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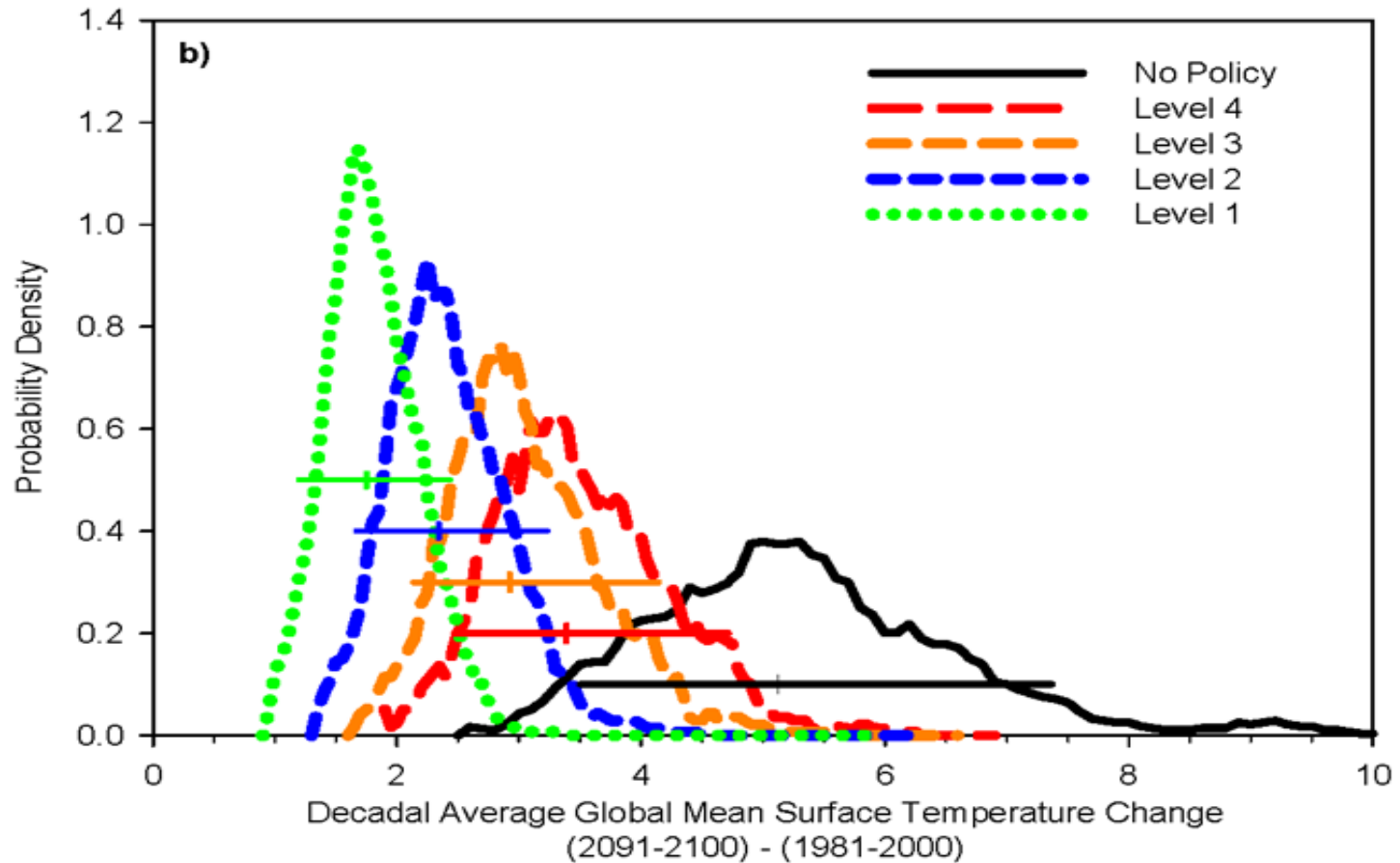
# *The Political Economy of Green Growth in Southern Africa*

# Setting the global scene

- Recall the **need** for development
- Global economy facing a series of crises which **interact** in ways we are yet to fully understand (the triple crisis)
- Also: growing recognition of the importance of **extreme events**
- And recent experiences have heightened **uncertainty**

