

No. 5/4/2013-14/SC
Government of India
Ministry of New & Renewable Energy
(Solar Energy Group)

Block NO. 14, CGO Complex, Lodi Road,
New Delhi-110 003,
Dated: 17th January, 2014

To
Heads of State Nodal Agencies,
Municipal Commissioners/ Municipalities
Institutions/Universities/Construction companies/Developers

**Subject: Implementation of the “Development of Solar Cities Programme”
during 2013-14 and rest of 12th Five Year Plan.**

Sir,

I am directed to convey the sanction of the Government of India for implementation of the on “**Development of Solar Cities Programme**” during 2013-14 and rest of the 12th Five Year Plan period as per the details given below:

2. Goals and Objectives

The Goal of the program is to promote the use of Renewable Energy in Urban Areas by providing support to the Municipal Corporations for preparation and implementation of a Road Map to develop their cities as Solar Cities. The objectives of the programme are given below:

- to enable/empower Urban Local Governments to address energy challenges at City - level.
- to provide a framework and support to prepare a Master Plan including assessment of current energy situation, future demand and action plans
- to build capacity in the Urban Local Bodies and create awareness among all sections of civil society.
- to involve various stakeholders in the planning process
- to oversee the implementation of sustainable energy options through public - private partnerships.

3. Physical Targets

3.1 The target of total 60 cities/towns/Unban Agglomerations (Class I – III) duly notified by the Municipal Authorities/Local Governments with at least one in each State (including 45 Solar Cities already sanctioned i.e. 15 Nos. additional Solar Cities) has been set for the 2013-14 and rest of the 12th Five Year Plan period. The targets will be achieved by providing support for preparation of a Master Plan for their city; setting up of a ‘Solar City Cell’ in the Council/Administration, organizing training programmes/ workshops/ business meets for various stakeholders such as elected representatives of the municipal bodies, municipal officials, architects/engineers, builders and developers, financial institutions, NGOs, technical institutions, manufactures and suppliers, RWAs etc. and on creation of public information and awareness.

3.2 The total 15 Cities (including 10 Pilot Solar Cities already sanctioned i.e. 5 Nos. additional Pilot Solar Cities) within the above target are proposed to be developed as ‘**Pilot Solar Cities**’.

3.3 Out of above target of 60 cities, total eight cities (including 4 Model Solar Cities already sanctioned i.e. 4 Nos. additional Model Solar Cities) are also proposed to be developed as '**Model Solar Cities**' with part financial support for installation of renewable energy and energy conservation projects/devices/systems in the city.

3.4 Apart from 60 Solar cities, about 100 **small townships/campuses** including new and the existing one, duly notified/permitted by the concerned Authorities being developed by the promoters/builders, SEZs/ industrial towns, Institutional campus etc. for preparation of Master Plan/DPR including the action plan for renewable energy installations, green campus development, awareness generation and trainings etc. will be covered.

4. Implementation Arrangements

The programme will be implemented through State Nodal Agencies/Urban Local Bodies or other corporate houses for respective cities. For townships and Institutional Campuses the respective organizations may also be involved. The detailed Guidelines for implementation of the scheme and financial provisions for various activities are given in the **Annexure** enclosed.

5 Monitoring Mechanism

The State Nodal Agencies/the Implementing Agencies will set up arrangements to closely monitor the implementation of their projects covered under the scheme. The agencies will furnish progress reports and other information to MNRE and SNAs on a regular basis. The Ministry will also monitor the progress of the scheme independently, including third party inspection and reporting.

6. Expenditure

An expenditure of Rs. 95.00 crore is expected to be incurred under the "Development of Solar Cities Programme" during 2013-14 and rest of the 12th Five Year Plan. Funds to the tune of Rs.8 crore have been earmarked for expenditure during 2013-14.

The expenditure will be debited from the budget head: Demand No. 69, Major Head 2810-New and Renewable Energy, 103-Renewable Energy for Urban, Industrial and Commercial Applications, 01- ST, SPV and other RE Systems, 01-Renewable Energy Application, 33-Subsidy during 2013-2014 (Plan).

