



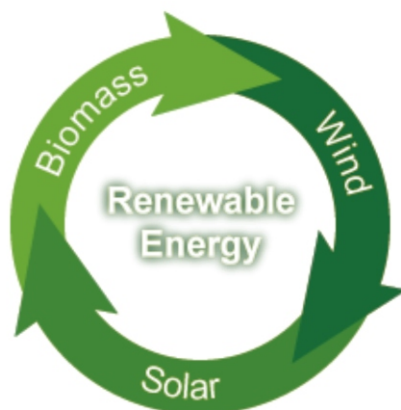
ENVIS CENTRE, CHANDIGARH

NewsLetter

P a r y a v a r a n P a t r a

Chandigarh State of Environment

SAVING ENERGY EQUALS SAVING EARTH BESIDES SAVING MONEY



EDITORIAL

Non renewable energy has been in focus for hundreds of years as major source of energy. While, the problem of pollution was being overlooked, the emphasis was on industrial growth and domestic use. With the growing up awareness, the pollution has become central point of discussion and researches. Renewable sources of energy are being emphasized and ways are being found to use and reuse these. Chandigarh Administration has established 'Chandigarh Renewal Energy and Science & Technology Promotion Society' CREST with one of the aims as providing consultancy service for the promotion of renewable sources of energy. Chandigarh has per capita power consumption 1224 units per year against National average of 613 units per year. CREST has undertaken a study and prepared a master plan to make Chandigarh a 'Solar City'. Present newsletter is an effort to sensitize the readers on the related issues and promote the use of renewable sources of energy.

Director, Environment

Index

Editorial	:1
Electricity in Chandigarh	:2
Energy Consumption 2008-09	:2
Electricity Consumption per Capita	:3
Electricity Generation and Pollution	:3
Solution	:4

Paryavaran Patra

CREST	:4
Energy Audit	:4
Energy Efficient Lights	:6
Energy Star	:6
Feedback	:7
What You Can Do	:8

For Private Circulation only



ENVIS CENTRE
Department of Environment
Chandigarh

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e-mail : ch@envis.nic.in
Web : www.chandigarhenvis.gov.in

Electricity in Chandigarh

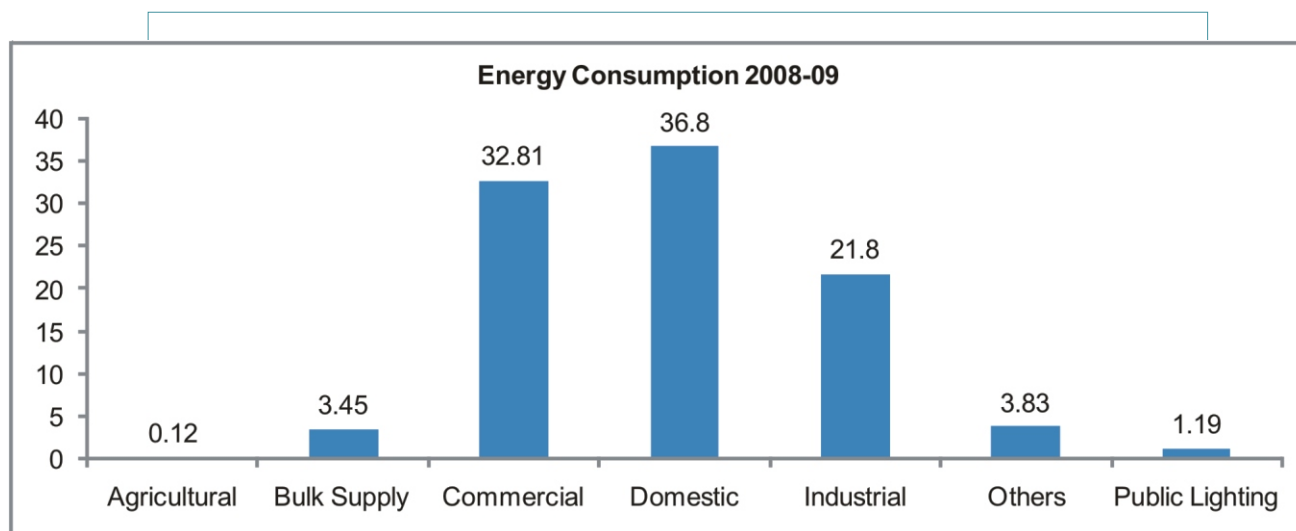
Chandigarh at present doesn't generate electricity for consumption and buys from different sources, refer to table. The purchase of electricity from outside not only burdens budget but increases dependence as well. Any crises at the sales point lead to black out situation on buyer's side.

