



Flagship Programme on Solar Water Heating for NCR Region

ROAD MAP & ACTION PLAN



National Capital Region

- **Total Area : 33,578 square kilometers**
- **NCT, Delhi : 1,482 square kilometers**
- **Haryana : Seven districts - Gurgaon, Rewari, Faridabad, Sonapat, Rohtak, Panipat and Jhajjhar, comprising 13,413 square kilometers**
- **Uttar Pradesh: Four districts - Ghaziabad, Bulandshahr, Meerut and Baghpat, comprising 10,853 square kilometers**
- **Rajasthan : Alwar district, 7,829 square kilometers**

Towns in the National Capital Region

| State | Delhi Metropolitan Area | Priority town | Sub-regional growth Centre |
|----------------------|--|---|---|
| Haryana | Gurgaon, Faridabad, Kundli, Bahadurgarh | Panipat, Rewari, Palwal, Dharuhera, Rohtak | Sonepat, Bawal, Manesar |
| Uttar Pradesh | Ghaziabad | Hapur, Meerut, Bulanshahr, Khurja | Greater Noida, Modinagar, Ganaur |
| Rajasthan | -- | Alwar, Bhiwai | -- |



Targets

Time Frame : 2010 – 2011 (2 years)

Target : 10 million liters of hot water; 200,000 sq. m. of solar collector area;

Peak load shaving : 100 MW

**Domestic systems : av. 100 litre capacity – 75,000 installations
– 7.5 million litres**

**Large systems : av. 10,000 litre capacity – 250 installations
– 2.5 million litres**

Large systems in hotels, hospitals, guest houses, nursing homes, hostels, colleges, schools, restaurants, industrial units etc.



Targets for NCR States/ Towns

| | |
|---------------------------|---|
| NCT Delhi | : 5 million litres – 100,000 sq. m. |
| Haryana | |
| Gurgaon | : 2 million litres – 40,000 sq. m. |
| Faridabad | : 1 million litres – 20,000 sq. m. |
| U.P. | |
| Noida/ Gr. Noida | : 1 million litres – 20,000 sq. m. |
| Ghaziabad / Meerut | : 0.5 million litres – 10,000 sq. m. |
| Other NCR towns | : 0.5 million litres – 10,000 sq. m. |
| Total | : 10 million litres – 200,000 sq. m. |

Action Plan

- **The mandatory provision should prescribe a minimum capacity, say, 40% of hot water requirement to be met by solar water heating in all institutions and commercial establishments**
- **Guidelines for calculating total hot water requirements should be developed and incorporated into the local building bye laws**
- **The mandatory requirement should be extended to all Government Buildings (Defence / Railway/ Police / CPWD/ PWD/ Housing Board/ ULB establishments), PSUs, Industrial units etc.**
- **Solar Water Heating should be made mandatory for plot sizes of 200 sq. yds. and above**
- **While applying for completion of new construction, architects should certify that necessary plumbing has been done for installation of SWH system**
- **Occupation certificate should only be given if SWH system has been installed. Penalties should be imposed for non-compliance and violations**



Action Plan

- **The SEBs/utilities viz. should play a pro-active role in promotion of Solar Water Heating through their consumer service centers and consider rebate in electricity tariff.**
- **Urban local bodies should play a pro-active role and ensure compliance of mandatory orders; should consider rebate in property tax.**
- **Builders and developers should incorporate solar water heater with electrical backup as an amenity in all new building construction.**
- **Development authorities and Group Housing co-operative societies should mandate roof space to be made available for installation of solar water heaters by individual flat owners**
- **Best practices guidelines should be evolved for assessment of demand that can be met through solar water heating; space requirement; system sizing; and, installation/ trouble- shooting guidelines for different demand segments such as hi-rise buildings, hotels, hospitals etc.**

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Action Plan

- **ESCO mode of implementation should be encouraged and States should consider creating a Revolving Fund to provide initial capital support for projects implemented in the ESCO mode**
- **A data base of installations should be developed and random checks carried out on compliance of mandatory orders**
- **Supply chain and service network needs to be upgraded through promotion of local manufacturing and dealerships for easy availability and quality installations / repair**
- **Training and capacity building should be taken up at different levels for quality installations and servicing**
- **A “Helpline” should be established to provide general information/ guidance and record complaints / grievances**
- **Extensive awareness campaign should be taken up through the media, public information literature and awareness camps in different demand segments including RWAs, architects, builders etc.**