# Shifting means and variation

## *Change in global average surface temperature*



Source: MIT Joint Program Report #180  
Webster et al. (2010)

# Policy challenges

1. Mitigation policy: steps at the **global** level to reduce emissions of GHGs and hence climate warming and uncertainty
2. Adaptation strategy: steps at the **national** level to reduce vulnerability to climate shocks and sustain economic development

# Two UN Initiatives

- The 17<sup>th</sup> conference of the parties of the United Nations Framework Convention on Climate Change (UNFCCC)
  - COP17 in Durban 2011
- UN Conference on Sustainable Development (UNCSD)
  - Rio+20 Earth Summit in 2012

# Three basic questions/topics

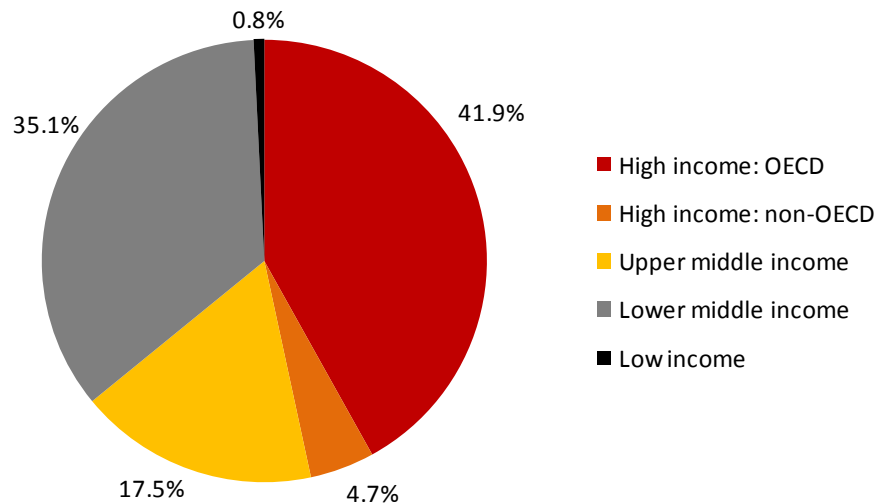
- What does “low-carbon” mean for development?
- How should we approach new “green technologies” in developing countries?
- What does green growth mean for existing development objectives?
  - Win-win or trade-offs?

# Low carbon development

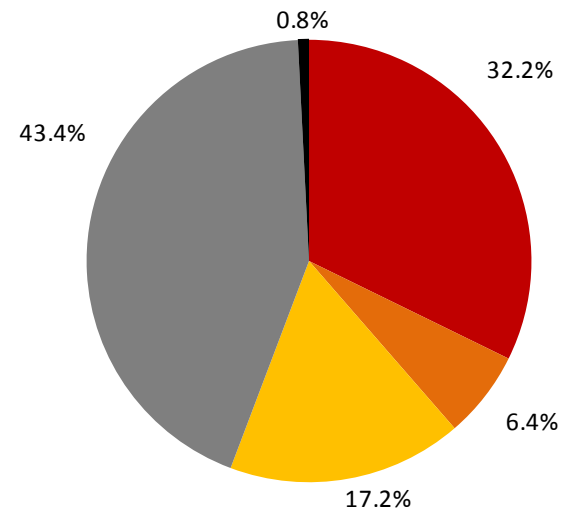
## *Past and future carbon emissions (CO<sub>2</sub> equivalents)*

- On a per capita basis most emissions currently come from the OECD countries
- But most emission growth come from developing countries
- Finding low-carbon growth paths a key challenge

**Current CO<sub>2</sub> emissions, 2007**



**New CO<sub>2</sub> emissions, 1960-2007**



Source: WIDER "Green Growth in Development" (Davies et al., 2011)

# Low carbon development

## *Energy use vs. Carbon emissions*

Emissions per capita =

Energy use per capita x Emissions per energy unit

**So countries may have high emissions per capita  
when they...**

Use a lot of energy (i.e., electricity and petroleum)