Energy Received From Different Constituents

Bhakra Beas Management Board	39%
National Thermal Power Corpn.	35%
National Hydroelectric Power Corporation Ltd.(NHPC)	14%
Naptha Jhakri Power Corporation Ltd. (NJPC)	05%
Punjab Trading Corpn. (PTC)	03%
Teri Hydro Development Company Ltd	02%
National Atomic Power (APS)	01%
Rajasthan Atomic Power (RAPS)	01%

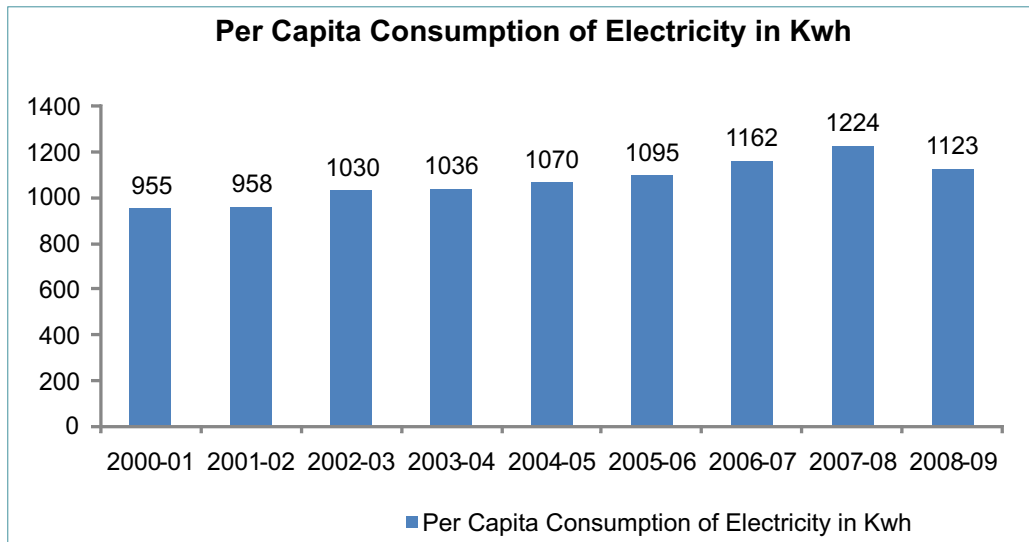
CREST

Electricity is consumed by various sectors of society. 37% of total power is consumed for domestic purpose. Commercial sector consumes 33%, Industrial Sector consumes 22%, Agriculture consumes almost nill, and 1 % of the power is consumed by Public Lighting. The data clearly establishes the domestic, commercial, and industrial consumption are major stakeholders in consumption of electricity. If these sectors become self sustainable in terms of electricity, there would be no dearth of power and we would prevent a lot of pollutants from entering the environment.



Statistical Abstract of Chandigarh- 2003,2005,2006,2007,2008, 2009

Consumption of Electricity Per Capita in Chandigarh



Statistical Abstract of Chandigarh- 2003,2005,2006,2007,2008, 2009

Electricity Generation and Pollution

The generation of electric power produces more pollution than any other single industry.

The energy sources, most commonly used for electricity production, fossil fuels such as coal, oil and natural gas are known as non-renewable resources. They take millions of years to be formed in the crust of the earth by natural processes. Once burned to produce electricity, they are gone forever.

