Memorandum on VAT abolition for Renewable Energy devices



Executive Summary:

There are a large number of areas in the State of Karnataka that are either unelectrified or receive unreliable electricity supply. Decentralized renewable energy systems are ideal means of providing reliable, clean energy access to communities in these areas. In the recent past, State and Central Governments have initiated a number of measures to improve energy access at the local level. However, as of today, Renewable Energy devices and spare parts in the State of Karnataka attract 5.5% VAT.

This **imposition of VAT** on one hand and the provision of a Central Government **subsidy on solar systems** on the other hand are **contradictory in effect**. The final result is that the benefit for the end user availed from subsidy is greatly reduced and works out to less than 25% of the original intended benefit. Abolition of VAT and continued reimbursement of input credit also has additional benefits:

- Increase in Renewable Energy uptake in the state
- Reduced cost for end users- greatly beneficial to poorer segments
- By reducing the VAT component and ensuring the benefit of input VAT, the cost of the system can be reduced by almost 15%.
- Imposition of VAT is unfair to users of decentralized, clean energy sources
- VAT abolition will help attract good service-oriented companies to the state

The promotion of renewable energy systems for energy access and energy security is a critical part of India's National Solar Mission. Imposing a VAT on renewable energy devices (which is a disincentive to uptake) is then contradictory to the larger goal of promoting their dissemination and must be considered in the larger context of climate change and energy security.

Across the state of Karnataka, a large number of rural homes continue to remain un-electrified. More than 20% of the total number of households still lack grid access[1]. According to a recent report, the State faces an electricity demand-supply gap of nearly 15%[2][3]. Even in electrified areas, the terrain and shortfalls in power supply affect the reliability of electricity access for households. This becomes a hindrance in carrying out daily activities- cooking, studying, other household chores- and also affects productive output. The increasing cost of alternate fuels such as diesel and kerosene add to the expenditure of the household, reducing the disposable income available on a monthly basis, particularly for poorer households. The table below reveals the percentage distribution of monthly expenditure per person over different groups of items of consumption and highlights the significant spending on fuel and lighting in Karnataka.

Table 1: Percentage distribution of monthly expenditure per person in Karnataka

Segment	Sample Size (Households)	Food	Non-Food	Fuel and Light expenditure within non-food category	Comment
Rural	2038	56.51	43.49	**8.9**	Highest expenditure item in non-food category
Urban	2037	42.33	57.57	**6.37**	3rd highest category after education and rent.

Source: Excerpt from the NSS Report 2009-2010 (#538): Level and Pattern of Consumer Expenditure[4]

In the recent past, State and Central Governments have initiated a number of measures to improve energy access at the local level and ensure increased energy security at the National level. The National and State Action Plans on Climate Change were initiated to address global environmental concerns, energy security while reducing Greenhouse gas emissions. One programme under this plan is the National Solar Mission which provides a number of incentives for uptake of solar energy. Similar programmes are being planned for continued development while ensuring environmental, economic and social sustainability.

Studies have shown that the high cost of acquisition of renewable energy (RE) systems is the main cause for the slow adoption of the technology[5]. The Government, recognizing this has taken steps to make Renewable Energy Technologies (RETs) affordable and accessible. This includes capital subsidies, accelerated depreciation, reduction in interest rate on loans for small RE systems, and so on.
Any step that can go into reducing the cost of RE systems will definitely improve the acceptance of this clean, environmentally friendly technology. However, even though the Government is doing a lot to promote RE, contradictory to its basic philosophy of supporting RE, the

[1] http://recindia.nic.in/download/karnataka.pdf
[2] http://economictimes.indiatimes.com/articleshow/13395891.cms
[3] http://www.bcic.org.in/files/energy_scenario_in_karnataka.pdf
[4] http://mospi.nic.in/Mospi_New/upload/NSS_Report_538.pdf (Page 63 and 66)
[5] http://siteresources.worldbank.org/EXTENERGY2/Resources/Unleashing_potential_of_renewables_in_India.pdf

Government is also levying tax on the sales of RETs. We feel that this is an over sight that occurred when the local sales tax (KST) was converted into VAT when VAT was implemented across the country.

The removal of 5.5% VAT on renewable energy devices and spare parts with continued reimbursement of the VAT input credit would be a positive step towards improving the access to clean, modern energy sources. It would also motivate enterprises to provide reliable energy services to remote and rural areas across the state. **And more importantly, the incentives would be coherent rather than having a contradiction with subsidies alongside taxation.**
The benefit would be greater if 14.5% VAT on spare parts for existing users of RETs is also removed.
Below are some of the key points on how this would be beneficial for all stakeholders including the Government, and help promote the use of renewable energy.

- **Overcoming the contradiction in incentives for RETs**:

Provision of capital subsidies on a system, alongside taxation would mean that the true benefit of the subsidies is much less than it is intended to be. This reflects incoherent policies on the part of the Government as the subsidies act as an incentive for RET uptake while taxation acts as a disincentive.