7. This sanction issues in exercise of powers delegated to this Ministry and with the concurrence of IFD dated 31/12/2013 vide their Dy. No. IFD/ 2242/2013-2014 dated 31/12/2013. This supersedes the all previous Administrative Approvals No. 3/5/2007/UICA (SE) dated 28.02.2008 & Addendum No.3/1/2008-UICA(SE) dated 28.02.2009, No.5/10/2010-11/ST dated 24.01.2011.

Yours faithfully,



(Dr. Arun K Tripathi)
Director /Scientist 'F'

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Copy is forwarded for information and necessary action to:--

1. Director of Audit, Scientific Audit-II, DACR Building. I.P. Estate, Delhi-110002
2. Secretary, Ministry of Urban Development, Nirman Bhawan, New Delhi
3. Secretary, Ministry of Housing & Poverty Alleviation, Nirman Bhawan, Maulana Azad Road, New Delhi - 110011
4. C&MD, IREDA, August Kranti Bhawan, Bhikaiji Cama Place. New Delhi.
5. Chairman, Solar Energy Corporation of India, NBCC Plaza, Tower- 1, 4th Floor, Pushp Vihar, Sector-V, Saket, New Delhi-110017
6. Director General, Bureau of Indian Standards, Manak Bhawan, 9, Bahadur Shah Zafar Marg, New Delhi-11002
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8. Director General Bureau of Energy Efficiency, Sewa Bhawan, R. K. Puram, Sector 1, New Delhi – 110066.

Internal Distribution:

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9. Cash Section
10. Pay & Account Officer, MNRE
11. Sanction folder



(Dr. Arun K. Tripathi)
Director/Scientist 'F'

Guidelines for implementation of the “Development of Solar Cities Programme”

1.0 Background

1.1 About 30% (285.35 million people, 2001 census) of the Indian population resides in urban areas. In post-independence era while population of India has grown three times, the urban population has grown five times. Urban areas are heavily dependent on fossil fuels (often imported), for the maintenance of essential public services, for powering homes, transport systems, infrastructure, industry and commerce. The fossil fuels are increasingly becoming more expensive due to scarcity of fuel and increase in demand. In addition to this, the environmental and social impacts of the consumption of fossil fuels are increasingly becoming a concern. These impacts include air pollution, global warming, waste disposal problems, land degradation and the depletion of natural resources.

1.2 Urbanization and economic development are leading to a rapid rise in energy demand in urban areas. Urban areas have emerged as one of the biggest sources of Green House Gas (GHG) emissions, with buildings alone contributing to around 40% of the total GHG emissions. As per latest UN report one million people are moving to urban areas each week. It is estimated that around two-thirds of the world population will be living in cities in 2050. This requires a tremendous shift in energy resources in urban areas. In recognition of this, various cities around the world are setting targets and introducing policies for promoting renewable energy and reducing GHG emissions. London has announced 20% Carbon emission reduction by 2010; New York and 200 other U.S. cities have set a similar target. Tokyo has announced 20% share of renewables in total consumption by 2020 and Australian government has initiated a Solar Cities programme.

1.3 Several Indian cities and towns are experiencing 15% growth in the peak electricity demand. The local governments and the electricity utilities are finding it difficult to cope with this rapid rise in demand and as a result most of the cities/towns are facing severe electricity shortages. There is a need to develop a framework that will encourage and assist cities in assessing their present energy consumption status, setting clear targets for and preparing action plans for generating energy through renewable energy sources and in conserving energy utilized in conducting urban services.

1.4 The proposed programme on “Development of Solar Cities” would support/encourage Urban Local Bodies to prepare a Road Map to guide their cities in becoming ‘renewable energy cities’ or ‘solar cities’ or ‘eco/green cities’. The Ministry has already initiated various programmes in the Urban Sector for promoting solar water heating systems in homes, hotels, hostels, hospitals and industry; deployment of SPV systems/devices in urban areas for demonstration and awareness creation; establishment of ‘Akshya Urja Shops’; design of Solar Buildings and promoting urban and industrial waste/ biomass to energy projects. The programme aims to consolidate all the efforts of the Ministry in the Urban Sector and address the energy problem of the urban areas in a holistic manner.

