

Energy Shortage - A Crisis or an Opportunity?

Engr. Senator Rukhsana Zuberi

Chairperson, Women In Energy

Chairperson, Pakistan Engineering Council

Chairperson, SAARC WIE-Capacity Building & Best Practices

Member, President's Task Force on Alternative Energy Options for Pakistan



Pakistan Engineering Council PEC

- 1. Regulatory body of engineers, established in 1976**
- 2. Quality of engineering institutions and profession**
- 3. Democratic norms restoration**
- 4. Provisional Member, Washington Accord**
- 5. Revising procedures to meet int'l requirements**
- 6. Online Registration of Engineers,
Constructors/Operators and consultants.**



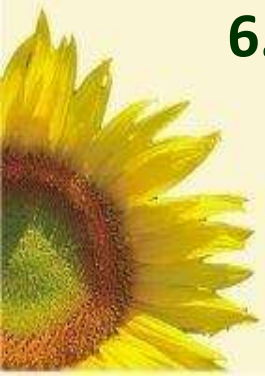
Taking Care for Soft Asset... The People

- 1. Working lunch for employees/clean drinking water.**
- 2. Preventive profiling & medication.**
- 3. Medical Consultant in Office Hours.**
- 4. Investing in Trainings**



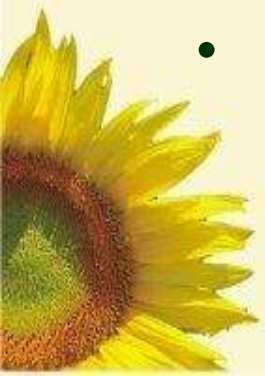
Encouraging Women

1. Compliance to Women Quota
2. Anti Harassment Measures
3. Separate room for prayer and relaxation during break.
4. Special nutrition provisions for mothers
5. Baby Nursery
6. Training of lady engineer on efficient lighting from Sri Lanka



Energy Initiatives

- **PEC Building as Green Organization**
- **PEC Peshawar Green Building**
- **Think Tank on Energy**
- **Building Energy Code of Pakistan**
- **Inclusion of Conservation in engineering curriculum**
- **Linking leading universities offering lighting efficiency/Transformation with Pakistani Universities**



Reach Out Activities

- 1. International Conference on Conservation Energy Efficiency & Solar 2010**
- 2. Participation in SAARC Energy Forums**
- 3. Renewable Energy Forum**
- 4. Awareness for Green Campuses in educational institutes**
- 5. Exhibition & Awareness Campaign**
- 6. Group discussions/Tips through Newsletter & website**
- 7. Social Media**



Solution to Energy Crisis

- **Conservation**
- **Off-grid Solar Units**
- **On-grid Solar Unit**



Conservation

- One Watt saved is One Watt produced
- One Watt saved by each Pakistani means 170 MW produced
- One MW costs two million US \$
- Cost to produce 170 MW is 29.580 billion rupees
- Recurring cost is 2.5 billion rupees
- Thus, we save on expenditures, recurring cost and save our environment by reduced carbon emission.



Conservation Measures

- Energy audit of PEC building
- Lighting efficiency measures.
- Retrofitting of PEC Head office Building
- Transformation to LEDs
- Conservation awareness among employees & financial package



90 % Conservation through LEDs



7,860 Watt was the consumption of Heavy Lighting fixtures in PEC auditorium



336 Watt is the current consumption after converting on LEDs. However 20 % increase is expected for better lumens



94 % Conservation through Efficient Lighting in PEC Chairperson Office



1700 Watt
old



100 Watt
Current



90 % Conservation through LEDs & day light in Meeting Room



2080 Watt was the
consumption of Heavy
Lighting fixtures



170 Watt is the
current consumption





Prime Minister's Initiative for Solar Power PMISP



- **55 Demo Units- 600 Watts, 1 KW, 3 KW and 5 KW.**
- **Installed at Universities, Religious and Public Places**
- **Objective: To popularize use of solar energy**





Prime Minister's Initiative for Solar Power PMISP



Mazar-e-Quaid





Prime Minister's Initiative for Solar Power PMISP



**Mohtarma
Shaheed Benazir
Bhutto's Mazar**





Prime Minister's Initiative for Solar Power PMISP



Masjid Bait ul Mukarram, Karachi



Abdullah Shah Ghazi Mazar



Church in Karachi



Prime Minister's Initiative for Solar Power PMISP



UET Lahore



Press Club Karachi



Shri Swaminarayan Mandir 17

Enabling Environment

- 1. Financing homes & SMEs' Solar and efficient lighting, Pay finance through savings**
- 2. Encouraging solar industry by financing at low interest rate**
- 3. Tax holidays**
- 4. Tax rebates**
- 5. Public money into energy**