AND/OR

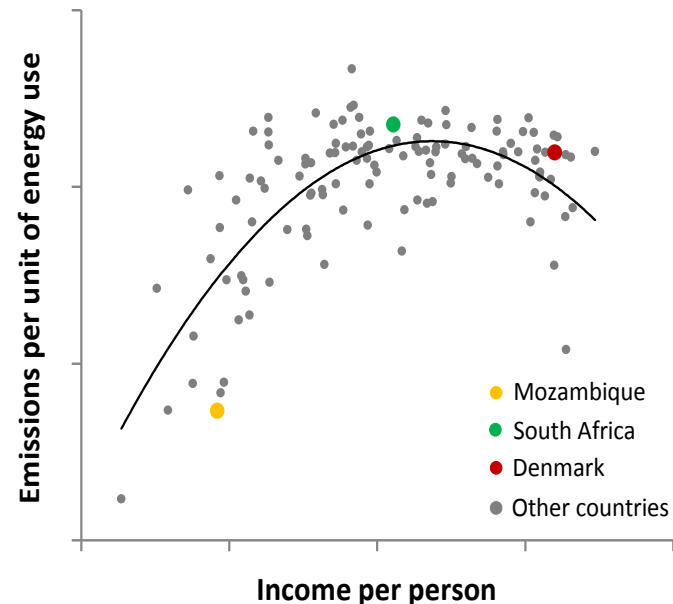
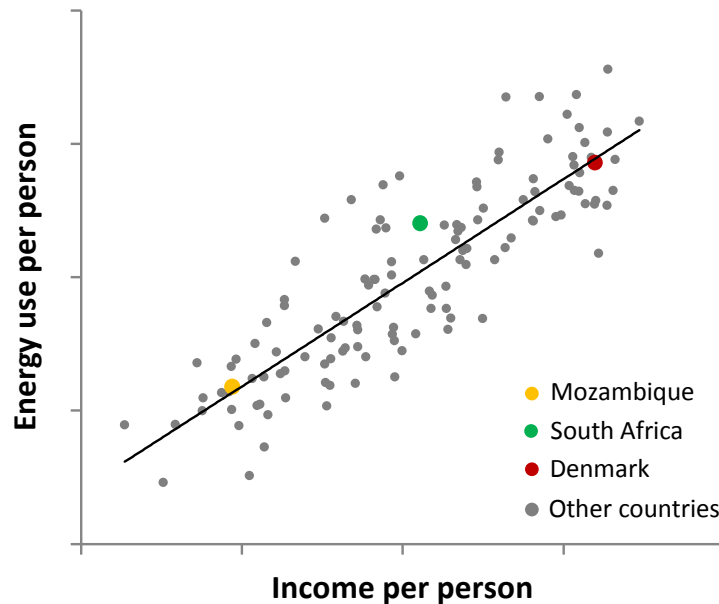
Use 'dirty' energy (i.e., coal, crude oil and gas)



# Low carbon development – stylized facts about *Energy use vs. Carbon emissions*

- Energy use rises with income
- So reducing energy use in low-income countries means stalling development

- Emissions rise then fall with income
- Poor emit little
- Industrializing countries use cheap and dirty energy
- Rich can afford cleaner energy