2.0 Major activities to be conducted in the Programme

2.1 The Program has been designed to address challenges in delivering sustainable energy at city level through following activities:

2.1.1 Preparation of a **Master Plan** within a period of one year from the date of sanctioning by the Ministry. The Master Plan should be prepared as per the guidelines and format prescribed by the Ministry. The Master Plan prepared in the prescribed format would provide total and sector-wise projections for energy demand and supply for next 10 years. Further, it would provide a complete sector-wise baseline on energy utilization and GHG emissions in the city. Year-wise targets for energy conservation, renewable energy addition and GHG abatement along with the action plan for implementation will be clearly brought out in the Master Plan. Potential sources of funding from respective organizations (both public and private) for providing financial support will be identified. Before finalization, the draft Master Plan would be discussed in a Stakeholders Consultation Workshop having representation from elected representatives, local research and academic institutions, resident welfare associations, industries and corporate organizations, NGOs, SNA, etc. The Master Plan will also contain few implementable Detailed Project Reports which could be submitted by the Implementing Agency for sanction. The Master Plan will ensure reduction in their energy consumption from the existing level and consequent reduction in CO₂ emissions.

2.1.2 Setting up of “**Solar City Cell**” in the City Council including Senior Administrator and City Engineers, representative of SNAs for planning and implementation. The Solar City Cell will comprise of at least one dedicated technical trained person (at least engineering graduate) supported by a secretarial person who may be exclusively recruited for the day to day activities in the field of renewable energy/energy efficiency etc.. The development of suitable proposals will also be the responsibility of the Solar City Cell. The recruitment of trained / qualified persons for Solar City Cells for respective Solar Cities may be done by MNRE/SNAs to facilitate the Solar Cities. The other persons of the Solar City Cell may be nominated by the Municipal Corporation from their existing Officers/Engineers. The concerned Municipal Corporation/SNA will provide supporting infrastructure office space, and other office expenses etc..

2.1.3 A “**Solar City Stakeholders Committee**” will be set up for advisory support involving representation from elected representatives in the municipal bodies, local research and academic institutions, resident welfare associations, industries and corporate organizations, NGOs, State Nodal Agencies and other relevant stakeholder.

2.1.4 Organizing training programmes/ workshops/ business meets/ awareness camps etc. for various stakeholders such as elected representatives of the municipal bodies, municipal officials, architects/engineers, builders and developers, financial institutions, NGOs, technical institutions, manufactures and suppliers, RWAs etc. and visits/ study tours within India.

2.1.5 Preparation of proposals for carbon financing.

2.1.6 Organizing publicity and awareness campaign through print & electronic media.

2.1.7 Development of total 8 Cities as “Model Solar City” and 15 cities as “Pilot Solar City” by way of supporting the installation of renewable energy and energy conservation devices/systems in govt./ public buildings through financial support from the Ministry.

2.1.8 About 100 small townships/campuses being developed by the promoters/builders, SEZs/ industrial towns, Institutional campus etc. for preparation of a Master Plan/DPR including the action plan for renewable energy installations and green campus development will be supported. This will also be applicable for the existing campuses/townships.

3.0 Financial Provisions

The Central Financial Assistance (CFA) will be provided as follows:

3.1 CFA for preparation of Master Plans along with the Action Plans, setting up of Solar City Cell and it's functioning, other promotional activities and oversight of implementation etc.

Up to Rs. 50.00 lakh per city/town depending upon population and initiatives to be taken by the City Council/ Administration/Municipal Corporation, break-up of which is given below:

- (i) Up to Rs. 10.00 lakh is for preparation of a Master Plan alongwith few implementable Detailed Project Reports within a year.
- (ii) Up to Rs. 10.00 lakh is for oversight of implementation during three years.
- (iii) Up to Rs. 10.00 lakh is for setting up of Solar City Cell and its functioning for a period of three years.
- (iv) Remaining amount of Rs. 20 lakh is to be utilized in three years for other promotional activities, trainings, workshops, study tours and augmenting the activities of Solar City Cell.

The above provisions are applicable for all 60 Solar Cities including Pilot Solar Cities and Model Solar Cities irrespective of financial provisions made separately for these, elsewhere. The small towns/tourist places/religious/important places of mass gathering should also be covered for the RE installations in these Solar Cities. In case the above funds are not utilized completely, the remaining funds may be considered to be utilized towards RE projects installations including few innovative projects.