Sustainable Energy Benefit

- 1. No carbon emission**
- 2. Renewable resource**
- 3. Saving in Energy expenditure**
- 4. Source of Income by selling excess energy produced**
- 5. Negligible maintenance expense**



Opportunities for the Organizations

- 1. Save millions paid for electricity**
- 2. Sell extra electricity and earn revenue**
- 3. CSR to prioritize energy efficiency & solar system**
- 4. Utilize saving & revenue in facilitating employees**
- 5. Be responsible to carbon emission**
- 6. Earn carbon credits and make revenue**



Invest in Energy

1. Energy... your high rewarding business... invest in Energy
2. Lets make our gold jewelry earn for us
3. Invest the bank deposits for better return rate
4. Reduce energy bills despite increasing tariff
5. Convert on solar, sell extra electricity, earn money instead of paying bills
6. Utilize saved/ earned money for other family needs.



Partner Organizations

1. USAID
2. US Energy Association (USEA)
3. South Asia Regional Initiative for Energy (SARI/Energy)
4. JICA
5. ENERCON
6. ASIA LIGHTING COMPACT
7. Regional Center of Lighting Efficiency, Sri Lanka
8. Women in Sustainable Energy Research WISER, Kerala



Hi-tech On Grid

Site for Pakistan's First On-Grid Solar System



Connecting Sun to the Grid

179 KW On-Grid Solar Unit at PEC Building funded by JICA under Clean Energy by Solar Electricity



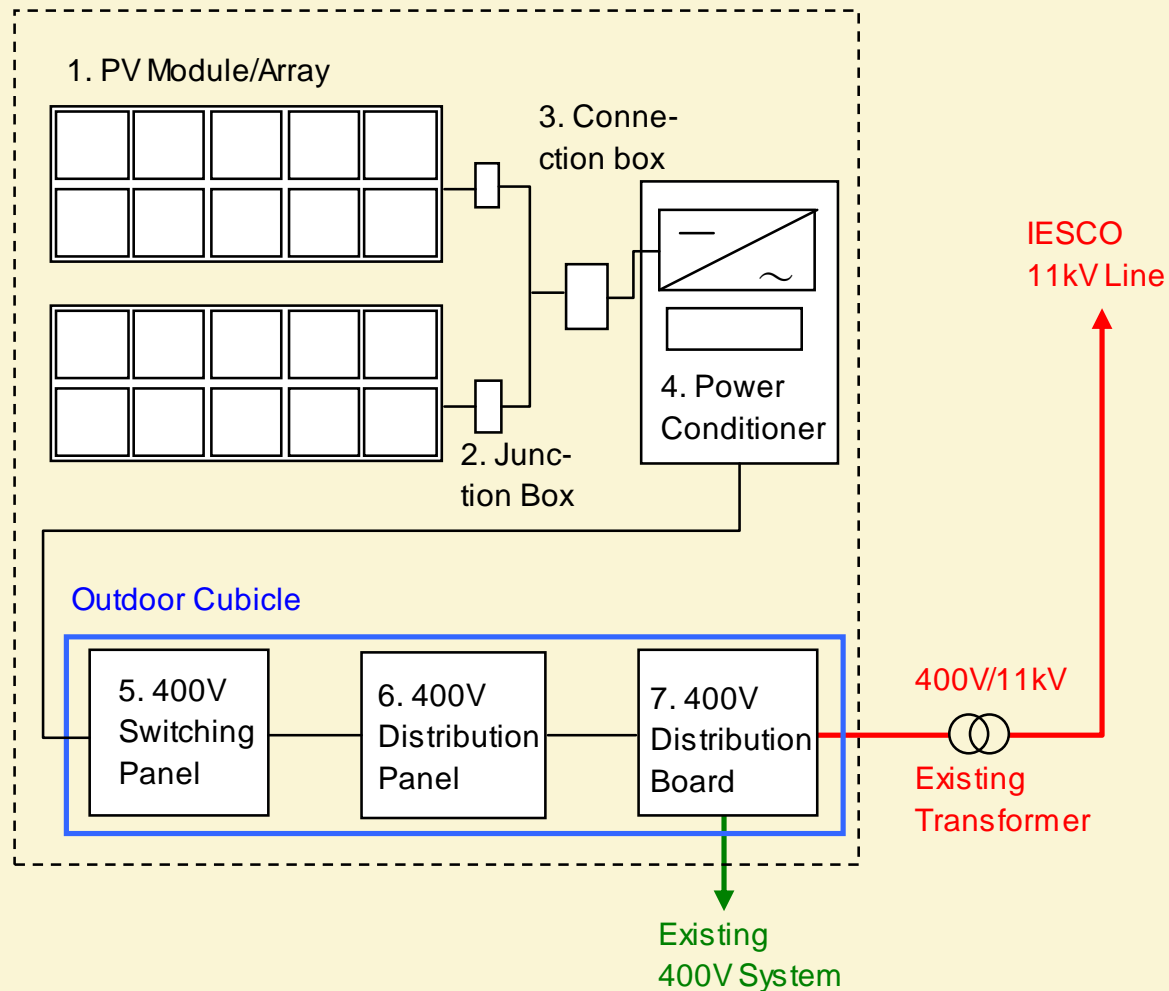
AMBASSADOR OF JAPAN MR. CHIHICO ATSUMI AND SECRETARY EAD MR. SIBTAIN FAZAL HALIM, EXCHANGING THE DOCUMENTS AFTER SIGNING A GRANT FOR PROGRAMME OF CLEAN ENERGY BY SOLAR ELECTRICITY IN ISLAMABAD ON FEBRUARY 11, 2010



