidy had an adverse effect on the poor as expenditure on energy constitutes a larger portion of their income.

Negative labor market effects( e.g. Loss in employment)

# How to face the challenge?

- ▶ There is a need to set policies including just transition models that support maximization of positives and minimization of negative impacts of response measures

1) Measure the impacts of response measures

2) Determine impacted areas and, accordingly, evaluate and design policy response solutions

3) Measure the effects of the policy solutions.

**SOCIAL PROTECTION PROGRAMS**

# The mitigation of Negative Impacts

The reform plan is currently on going, **it became crucial concern for government of Egypt to analyze the impact and take immediate actions to mitigate the burden on the households from the rise in price of energy.**

**Using the amount of the subsidy savings devoting that amount to the most needed groups in the society** (the poor and most vulnerable ) using more efficient compensation programs.

With the initiation of the reform in 2014, Government has **fixed publicly distributed food prices**, including breads, sugar, rice, tea, flour and oil.

Additionally, **food subsidy system was expanded** including 20 commodities.

**Public Transportation cost was fixed under government control**, however private transportation and microbus fare immediately increased.

**A study** has been conducted used qualitative method, partial equilibrium approach, in **measuring the impacts of energy subsidy removal on welfare level of households and to give** some policies and recommendations to mitigate the adverse effects

**It was found that the impact arises through two channels namely direct and indirect channel:**

– **Direct**: **is the real income loss of households due to the price increases in petroleum products** (including natural gas, kerosene and LPG, and operation of personal transport equipment which includes gasoline, natural gas and diesel)

– **Indirect**: **the real income loss of households due to the price increases in goods and services that include energy as an input** to the production process.

Source:

[https://www.researchgate.net/publication/304014198\\_Impact\\_of\\_The\\_Energy\\_Subsidy\\_removal\\_in\\_2014\\_on\\_the\\_all\\_income\\_groups\\_and\\_poverty\\_in\\_Egypt](https://www.researchgate.net/publication/304014198_Impact_of_The_Energy_Subsidy_removal_in_2014_on_the_all_income_groups_and_poverty_in_Egypt)

## Main Study Outcomes

The study found that the adverse effects of the fuel subsidy change occurred in Egypt 2014 **caused a rise in the poverty rate by 2.4%** using the 2014 national poverty line.

The results concluded that after the subsidy reform, **about 85% of the poor people are residing in rural areas**, using 2014 poverty line, which can be **recommendation for the government to devote most of the mitigation programs to these regions instead of the urban areas.**

**Adverse impact falling on the poor** households should be **compensated** for the successful reform.

The reform must accompany the proper and tangible compensation for the vulnerable groups.

Need to improved **efficiency of currently existing compensation program** to mitigate adverse impact of the reform to the most vulnerable groups will secure them from being more vulnerable.

▶ **Without sustainability and commitment of government, reform is very unlikely to succeed and protect the poor households.**

▶ Not to deal with the reform concept as a price increase process, while **the reform must include a plan to provide the citizens with support, market control regime, a flexible time frame to fulfill the reform program and mitigation procedures**

**In-depth assessment and analysis is needed to quantify the impacts (such as loss of jobs, etc. ) and guide policy makers .**

**-Accurate data and expertise for using modelling tools to assess impacts that produces highly accurate quantitative results**

# Conclusion

**For Subsidy reform, enhanced welfare mechanism is needed** on currently operating measures of compensation in order to ensure the practical protection of the vulnerable groups in the society.

**MRV System needs to be designed and implemented to allow for accurate data availability** (one of the most crucial elements for constructing an accurate model)

**What has been done is an initial assessment.** There is a need for in depth assessing the socioeconomic impacts of measures (e.g. jobs lost, etc...), while considering that the impact of response measures is not limited to national boundaries.

There is no enough technical work or case studies available to developing countries

For that more tools and methodologies need to be developed and made available and that much more in-depth technical work is required.

## Recommendations

- ▶ More technical work & case studies are needed for developing countries, and more tools and methodologies need to be developed and made available and for that much more in-depth technical work is required by KCI.
- ▶ There is a need to make **comprehensive analyses and assessments impacts on trade, on employment and jobs, on competitiveness and other socioeconomic factors.**
- ▶ Most impact assessments of mitigation policies have so far focused on impacts within developed country Parties. **The few assessments covering developing countries were carried out at the regional level and did not include analysis of sectoral, national or subnational impacts.**
- ▶ **As the use of modelling tools to assess impacts produces highly accurate quantitative results, but usually requires a lot of data and expertise and is expensive,** as data are one of the most crucial elements for constructing an accurate model.



▶ Provision of support to developing country parties to build the capacity to :

- carry out own assessments particularly when the cross-border impacts of response measures have not been adequately assessed by the implementing country of the response measure,
- Undertaking national assessments of the impact of response measures, especially with the use of modelling tools
- Build capacity of policymakers, experts and practitioners to assess the implementation of RM, including with the use of modeling tools.
- Analysis of sectoral, national or subnational impacts, while ensuring the engagement of a range of stakeholders (the public sector, the private sector, academia) to deliver higher quality and more credible assessments.

- ▶ There is a need to conduct more region- and sector-specific studies to support developing country Parties in their economic diversification initiatives.
- ▶ There is a critical need to focus on training and education policies that facilitate job transitions and improve workers' employability. *(As Without skilled workers and competent enterprises, the shift to a low-carbon economy will be neither technically feasible nor economically viable.)*
- ▶ The greening of economies in the context of SD and poverty eradication requires a country-specific mix of macroeconomic, industrial, sectoral, social protection, skills-development, social dialogue and labour policies that establish an enabling environment for the creation of decent work opportunities by the provision of support towards environmentally sustainable activities.

An aerial night view of a city, likely Cairo, Egypt, featuring a large river (Nile) and a prominent, illuminated building complex with a central dome. The city lights are visible in the background, and the sky is a soft, hazy blue. The text "Thank You" is overlaid in a large, red, serif font with a white outline.

**Thank You**