3.2 CFA for installation of various renewable energy projects/systems/devices in the Pilot Solar City

3.2.1 Sanctions will be given under Solar City Programme by the Ministry depending upon the maturity of the proposal commensurate with the Master Plan and DPRs. A total CFA for installation of various renewable energy projects/systems/devices in the city upto Rs. 2.50 crore will be provided for each Pilot Solar City.

3.2.2 The funds will be released to the Solar City/Township under the Solar City programme subject to the condition that the equal amount upto Rs. 2.50 crore will be made available by the concerned Municipal Corporation/City Administration/State or any other resources. For the Pilot Solar Cities existing or to be sanctioned under this modified scheme, the CFA pattern will be as applicable in the CFA of various Scheme/Programme under Jawaharlal Nehru National Solar Mission for Solar Energy and other sectors of MNRE.

*3.2.3 The first new 5 cities, in addition to the 10 cities already approved/ sanctioned will be covered under this financial assistance during 12th plan as Pilot Solar Cities on merit on demand and on first come first served basis. This financial assistance will be available to those cities which fulfill or have taken actions on the **minimum of three conditions as listed in Appendix- I.***

3.2.4 Those projects set up by availing this amount of Rs. 2.50 crore of MNRE as Pilot Solar Cities will not be entitled to further avail the MNRE subsidy for the same project under any other programme. However, the other projects can be set up under MNRE programmes.

3.2.5 For other Solar Cities, the financial pattern will be as applicable in the schemes under Jawaharlal Nehru National Solar Mission being implemented by the Ministry for Solar related projects and for other projects the MNRE's CFA as applicable in MNRE's respective programmes under the solar city programme may be utilized.

3.3 CFA for preparation of a Master Plan and DPRs including the action plan for small townships/campuses being developed by the promoters/builders, SEZs/ industrial towns, Institutional campus etc.

3.3.1 Upto Rs. 5.00 lakh for preparation of a Master Plan and DPR including the action plan for renewable energy installations, green campus development, awareness generation and trainings etc. will be provided for each *new and existing small townships/campuses duly notified/permitted by the States/Local Authorities. This will also be applicable for the existing townships/campuses.* The existing campuses should be encouraged to have suitable retrofitting's of renewable energy and energy efficiency equipment's/measures to the extent possible to make them green campus.

3.3.2 The installation of renewable energy projects/systems in these entities will be done as per provisions of various schemes of MNRE.

3.4 CFA for organizing seminars / workshops trainings, awareness campaigns preparation of literature/guidelines, city specific publicity materials etc.

3.4.1 The Solar City programme will play a role in motivating the Municipal Corporations and Urban Local Bodies in the Country towards utilization of renewable energy and taking energy efficiency measures in the City. The activities relating to capacity building, including awareness, national level workshops/regional seminars capacity building, literature development, preparation of guidelines and promotional activities software development, innovative projects or other miscellaneous work etc. depending on merit. etc. will be substantially increased under this programme. In fact, capacity building/trainings will be a regular feature under the Scheme.

3.4.2 Upto Rs. 4.00 lakh for seminars/ workshops trainings, awareness campaigns etc. can be provided. For other activities the funds as per requirement may be considered on merit. About 50 such activities may be supported during 12th Plan Period. The total budget for these activities will be restricted upto Rs.1.00 crore during 2013-14 and rest of the 12th Five Year Plan Period

3.5 CFA for Model Solar Cities

3.5.1 The CFA up to Rs. 9.50 crore for each **Model Solar City** will be provided to four Model Solar Cities with the condition that the similar matching fund upto Rs.9.50 crore is provided by the Municipal Corporation/ Municipality/State/District authority or arranged by them from their own or and other sources including public private partnership for all Model Solar Cities. This financial assistance will be available for setting up of related project/systems/devices to those Model Solar Cities which have fulfilled or taken actions on the **minimum of three** conditions as listed in **Appendix-I**. For earlier sanctioned two Model Solar Cities (Chandigarh and Nagpur) the 50% CFA can be availed for the projects/ funds already sanctioned. However, for further projects in earlier sanctioned two Model Solar Cities (Chandigarh and Nagpur) and for rest Model Solar Cities, existing or to be sanctioned under this modified scheme, the CFA pattern will be as applicable in the CFA of various Scheme/Programme, under Jawaharlal Nehru National Solar Mission for Solar Energy and other sectors of MNRE.