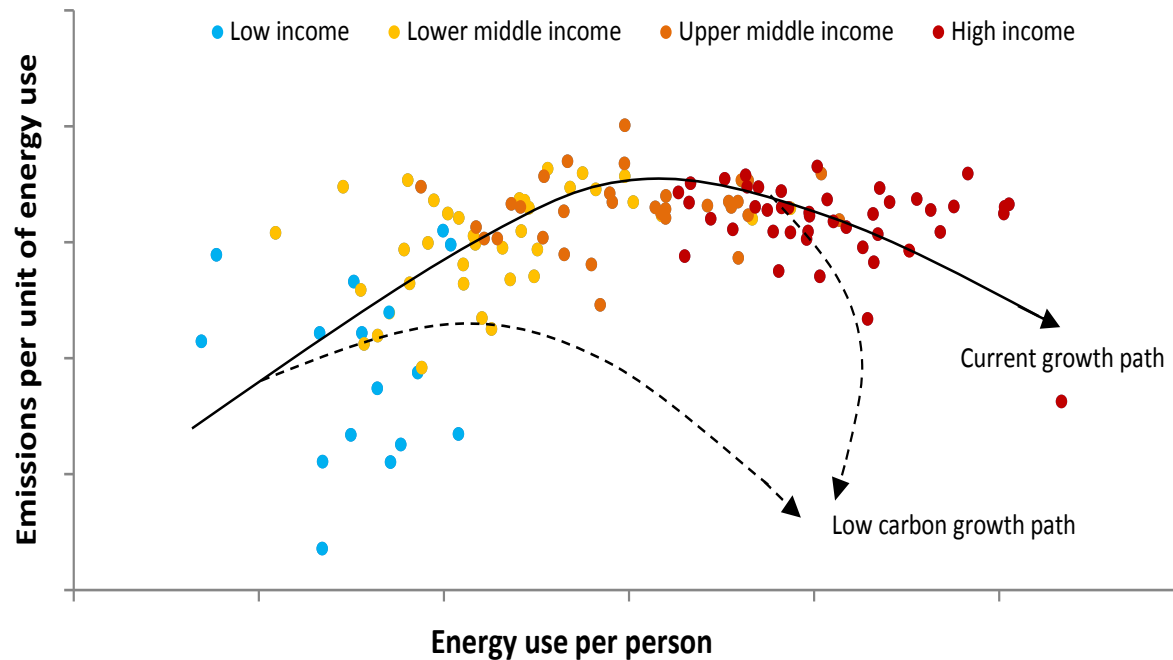
Source: WIDER "Green Growth in Development" (Davies et al., 2011)

Note: Energy use in oil equivalents. Income is log of per capita GDP; Energy and Emissions are deviations from mean logged values

# Low carbon development

## *Finding a new growth path*

- Economic development means that global energy use will definitely rise
- A key emphasis must be on clean energy options for low-income countries



Source: WIDER "Green Growth in Development" (Davies et al., 2011) Note: Energy Use and Emissions are deviations from mean logged values.

# Conceptualizing the “Green” Dimension

- Green economy –
  - “results in improved human well-being and social equity while significantly reducing environmental and ecological scarcities” (UNEP)
- Green growth –
  - “fostering economic growth and development while ensuring that natural assets continue to provide resources and environmental services on which our well-being relies” (OECD)
  - “environmentally sustainable economic progress to foster low-carbon, socially inclusive development” (UN-ESCAP)
- Suggest that green growth is a win-win strategy

# Win-Win Perspective is Questionable

- Green growth discourse is often couched on successful micro- or project-level interventions
- But once scaled-up, a green growth strategy resembles a major and complex policy reform, comparable to **structural adjustment**
- It involves short-term economic and political costs for the promise of long-term rewards
  - Requires countries to deviate from their comparative advantage and sometimes abandon the returns from past investments
  - May require adopting more expensive technologies that redirect scarce resources away from addressing other development priorities
  - Often the rural and urban poor, who are key electoral constituencies, lose out in the short-term

# Case Selection

- Focus on three countries in **Southern Africa** facing three major development issues (electricity, food and fuel):
- Electricity and coal in **South Africa**
  - Middle-income, mineral rich
- Food security and fertilizers in **Malawi**
  - Low income, agriculture-dependent, land scarce
- Biofuels and land clearing in **Mozambique**
  - Low income, agriculture-dependent, land abundant