Burning fossil fuels such as coal or oil creates unwelcome by-products that pollute when released into our environment, changing the planet's climate and harming ecosystems.



By-products of electricity production

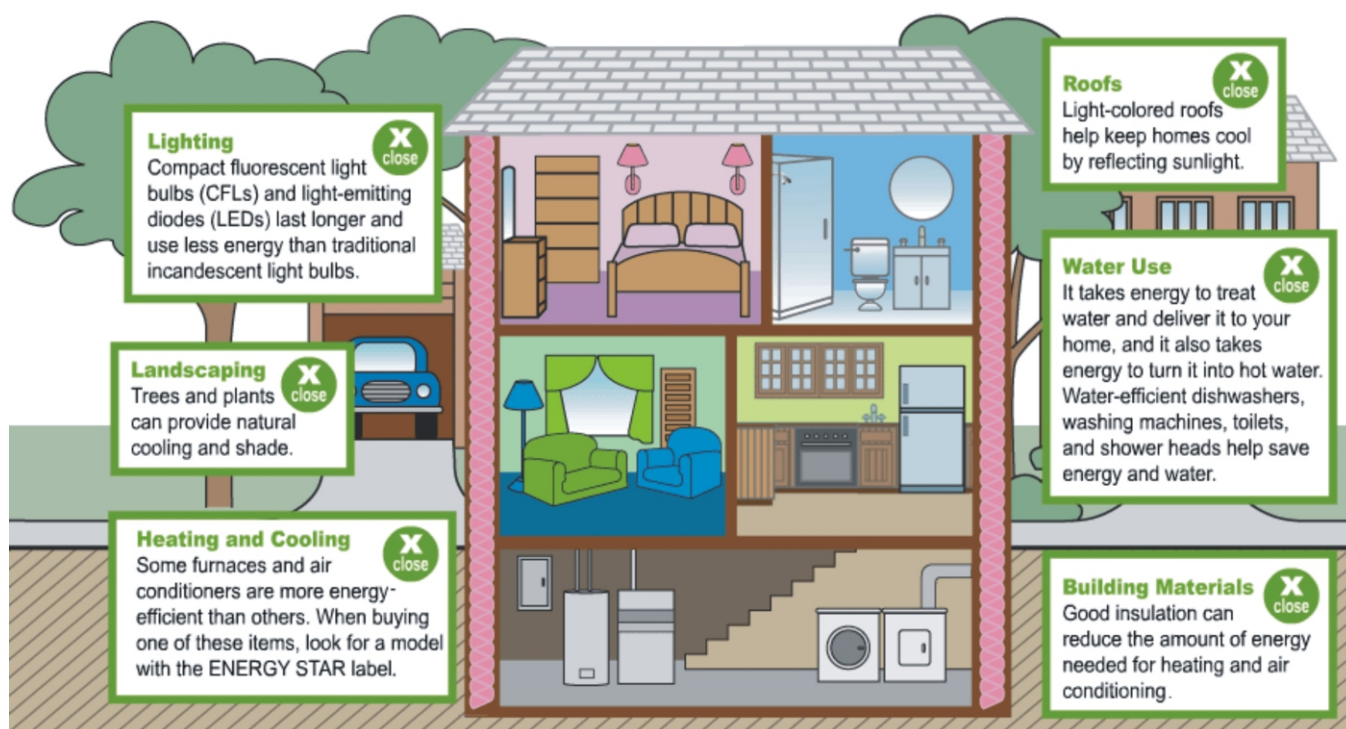
Nitrous oxides emissions contribute to ground-level ozone, particulate matter pollution, haze pollution in national parks and wilderness areas, brown clouds in major western cities, acid deposition. Elevated ozone levels persisting throughout the country have also led to the adverse health effects of smog and millions of dollars in agricultural damage.

A compelling body of scientific evidence links fine particle concentrations with illness and thousands of premature deaths each year. Children and the elderly are particularly at risk.