3.5.2 Indicative measures and the list of energy conservation and renewable energy devices/systems that could help in preparing the Master Plan & developing cities as Solar Cities are given in **Appendix-II & III**.

4.0 Cities to be supported

4.1 A total of 60 cities/towns are proposed to be developed as "Solar Cities" during the 12th Plan period. This includes the already sanctioned 45 Solar Cities. At least one city in each State to a maximum of seven cities for the interested States on merit will be supported by the Ministry. The cities/towns included in the program will have population between 0.50 lakh to 50 lakh which includes the floating population. Cities with even less population located in North Eastern and hilly states, Islands and UT's will also be considered under the program on case to case basis on merit.

4.2 In order to ensure the RE projects installations in solar cities, the Model/Pilot Solar Cities can be setup preferably in every State/UT during the 12th Plan. At least one city in every State/UTs should be developed as Model/Pilot Solar City depending upon demand and availability of financial resources.

5.0 Criteria for selection of cities

The program encourages cities with high level of commitment and leadership quality. MNRE will consider the following while selection of cities:

- City Population, regional setting and prominence in region.
- Political and administrative commitment towards adoption of sustainable energies (Resolution to be passed by the City Council/Administration for implementing all the activities specified in the 'Solar cities' programme).
- Regulatory measures taken on adoption of energy conservation and renewable energy.
- Potential for adoption of energy conservation and renewable energy in the city activities.
- Initiatives already taken by City Council/Administration/ Private Developers/ Industry/ General Public in promoting energy conservation and renewable energy.
- Urban Local Bodies' previous experience in involving public participation and working with all stakeholders.
- Willingness and commitment to provide resources, financial share and sustenance of activities initiated under the program.

6.0 Procedure for Submission of Proposals, Sanctions and Release of funds

6.1 Proposals as per the prescribed format (**Appendix – V & VI**) will be submitted by the City Council/Administration/Municipal Corporation/ Municipalities/ Developers/Institutions etc. preferably through State Nodal Agency. The proposals will be examined in the Ministry based on which 50% of the CFA will be released on sanctioned projects/activities and rest on progressive achievements and utilization of funds released for the activities i.e., for preparation of Master Plan, setting up of Solar City Cells, other awareness, training and publicity, overseeing the implementation other than cost of setting up of the projects.

6.2 For availing the provisions of funds for setting up of projects/systems/devices of Renewable Energy, the specific proposal for each project or group of projects will be submitted by the concerned City Council/Administration/Municipal Corporation/Municipalities/Organization of the approved Solar City for consideration. The proposal should be accompanied by the resolution of Municipal Corporation/Municipality/Nominated Agency indicating the commitment for providing the matching fund upto Rs.2.50 crore for the Solar City. The benchmarks for standards and costs and the guidelines as applicable in other programmes of MNRE

will be followed. Similarly the proposal for Model Solar Cities will also be prepared and submitted along with the commitment of the concerned organization.

6.3 The CFA for setting up of projects will be released on two installments. The 1st installment of 50% will be released at the time of sanction of the project with the commitment that the matching fund will be provided by the proposing organization. The 2nd installment of remaining 50% will be released on completion of the project, receipt of Utilization Certificate of the 1st installment, Audited Statement of Expenditure and a project completion report duly submitted by the Competent Authority.

6.4 For small townships/campuses the proposal should be prepared by the respective developer/builder/institution/RWA in prescribed format with the commitment in the suitable bond paper indicating that the installations of the projects/systems/devices of Renewable Energy will be undertaken after preparation of the Master Plan/DPR.

7.0 Innovative projects in Solar Cities

The Solar City will also promote innovative projects on smart grid, post installation service centers, street lights through renewables with centralized power system from solar, biogas generation, kitchen waste based plants etc. The innovative projects can be considered on merit.

8.0 Institution of Awards

Annual awards to identified Solar Cities may be given away by the Ministry in the form of Shields/ Certificates based on the information provided by City Council/Administration in regard to initiatives taken on developing their city as Solar City. The awards to the best townships/campuses will also be given and with a certification of using the "Solar Township" or "Solar Campus".

9.0 Performance Evaluation

9.1 Sanctioned cities will be required to submit reports on half yearly basis as per the details given in their Master Plan. Energy saved and energy generated through energy conservation and renewable energy devices/systems will be clearly indicated in the report along with the promotional and policy measures taken by them in achieving the targets. Monitoring of existing Pilot/Model Solar Cities will be done on continuous basis.