# Case 1: Electricity in South Africa

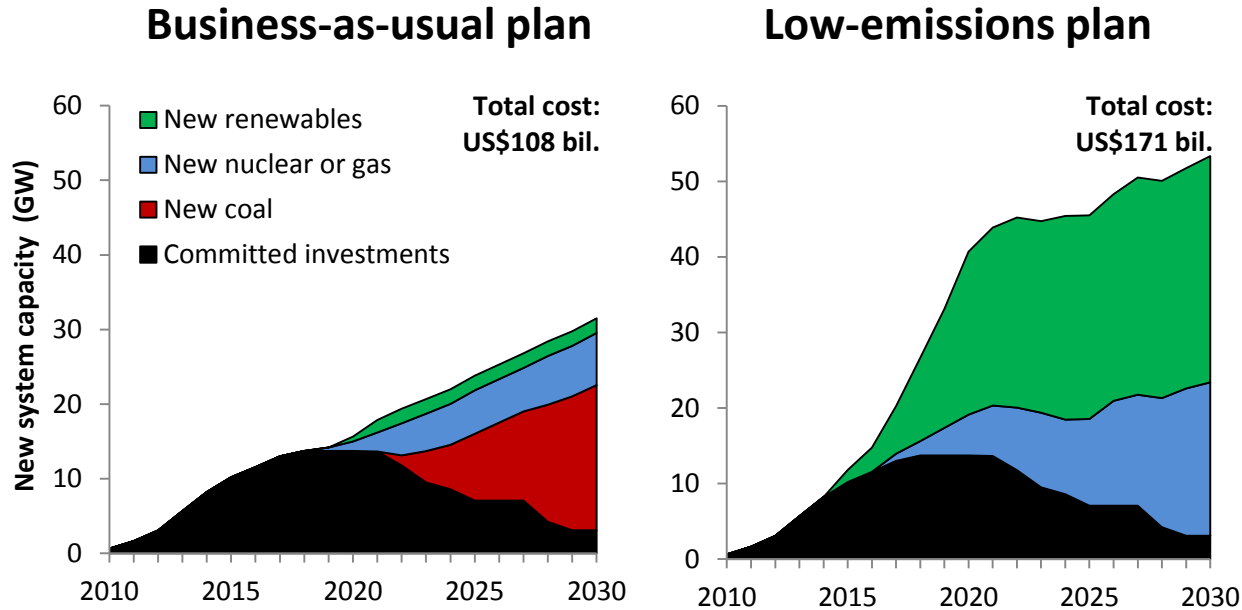
## *Socioeconomic Context*

- Post-Apartheid government inherited high unemployment and a massive service delivery gap (i.e., water, sanitation, energy, etc.)
- Electricity demand projected to double over the next two decades
  - Connecting previously disadvantaged population groups
  - Rising incomes and urbanization
  - Industrial expansion, esp. mining and heavy industries
- South Africa generates 94% of its electricity from coal
  - Coal is cheaper and more reliable than renewables (e.g., solar, wind)
  - Explains why South Africa the 13<sup>th</sup> largest GHG emitting country
- What is needed are greener energy sources
  - Government has committed to a 42% reduction in GHGs by 2025

# Case 1: Electricity in South Africa

## *Green Growth Scenario*

- Adopting a Green Growth scenario means...
  - More renewables
  - More installed system capacity and higher investment costs
  - Higher electricity tariffs (and a carbon tax?)
  - Massive structural adjustments to the economy



Source: IRP2 (2011)

# Case 1: Electricity in South Africa

## *Political Economy Pressures*

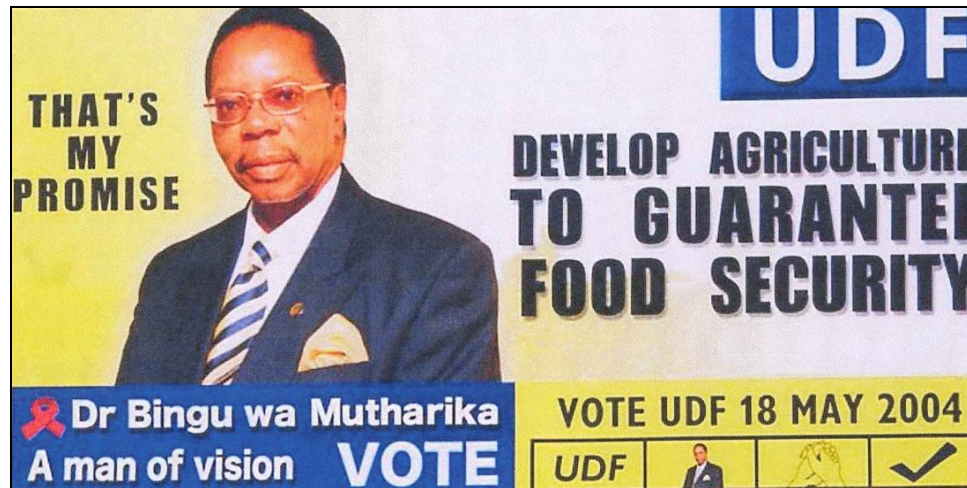
- We have already witnessed the concerns of key interest groups
  - Blackouts in 2008 led to new investments and higher electricity tariffs
  - And to large-scale demonstrations by civil society and trade unions
- So there is strong political resistance to a Green Growth path
  - Industry groups worry about competitiveness
  - Trade unions worry about job losses
  - Civil society worries about rising energy prices for the poor
- As with SAPs, maintaining support for reforms will be crucial, and so the government will have to:
  - Limit the effects of tariff increases on the poor (e.g., subsidies)
  - Support firms and workers during the transition (i.e., tax credits and job retraining)