SOLUTION

- Effective use of sources of renewable energy
- Energy Conservation

Engineering department and Department of Science and Technology of Chandigarh Administration have initiated various Energy Conservation activities & promotion of Renewable Energy projects at UT-Chandigarh



CREST

Chandigarh Renewal Energy and Science & Technology Promotion Society (CREST) is presently located in Additional Town Hall Building, IIInd Floor, Sector 17-C, Chandigarh. Its area of operation is Chandigarh and Region. The main objectives of CREST revolves around use and promotion of renewable sources of energy. CREST can be contacted for guidance and directions on renewable sources of energy like solar energy. The society has taken a major step to develop Chandigarh as solar city as listed below:

STEPS INITIATED FOR ENERGY CONSERVATION

- Dept. has initiated process for Star Rating of buildings at Chandigarh. UT Sectt., PEDDA and Reserve Bank of India buildings have been STAR RATED by BEE.
- Instructions have been issued for Mandatory use of BEE Star labeled products in Govt. Buildings.
- Energy Efficient Chiller machines having capacity 3600 tons are installed at various places like Pb. & Hy. High Court, Chandigarh Engineering College-26 to reduce consumption of Central AC plant and result to annual saving of 26 lacs units.
- 60 nos. ATC signals are replaced with LED's which resulted to annual saving of 25 lacs units.

Energy Audit

With the support from Bureau of Energy Efficiency (BEE), CREST has initiated Energy Audit of 23 Government buildings out of which Energy Audit of 10 buildings have been completed and work is under progress for 13 buildings

Energy Audit already carried out of ten Govt. Buildings

S.No	Name of the Building	Saving In (Kwh)
1.	Punjab & Haryana, High Court	932365
2.	GMCH, Sector 32	5709686
3.	Chandigarh Housing Board	15570
4.	GMSH, Sector 16	486022
5.	Punjab & Haryana Civil Sectt. Bldg.	429890
6.	Principal Controller of Defense Account	60499
7.	Bhakra Beas Management Board	85172
8.	Punjab Police Head Quarter	309282
9.	Punjab University	2004544
10.	PGIMER	9639843
	TOTAL	19672865

Under Progress

S. NO.	Name of the Buildings
1.	UT Guest House, Chandigarh
2.	Govt. Medical College, Sector 16, Chandigarh.
3.	Principal Controller of Defence Account
4.	Punjab & Haryana Civil Sectt.
5.	Bharat Sanchar Nigam Limited (BSNL)
6.	IMTECH
7.	Hotel Mount View
8.	Passport Office
9.	Accountant General (Punjab)
10.	Punjab Legislative Assembly
11.	LIC Building
12.	Punjab Engineering College
13.	NABARD Bank

Energy efficient lights

Replaced all FTL tubes(2 X 40watt) with Energy Efficient T5 lights(28W) at following Govt. buildings with of 8 lacs investment and annual saving 1.4 lac units :

- Deluxe building, Sector 9D, U.T. Sectt., Chandigarh.
- DC Office, Sector 17, Chandigarh.
- U.T. Police Head Quarter, Sector 9D, Chandigarh
- Chandigarh Housing Board, Sector 9, Chandigarh

Energy Star

ENERGY STAR is an international standard for energy efficient consumer products originated in the United States of America. It was created in 1992 by the Environmental Protection Agency and the Department of Energy during the Clinton Administration. Since then, Australia, Canada, Japan, New Zealand, Taiwan and the European Union have adopted the program. Devices carrying the Energy Star service mark, such as computer products and peripherals, kitchen appliances, buildings and other products, generally use 20%–30% less energy than required by federal standards.

STAR LABEL IS NOW MANDATORY

for Frost Free Refrigerators, Room ACs, Tubular Fluorescent Lamps, Distribution Transformers.

