cost of administering small loans and providing social-financial support services which often accompany microcredit programs. The issue, however, is still hotly debated, calling for a fair hearing of both sides and examining those concerns.

There's also room for innovation in program development, efficiency in operation, and equitable sharing of benefits. Therefore, to build an infrastructure for expanding renewable energy technologies, as an integral dimension of a sustainable and just economy, policy makers must address these micro-credit lending issues by instituting proper controls, support mechanisms, and guidelines so that the professed values of microcredit lending are realised. It is encouraging that these concerns are beginning to be raised within the MFI (Micro Finance Institution) industry itself. They should be brought to the forefront for greater public awareness and scrutiny and acted upon with the utmost urgency.[16]

There are many other options in addition to stand-alone systems: Hybrid systems combining PV and wind turbines or ecologically balanced hydro-electric systems; distributed generation through grid-connected PV systems for urban and other gridded areas, installed on roofs and walls, which feed the grid with solar-generated electricity, "turn the meter backwards" and reduce stress on the power line; solar powered IPS systems; solar thermal systems for heating and cooling; solar greenhouses; various types of solar cookers; wind turbines ranging in size from 250 watts to over 3 megawatts each -- with cut-in wind speed as low as 7 miles/hour and cut-out speed as high as 120 miles/hour; utility-scale, megawatts-size wind farms and PV fields, some combining electricity generation, grazing and agricultural production; offshore wind farms; industrial and community scale bio-gas plants generating gas and electricity, with superb quality organic fertilizer and fish feed as the byproduct; large dish-type concentrators which both cook and produce steam to power electricity generators; PV, wind turbine and other renewable energy technology hardware manufacturing plants through turnkey transfer.

All these options have successful examples around the world, for Bangladesh to judiciously emulate and innovate. These will also come with a revolutionary potential for "green jobs" creation and employment, fueling an energy-independent and sustainable economy.

Some of these options have been tested as pilot projects in Bangladesh. In 1999, BRAC Solar Energy Program installed a PV-wind hybrid system at the Brac Area Office in Cox's Bazar. The program also installed two grid-connected systems, one at Brac's Training and Resource Centre in Mymensingh (1,200 watt), and another at its Area Office at Madhabdi. These pilot systems have contributed much valuable data on their feasibility and constraints.[17]

Also, a 1.1 kilowatt grid-connected rooftop PV system has been installed in 2007 at the Renewable Energy Research Centre, Dhaka University, by a team of faculty members and research associates of the university's Department of Applied Physics, Electronics and Communications Engineering.[18]

These systems take only a few days to install. They are simple, reliable, and durable. With political will, policy, planning, investment, programs and action, hundreds of thousands of building roofs across the country could be urgently transformed into grid-connected electricity generating power plants, launching an instant pay-back period and a downward cost curve --transforming into a revenue curve.

Mandating the use of renewables in building codes would not only facilitate the transition, it would also add a whole new revolutionary and sustainability dimension to the architectural, engineering, and building-construction education and professions

Energy is the lifeline of an economy. And a new dimension of renewable energy is being added to the energy mix of the country. The government has instituted a policy to meet 5 percent of the country's total electricity demand by 2015 and 10 percent by 2020 from renewables.

In the proposed 2009-10 fiscal budget the government has also exempted VAT and eliminated import duty for solar panels. IDCOL plans to install 10 lakh solar home systems by 2012. The government also plans to distribute energy-efficient light bulbs on a massive scale.

While this will help to reduce energy consumption, it must also be noted that these bulbs contain mercury. Therefore, safe bulb retrieval and recycling requirements must be integrated in the distribution program to avoid a potential disaster. Sales and distribution of such bulbs are growing at private levels and through other programs. Used-up and damaged bulbs are already being dumped as regular garbage. This must be stopped.

On the brighter side, safe retrieval and recycling requirements also offer much needed "green jobs." The Light Emitting Diode (LED)