# Case 2: Food Security in Malawi

## *Background Context*

- Food insecurity is a perennial threat in Malawi
  - Agricultural intensification is unavoidable
  - Due to poor soil fertility, fertilizers will be necessary
- President Bingu wa Mutharika launched AISP (FISP) in 2005
  - Improved food security and agricultural exports
  - Adheres to calls for an African Green Revolution



# Case 2: Food Security in Malawi

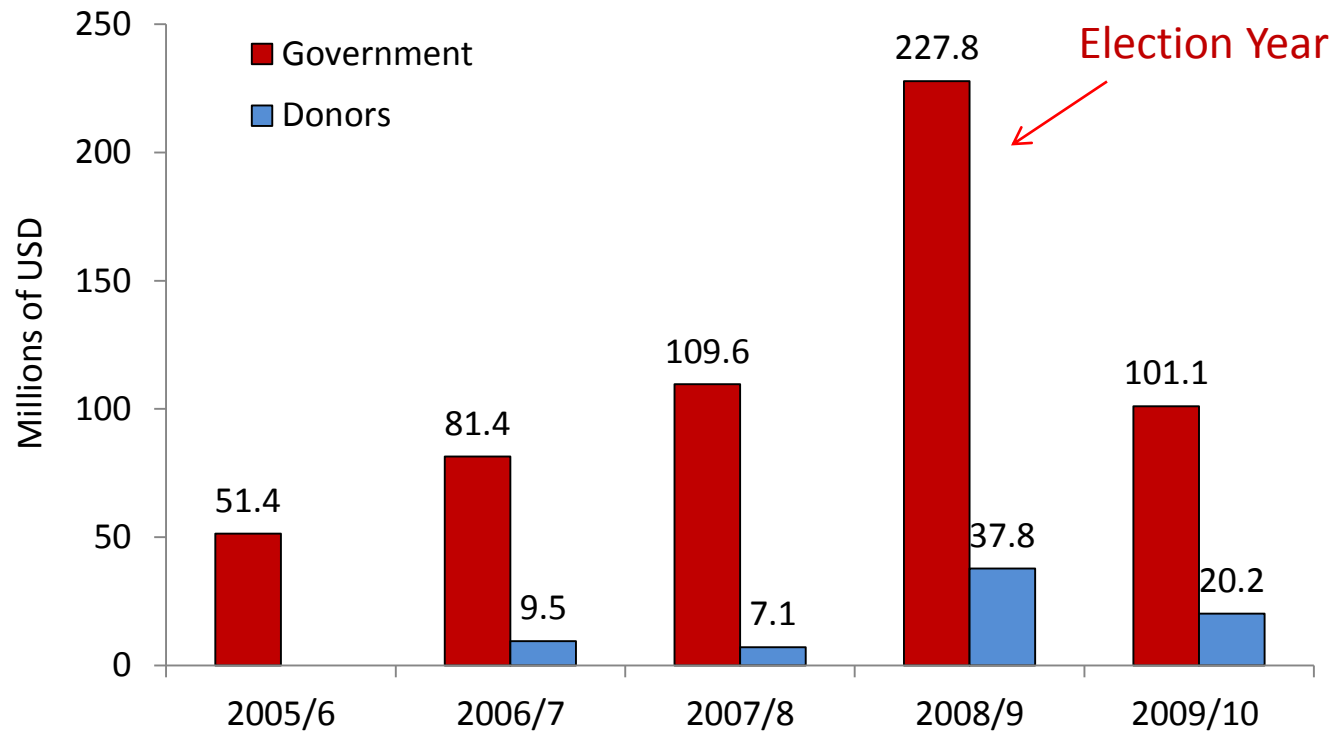
## *Environmental Challenge*

- Nitrous oxide fertilizers pose huge risks to environment
  - Fertilizers are largest single source of GHG emissions from agricultural sector
  - Fertilized lands use more water
  - High levels of fertilizer increase toxins in groundwater
- OECD argues that fertilizer subsidies create a number of negative environmental externalities
- Yet, alternatives, including conservation farming, organic fertilizers, and inter-cropping, have not proved very viable