- **Effect on Renewable energy uptake**:

Renewable energy devices and spare parts in Karnataka attract VAT of 5.5%. This becomes a disincentive for uptake of renewable energy, because of higher costs to the poor. The imposition of VAT on the one hand and the sanction of subsidies (for solar energy) on the other are contradictory in their effect. State and Central Governments, through various programmes, are promoting the deployment of renewable energy technologies as a means to reduce the demand supply gap as well as improve energy access in areas that are unreachable via the grid. Imposing VAT on RET results in making energy access more expensive.

- **Reduced cost for end consumers:**

RETs like solar systems are used by the poor and the underserved. By imposing VAT on RET, In effect, end-users pay almost 10% more. For poor rural households in the state that are the biggest beneficiaries of off grid energy, this amount forms a significant portion of their total monthly income.
Given below is the cost break up of a typical solar system costing Rs. 10,000 to show the effect that VAT has on a RET.

On a typical Solar Home lighting system costing Rs. 10,000, the savings to the end consumer because of abolition of VAT will be Rs. 521. Taking into account the differential amount that will have to be added to the system cost by the supplier since output VAT is lower than input VAT, the difference will be Rs. 965.00 i.e. almost 9.65% of the cost. This is an issue in cases where input VAT is not reimbursed and is credited to the customer. If VAT was abolished and with reimbursement of VAT Input credit at all levels in the value chain, the savings to the customer will be Rs. 521 + Rs. 965 = Rs. 1486. Thus system costs can be reduced by nearly 15% by abolishing the 5.5% VAT applicable on RETs. Since the volume of sales of RETs is quite low, while this amount is high for individual customers, it is a comparatively small loss to the State Exchequer- that is compensated by reduced use of subsidized kerosene and increased productivity. Additionally, removal of 14.5% VAT on spare parts (Batteries, luminaries, Electronics etc) only for existing users of RETs will be greatly beneficial in reducing costs.

Table 2: Effect of VAT and Input Credit

Product	**Cost Price (in Rs.)**	**Input VAT %**	**VAT in Rs.**
Module	1200	5.5	66
Battery	1800	14.5	261
Electronics	2100	14.5	304.5
Consumables	2300	14.5	333.5
Direct expenses	1217		
VAT applicable on all components			**965**
Selling Price @ 10% Margin	9479		
VAT @ 5.5%	**521**		
Final Price to the Customer	10000		
Total price increased caused by VAT	**1486 (965+521)**		

Capital subsidy (40% of benchmark cost) (i.e. Rs. 108 per watt* 18W panel)	**1944**
Perceived Final price for Customer	10000- 1944 = **8056**
Real benefit to the end user (Capital subsidy- VAT at all levels)	1944-1486 = 458
Real Price of product for customer (Final price- Real benefit)	10000- 458 = **9542**

By reducing the VAT component and continuing the benefit of input VAT, the cost of the system can be reduced by almost 15%.

In addition, the table above also captures the real price of the product for the end user, given the subsidy applicable. Under the National Solar Mission, this system would be eligible for a subsidy of Rs. 1944. Ideally, this should reduce the total price to Rs. 8056 but given that VAT adds a total of Rs. 1486 to the system cost, the end user has to pay Rs. 9542 for the system (even with subsidy). As reflected in the table, the imposition of VAT results in the subsidy being less than 25% of what it is intended to be.

- The imposition of VAT on RE products, as mentioned above, increases the cost for the end user. This is **unfair to households using non-polluting**, clean energy sources that are independent of the State grid and do not add to its load. The use of decentralized renewable energy devices in off-grid areas is integral not only to providing **immediate clean energy access**, but also to facilitate additional linkages that are health, education and income-related.
- This also becomes a **disincentive to the uptake of RE technologies**, meant for promoting energy security and access- critical to the Climate Change and Global warming debate.
- To **attract good service-oriented renewable energy companies** to operate from Karnataka, abolishing VAT would be integral. The Government of our neighbouring states, namely, Andhra Pradesh and Maharashtra, and other states like Punjab and have taken steps in this direction. This could mean that manufacturers from the neighbouring states would be more competitive than manufacturers in Karnataka and there also might be a flow of systems from these states into Karnataka as they would have a competitive advantage of absence of VAT while they are able to take advantage of input credits thus making those companies more competitive to customers in Karnataka.
- The **RE sector is extremely labour intensive** using many unskilled and semi skilled labourers and if companies migrate to other states or companies from other states come in and sell to customers in Karnataka, there is a loss of employment in the state as well.

Abolishing VAT and ensuring continued reimbursement of input credit will bring a plethora of benefits to the State and households adopting renewable energy. The Government of Karnataka should not miss this opportunity during the next budget- it is essential both for the benefit of rural poor (for whom this is often the only source of reliable energy) as well as for the larger benefit of the state. But most importantly, it is critical for a coherent policy on incentives for renewable energy technologies and the larger goal of achieving energy security to deal with the threat of climate change.