

Towards “Smarter” Subsidies:

Essential for Scaling Up Rural and Renewable Energy

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Overview

- ◆ Ill-designed subsidies are:
 - Counter-productive
 - Waste of scarce resources
 - A key bottleneck to rapid scale-up of rural and renewable energy
- ◆ Until we can manage without subsidies, we need “smarter” subsidies

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“Smarter” Subsidies: Key Issues

- ◆ Maintain cost reduction pressures
- ◆ Finance them better
- ◆ Select households judiciously
- ◆ Rethink the treatment of externalities

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Maintain cost reduction pressures

- ◆ Where possible, don't stifle competition by providing subsidies to a single entity only
 - Offer similar subsidy to multiple providers
 - Fee-for-service approach (ESCOs) does not inherently require a legal monopoly; offer subsidy to multiple ESCOs
 - Consider making it technology neutral

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Cost reduction ... continued

- ◆ Subsidize results, not investment costs
 - Interest rate subsidies are potentially hazardous
 - reduce incentives to use scarce capital frugally
 - financing system may be unsustainable when subsidies are removed.
 - “last resort”, not “preferred way”
 - Capital cost subsidies provide incentives to install systems, but none to utilize them
 - India wind capacity tax break
 - Indonesia system expansion subsidy

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Cost reduction ... continued

- ◆ Catalytic subsidies for pre-investment costs may be a bargain
 - Feasibility/pre-feasibility studies
 - Information collection and dissemination
 - Training/capacity building/hand-holding

- ◆ Develop new instruments for pre-investment risks, instead of subsidies

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Cost reduction ... continued

◆ Try bidding for subsidies

- Particularly important for “concessionaire” approach
- If qualified bidders do not exist, make efforts to create them

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Finance them better

- ◆ Fund fully all subsidies *ex ante*
 - Financial chaos in India power sector because of unfunded subsidies to farmers
 - No incentive to connect rural households.
 - In Indonesia, unfunded subsidies to off-Java and rural customers threaten grid RE extension
 - Renewable energy projects vulnerable to excessively optimistic assumptions about future cost reductions

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Finance them better ... continued

- ◆ Consider explicit instead of implicit cross-subsidies
 - Implicit cross-subsidies work “within” the firm; no clear, separate accounts are maintained.
 - Explicit cross-subsidy is a levy or tax on some customers/technologies, used to subsidize other customers or technologies
 - Example of 1% levy for rural electrification in Zimbabwe; NFFO in U.K.; recent Internet subsidy scheme in U.S.

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Which households to subsidize?

- ◆ Tempting to subsidize modern energy for all rural households or poorest households
 - Subsidizing all rural households in a region often not financially feasible
 - Priority of poorest households may be basic commodities such as food, clean water
- ◆ Focus on households for whom modern energy is a high priority

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Spending behavior shows priorities

- ◆ Basic goal is to improve quality of life of rural households
 - Subsidized prices are a practical alternative to efforts to increase income/overall expenditures
- ◆ Determine “priority” by looking at:
 - how much more would household spend on modern energy if their incomes increased
 - at unsubsidized prices

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Simple priority test

For each particular type of rural household, suppose the total annual expenditure (on all commodities) goes up by \$100

How much of this \$100 will go to modern energy?



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Simple priority test ... continued

- ◆ Compare answers across types of households to determine:

Groups of households for whom modern energy is a high priority

- ◆ For a particular household, compare answers across commodities to determine:

Priority of modern energy compared to other things

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Simple priority test ... continued

- ◆ Will this work for newer, cleaner, more convenient energy which households have not yet ever used?
 - Many techniques available in economists' toolkits for this purpose
 - used to estimate people's interest/priority in environmental protection
 - Some adaptation and testing of techniques may be needed.

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Rethink treatment of externalities

- ◆ Externality: Costs of global environmental damage not taken into account by local decision-makers in developing countries
- ◆ GEF, bilaterals willing to pay to avoid greenhouse gas emissions in developing countries
- ◆ How should these payments be treated in economic cost-benefit analysis?

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Rethink externalities ... Current practice

- ◆ In cost comparisons, we do not use “GEF” payments, i.e.,

Economic cost of renewables

VS.

Economic cost of conventional



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Current practice ... continued

- ◆ In cost-benefit comparisons, we include “GEF” payments as a benefit, representing global willinness-to-pay

Economic cost of renewables

vs.

Local benefits of renewable + “GEF” payments

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Externalities ... suggested practice

- ◆ In cost comparisons, use “GEF” payments as measure of global economic damage

Economic cost of renewables

vs.

Economic cost of conventional +
Global environmental damage cost



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Externalities ... suggested practice

- ◆ In cost-benefit comparisons, do not include “GEF” payments as a benefit

Economic cost of renewables

vs.

Local benefits of renewable + ~~“GEF”~~ payments



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Benefits of suggested practice

- ◆ Does not encourage projects that have limited local interest and priority
- ◆ Makes clear that “GEF” payments are not the same as “unwarranted” subsidies
- ◆ Makes it easier to show that renewables are cost competitive, taking account of environmental costs
- ◆ Conforms to economic theory

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