# Case 2: Food Security in Malawi

## *Political Economy Challenges*

**Distribution of Direct Contributions for the FISP**



Source: Dorward & Chirwa 2011

# Case 3: Biofuels in Mozambique

## *Background Context*

- Mozambique's comparative advantage is land abundance
  - Only 12 percent of arable land under cultivation
  - Favorable agro-ecological conditions
- Though some success in export crops, Mozambique historically has focused on subsistence farming
  - Approximately 70 percent of country's population is rural
  - Recently experienced stagnating agriculture, with attendant impacts on poverty
- Traditionally dependent on oil imports
  - Government expended 17% of GDP on fuel and energy as of 2007

# Case 3: Biofuels in Mozambique

## *Background Context*

- In 2004 election campaign, during a period of volatile oil prices, Government began encouraging cultivation of jatropha for biodiesel
- Subsequently, a Commission on Biofuels also recommended ethanol production from sugarcane, sorghum and cassava
- By 2009, publication of National Biofuels Policy and Strategy (NBPS)
  - Stated the industry would create 150,000 new jobs
  - Now more than 30 biofuels projects with total investment of 100 million USD

# Case 3: Biofuels in Mozambique

## *Environmental Challenge*

- Biofuels pose a number of threats to the environment
  - Land degradation, water pollution, mono-cropping, and over-use of water sources
  - Contributions to GHGs through deforestation
  - Since little land is under cultivation in Mozambique, a large amount of land clearing will be needed for biofuels projects
- Green Growth strategy would involve a greater focus on ethanol (i.e., plantation-based sugarcane) rather than biodiesel because smallholder jatropha is more land-intensive

# Case 3: Biofuels in Mozambique

## *Distributional Concerns*

- However, jatropha is much more pro-poor than sugar cane
  - Relies on unskilled smallholders while sugar cane is more capital-intensive and cultivated on plantations
  - Research by Arndt et al. (2009) shows that a jatropha-driven biofuels strategy can reduce poverty in Mozambique by almost twice as much as a plantation-based sugarcane scenario
- A Green Growth strategy therefore deviates from the Government's objectives to create jobs and assist the rural poor

# Summary of Adjustment Costs

	Current strategy	Green Growth strategy	Short-term costs	Losers
South Africa	Invest in coal-fired electricity to support heavy industries	Shift to renewable energy sources	Higher electricity prices Job losses in mining and heavy industries	Poor consumers Unionized workers Mining and metals industries
Malawi	Promote agricultural intensification based on fertilizer input subsidies	Shift to conservation farming, organic fertilizers, micro-dosing, and inter-cropping	Falling production while smallholders change farming behaviors Loss of handouts to rural voters	Current ruling party Private suppliers of fertilizer Poor smallholders who cannot adapt
Mozambique	Agricultural extensification based on cultivation of feedstock crops for biofuels.	Reduce land clearing by either shifting towards plantation-based production or promote smallholder agricultural intensification	Fewer rural employment opportunities	Poor rural farmers



# Conclusions (1)

- Finding greener growth paths for low-income countries is a global necessity, but it does create a number of critical challenges
- Green Growth policies are comparable to other major and complex policy reforms, such as structural adjustment
- Developing countries are asked to...
  - Reorient current strategies in order to achieve long-term benefits
  - Undergo large-scale structural transformation
  - Risk hurting the poor and vulnerable populations
- There will inevitably be trade-offs between green growth and existing development objectives and adjustment is associated with complex political economy processes (short vs long term, winners vs losers)

# Conclusions (2)

- While green technologies may complement development, associated investment must be carefully appraised – not always optimal
- Green growth must be incorporated into – but should not replace – existing poverty focused development strategies
- Experience of past structural adjustment initiatives cautions against ignoring trade-offs and political economy considerations
- Implies an important role for foreign assistance:
  - Facilitate transfer of green technologies and skills
  - Protect losers from adjustment costs and limit political resistance to reforms
  - Finance higher development costs and consider the implications of de-prioritizing other development goals