9.2 An evaluation of the experience of implementation of the program would be undertaken at the end of Twelfth Five Year Plan and further extension and inclusion/calibration of program activities will be decided.

10.0 Service Charges to Nodal Agencies

The State Nodal Agencies may coordinate with Municipal Corporation/ULBs/other implementing agencies and will provide guidance and technical support to them for implementation of the programme including setting up of renewable energy projects/systems, capacity building, organizing training

workshops etc. They will also carry out the review, monitoring and evaluation time to time. In case where the Municipal Corporations are unable to implement the scheme, the State Nodal Agencies may also implement the scheme. The service charges upto 2% may be provided to State Nodal Agencies/Implementing Agencies for rendering these services.

11.0 Declaration of a 'Solar City'

11.1 The Development of Solar Cities is a long term process. This starts with identification of a city, development of proposal and sanction for Development of a Solar City, Preparation of Master Plan, Constitution of Solar City Cell and a Stakeholders Committee, Approval of Master Plan, Preparation of specific proposals for approval and installation of renewable energy projects/energy efficiency devices etc. This also requires motivation and capacity building of the concerned stakeholders. Hence, just by sanctioning a solar city, it cannot be declared as a solar city. Therefore, the sanction is accorded for **"Developing a Solar City"** and the city will be known as **'Developing Solar City'**.

11.2 A developing Solar City can be declared a **'Solar City'** if the substantial amount of activities have taken place in a city. In view of the objective of the Solar City to reduce the fossil fuel based energy consumption by 10%, the suitable conditions/criterion in absolute terms to declare a **"Developing Solar City"** as **"Solar City"** will be suitably farmed out by the Ministry in due course. However, the indicative actions towards a "Solar City" to be taken by respective Municipal Corporations/SNAs are given in **Appendix-IV**.

12.0 Provision of Consultancy Help

Project Management Cell for Solar Cities comprising of Consultant, Technical Assistant, Computer Operator, Helper and few hardware as per requirement will be engaged for providing technical help, monitoring & evaluation and in implementation of the programme. This will help in expanding activities, rigorous monitoring and follow ups as well. It will also ensure the analysis of the Master Plans being prepared for the Solar Cities.

Conditions required for a Solar City for availing the funds of MNRE

- i. The City has created a **Solar City Cell** and constituted the **Stakeholders Committee**. A copy of the notifications for creation of Solar City Cell and Stakeholders Committee to be submitted.
- ii. Action initiated/taken to amend building bye-laws for making the use of solar water heating systems mandatory in certain category of buildings.
- iii. Action initiated/taken to provide rebate in property tax through Municipal Corporations/ Municipalities or in electricity tariff through Utilities/ Electricity Boards to the users of solar water heaters especially in domestic sector.
- iv. Action initiated/taken to promote National Rating System for construction of energy efficient Green Buildings in particular to commercial and institutional buildings. The city has issued G.O as regards to construction of Green buildings in compliance with approved National Rating Systems like GRIHA particularly in Government/PSUs buildings.
- v. As per MSW Rules notified by the MoEF, the city has initiated/taken actions for proper MSW management and for setting up set up projects of suitable capacity for generating energy from the waste collected from the city/town.
- vi. The city has initiated actions in amending/has amended the byelaws or makes new byelaws for promoting the renewable energy options for avoiding use of diesel and petrol gen-sets in markets, public places, schools, offices etc.
- vii. Action initiated/taken for reduction of electricity consumption in street light/garden lights, traffic lights, blinkers, hoardings etc. and in schools, commercial buildings, offices, institutional buildings and other establishments by using energy conservation & renewable energy devices.
- viii. The Municipal Corporation/ Municipality/SNA have established at least one Akshay Urja Shop alongwith the repair and maintenance facilities either in their campus or at some prominent place in the City.
- ix. The Master Plan has been prepared and the installation of at least 2 to 3 Major Projects of Renewable Energy have taken place/ sanctioned/ commenced.

Renewable Energy and Energy conservation projects/system/devices for Solar Cities

Solar City will focus on the limited and popular renewable energy projects/systems/devices such as solar PV systems including and building integrated photovoltaic, kitchen waste based plants, solar water heating systems, solar cooking systems, solar steam generating/drying/air heating systems, solar concentrators for process heat applications, solar air-conditioning, power projects on methane recovery from STPs, bio-mass gasification based systems, biogas, wind etc.