PAKISTAN ENGINEERING COUNCIL

***Site for On-grid Solar System
in Front of PEC Building***

First On-Grid Solar System in Pakistan



Connecting Sun to the Grid

Timeline



● Major Work Item		12345678910111213													
		2011												2012	
		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
1	Commencement Date	▲													
2	Design for Civil Work														
3	Civil Work														
4	Design of Equipment														
5	Manufacturing of Equipment														
6	Transportation														
7	Installation of Equipment														
8	Commissioning/Acceptance Inspection														
9	Taking-over														▲



International Conference on Conservation, Energy Efficiency & Solar- 2010



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USAID
FROM THE AMERICAN PEOPLE

RCL Regional Centre
for Lighting

SARI / Energy

USAID/SOUTH ASIA REGIONAL INITIATIVE FOR ENERGY (SARI/Energy) South Asia Lighting Transformation Forum

January 17-19, 2011, Male', Maldives



Lighting
Research Center
at Rensselaer



Pledge..... Can you miss signing it???



"I fully support energy conservation and efficiency"
Senator Farooq H. Naek
Chairman, Senate of Pakistan



"Energy is Development!
use it wisely"
Dr. Nadseem Ul Haque
Dy. Chairman, Planning Commission
of Pakistan



"It is wonderful to be here and fully support"
Senator Azam Khan Sawati
Minister for Science & Technology



"I fully support energy conservation and pledge
to do my best to translate vision into action at NCHD"
Ms. Nabeesa Shah
Chairman, National Commission for Human
Development



"I fully support energy conservation and efficiency"
Mir Ijaz Hussain
Federal Minister



"It's the need of the hour! thank
in Pakistan"
Mr. Jamil Jamali
Chairman Senate



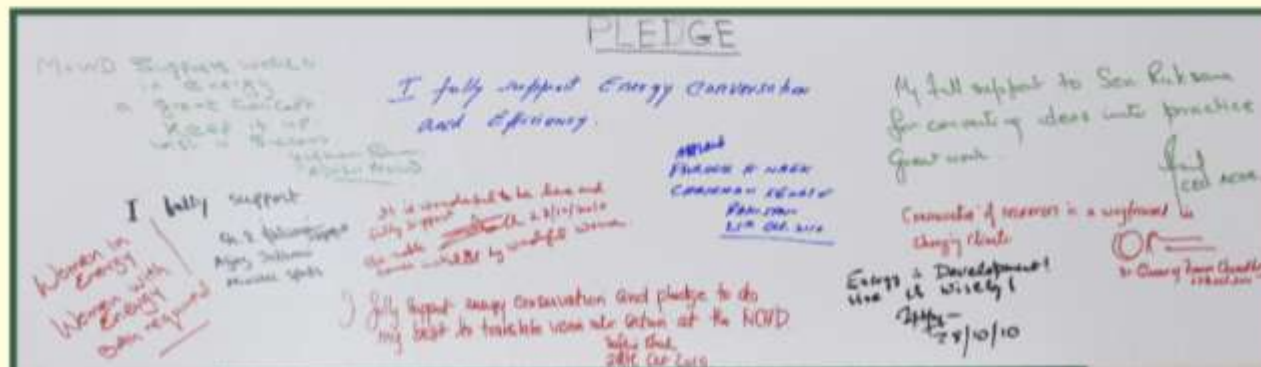
"Ministry of Women Development support
Women In Energy, is great courage, keep it up.
With you success."
Ms. Yasmin Rehman
Advisor to Prime Minister for
Women Development



"My full support to Senator Rukhsana for
converting ideas into practice"
Engr. Anif Allaudin, CEO
Alternate Energy Development Board



"Conservation of resources is a
way forward in changing climates"
Dr. Gamar Zaman Chaudhry
Director General, Pakistan
Meteorological Department



Invest in Future...

Future is Solar...

Join us..

womeninenergy.org.pk