*More Stars
More Saving*

POWER SAVINGS GUIDE

ELECTRICITY CONSUMPTION

UNITS PER YEAR

Appliance
Brand
Model
Type
Gross Volume
Storage Volume

*Under test conditions, when tested in accordance with XXX.
Actual electricity consumption will depend on how the appliance being used.

Energy and Cost saving for 250 Litres Frost Free Refrigerator at different Star Rating

Star Rating	Energy Consumption Per Year (Approx.)	Per Unit Charges Rs. (Approx.)	Electricity Cost /Year in Rs.	Total Saving (w.e.f. No Star) Every Year (Rs.)
NO STAR	1100	3.36	3696	0
1 (One)	977	3.36	3283	413
2 (Two)	782	3.36	2727	969
3 (Three)	626	3.36	2103	1593
4 (Four)	501	3.36	1683	2013
5 (Five)	400	3.36	1344	2352

Energy and Cost calculation for 1.5 Ton Air condition at different Star Rating

Star Rating	Maximum Cooling Capacity (Watts)	Minimum Energy Efficiency Ratio (EER)	Input Power (Watts)	Approx. Usage Hrs./Day	Units Consumption /Day (KWh)	Electricity Cost Per Month (Rs.)	Cost Saving Rs. Per Year (w.e.f. No Star) (Approx.)
NO STAR	5200	2.20	2364	8	18.9	1905	0
1 (One)	5200	2.30	2261	8	18.1	1825	720
2 (Two)	5200	2.50	2080	8	16.6	1673	2088
3 (Three)	5200	2.70	1926	8	15.4	1552	3177
4 (Four)	5200	2.90	1793	8	14.3	1441	4176
5 (Five)	5200	3.10	1677	8	13.4	1350	4995

Note: Assuming 8 hrs. operation per day for nine months in a year

**BUY ONLY STAR RATED APPLIANCES
SAVE ENERGY & SAVE PLANET**

**ENGINEERING DEPARTMENT, CHANDIGARH ADMINISTRATION
U.T. CHANDIGARH**

*Consumer grievances redressal forum (CGRF) may be contacted at UT Secretariate, Sector 9-D for all electricity complaints.



Dear Information Seeker,

ENVIS CENTRE, Chandigarh furnishes you with the services to collect and disseminate information related to environment of Chandigarh. To share information with us you are requested to fill up the form given below.



Your feedback is valuable to us and will be highly appreciated

- Name _____
- Designation _____
- Department _____
- Address _____
 _____ City _____
- State _____ Country _____ Pin _____
- Phone _____ Fax _____
- Email _____

Your views on scope of improvement :

- Interest Area _____

I would like to have information on following :



ENVIS CENTRE TEAM

Mr. Santosh Kumar
(Director, Environment)

Mr. P.J.S. Dadhwal
(Project Coordinator)

Er. Arun Bansal
(Sr. Programme Officer)

Mr. Surinder Kumar
(Data Entry Operator)

What you can do

- ♻️ Conserve as much as possible
- ♻️ Switch off lights when not in use
- ♻️ Turn to renewable sources of energy
- ♻️ Know about the concepts like green building and green vehicles
- ♻️ Use natural light when available
- ♻️ Any waste produced means wastage of energy somewhere. So, keep the wastage to minimum by recycling and reuse.
- ♻️ Get educated and spread education on energy consumption and saving measures



VARIOUS FORMS OF ENERGY AND THEIR USE

Become informed. When possible choose a provider and a product that support investment in renewable energy resources. Renewable energy technologies such as wind, hydroelectric, and solar power do not emit pollutants. Other renewable, such as those derived from biomass, emit only small amounts of environmental pollutants, greenhouse gases or toxic wastes.

SPO, ENVIS, Chandigarh

FROM :

ENVIS-CENTRE
Department of Environment
IInd Floor, Additional Town Hall Building,
Sector :17-C, Chandigarh U.T.
Phone : 0172-3295436, 2700065
web : www.chandigarhenvis.gov.in
e-mail : ch@envis.nic.in

To,

Book Post