Energy conservation/devices/systems

- i) LEDs/ CFLs instead of incandescent bulbs
- ii) LED traffic lights
- iii) Electronics chokes and fan regulators
- iv) Sensors for automatic on/off of street lights
- v) Automatic speed regulating fans/motors
- vi) Plugging of leakages in the water supply system and use of efficient pumps and motors
- vii) Energy efficient electrical appliances such as fans, refrigerators, air conditioners, coolers, room heaters, water pumps etc.
- viii) Use of insulating materials and low-energy/energy-efficient building materials e.g. fly ash bricks, hollow bricks, stabilized mud blocks, etc. in building construction
- ix) Any other Energy Efficient/ Energy Conservation device, project being promoted by BEE, Ministry of Power or MNRE

Solar passive architecture in buildings/housing complexes

Major components of solar passive architecture are orientation of building, sun shades, double glazed windows, smart glazing window overhangs, thermal storage wall/roof, roof painting, ventilation, evaporative cooling, day lighting, wind towers, earth air tunneling, construction materials etc. Incorporation of specific components will depend in which climatic zone the building is being constructed.

Green Buildings

The construction of the Green Buildings as per GRIHA Rating, LEED India, ECBC building Code, BEE Star Rating, ECHO Housing or other rating systems.

Indicative measures to be taken by City Council/Administration for developing their city/town as 'Solar City'

1. To create a "Solar City Cell" with in the City Administration/ Council which will be fully responsible for city planning and implementation of projects towards making it a "Solar City"?
2. To conduct energy auditing of Govt./Public sector buildings, water pumping and street lightings in the city at regular interval and take necessary steps towards conservation of electricity. Other establishments also to be encouraged for the same.
3. To reduce electricity consumption in street light/garden lights, traffic lights, blinkers hoardings etc. by using energy conservation & renewable energy devices.
4. To amend building bye-laws for making the use of solar water heating systems mandatory in certain category of buildings.
5. To provide rebate in property tax through Municipal Corporations/ Municipalities & in electricity tariff though Utilities/ Electricity Boards to the users of solar water heaters especially in domestic sector.
6. To issue G.O as regards to construction of energy efficient solar buildings at least in Govt. /Public sectors in accordance with ECBC :2006 and follow up its implementation rigorously.
7. To comply to MSW Rules 2000 notified by the MoEF and set up projects of suitable capacity for generating energy from the waste collected from the city/town.
8. To organize rigorous publicity, and also the training programmes/ business meets for various stake holders e.g. architects, engineers, builders & developers, financial institutions, NGOs, technical institutions, manufactures/suppliers, RWAs etc. so as to involve them actively in meeting the objective of solar city.
9. To generate necessary funds from State Govt. and other funding organizations for achieving the objective of making the city as "Solar City". Benefits of the schemes of Govt. of India will also be taken in meeting the objectives.
10. To achieve targets set by the City Council/Administration for reducing consumption of electricity through renewable energy and energy conservation devices during five years of implementations for developing their city as Solar City.

Indicative actions towards a 'Solar City'

1. City has created/notified a "Solar City Cell" and a Stakeholder's Committee" with in the City Administration/ Council which will be fully responsible for city planning and implementation of projects towards making it a "Solar City"?
2. The Master Plan of the Solar City has been prepared.
3. City has amended building bye-laws for making the use of solar water heating systems mandatory in certain category of buildings.
4. City is providing rebate in property tax through Municipal Corporations/ Municipalities & in electricity tariff though Utilities/ Electricity Boards to the users of solar water heaters especially in domestic sector.
5. The DISCOM/Utility concerned is permitting/promoting the Grid connected SPV rooftop systems in the city.
6. City is conducting energy auditing of Govt./Public sector buildings, water pumping and street lightings in the city at regular interval and is taking necessary steps towards conservation of electricity.
7. City has taken steps to reduce electricity consumption in street light/garden lights, traffic lights, blinkers, solar studs, hoardings etc. by using renewable energy devices and energy conservation.
8. City has issued a G.O as regards to construction of energy efficient solar/green buildings at least in Govt./Public sectors in accordance with ECBC or any rating system and is following up its implementation rigorously.
9. City is complying with MSW Rules 2003 notified by the MoEF. City has set up or is setting up projects of suitable capacity for generating energy from the waste collected from the city/town.
10. The city has the facility of sewage treatment possibly with energy generating system.
11. The city has at least one or more Akshay Urja Shop or Sales and Service center for Renewable Energy systems and devices.

**Format for submission of proposals for
Solar City/Pilot Solar City/Model Solar City**

1. City Information

City Name	
City Population (2001 Census)	
Present Population estimated	
Area (Sq Km)	
No of Wards	
Regional setting and connectivity (Air, Rail and Road)	
Economic Base of City	
Any other information	

2. Implementing agency/organization

Name of Local Body	
Organization (Please mention) Municipal Corporation/ Municipal Council / /Municipality	
Contact Person	
Complete Address with e-mail	
Telephone:	
Fax:	
Email Address and Website:	

3. City Leadership and Commitment

Please describe briefly enclose separate sheet for details	
Details of initiatives already taken by City Council/Administration in promoting energy conservation and renewable energy devices	
Any regulatory measures taken on adoption of energy conservation and renewable energy devices	
Exemplary initiatives taken in energy conservation /renewable energy by the private sector	
Local/State Institutions (academic/ research institutions), corporate organizations, architects, NGOs, energy auditors, consultants etc. who can contribute in the initiative	
Political commitment to the project	

Can city establish and support a local expert group including administrators (state/local) relevant organizations/ institutions, politicians, consultants, utilities, information centres etc.(provide information in detail)	
Commitment about the funds to be provided by Municipal Corporation/SNA/state/local Govt.	

4. Activity Plan and Budget

Please describe briefly enclose separate sheet for details	
Amount sought from MNRE as per the provision of scheme.	
Amount to be contributed by proposing agency	
Action Plan for utilization of funds	
Time period for preparation and submission of Master Plan to the Ministry after sanctioning of the proposal	
Any other information	

Expression of Interest

On behalf of we express our interest for joining the Solar Cities program of Ministry of New and Renewable Energy, Govt of India.

Signature with Official Stamp
(Head of City Council/ Administration)

Format for submission of proposals for Small Townships/Campuses for preparation of a Master Plan/DPR including the action plan for renewable energy installations, green campus development, awareness generation and trainings.

1. Townships/Campus Information

Townships/Campus Name	
Townships/Campus Population	
Area (Sq Km)	
No of Wards/Colonies/Sectors	
Regional setting and connectivity (Air, Rail and Road)	
Economic Base of Townships/Campus	

2. Implementing agency/organization

Name of Local Body	
Organization (Please mention) Municipal Corporation/ Municipal Council / /Municipality/Developer /Builder/Institution	
Contact Person	
Complete Address with e-mail	
Telephone:	
Fax:	
Email Address and Website:	

3. Townships/Campus Leadership and Commitment

Please describe briefly enclose separate sheet for details	
Details of initiatives already taken by Townships/Campus/Council/Administration in promoting renewable energy and energy conservation	
Any regulatory measures taken on adoption of renewable energy and energy conservation devices	
Exemplary initiatives taken in renewable energy/ energy conservation by the private sector	
Local/State Institutions (academic/ research institutions), corporate organizations, architects, NGOs, energy auditors, consultants etc. who can contribute in the initiative	

Political commitment to the project	
Can Townships/Campus establish and support a local expert group including administrators (state/local) relevant organizations/ institutions, politicians, consultants, utilities, information centres etc.	Yes/ No

4. Activity Plan and Budget

Please describe briefly enclose separate sheet for details	
Amount sought from MNRE as per the provision of scheme.	
Action Plan for utilization of funds for Master Plan/DPR including Action Plan & PERT Chart, Awareness Generation and Training	
Time period for preparation and submission of Master Plan to the Ministry after sanctioning of the proposal	
Financial Commitment of the Township/Campus for setting up of renewable energy projects/systems/devices	
Commitment for adopting National Rating System for Green Buildings like GRIHA	

Expression of Interest

On behalf of we express our interest for joining the Solar Township/Campus program of Ministry of New and Renewable Energy, Govt of India.

Signature with Official Stamp

(Head of the Township/Campus with Seal)