

Joseph NOWARSKI, M.Sc. ME

Energy Efficiency, Renewable Energy, Green Development and GHG Mitigation Expert

Ministry of Energy Authorized Energy Conservation Surveys

Ministry of Energy Authorized Energy Efficiency Tests of Large Air Conditioning Installations

Ministry of Industry Authorized Renewable Energy Expert

UN FCCC (Climate Change Convention) CDM and JI Authorized Expert

PERSONAL

Country of origin: Poland, emigration to Israel -1969
Born: 24/07/1945, Ukraine - USSR
Married, 3 children
Languages: English, Polish, Hebrew, partially Russian
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EDUCATION

1963-1969 Szczecin Institute of Technology (Politechnika Szczecińska) – Poland
Faculty of Machine Building, Section of Energy & Shipbuilding
M.Sc.: Refrigeration and Air-Conditioning
1973-2012 Computer and Internet languages: Fortran, APL, Oracle, SQL, Basic, Lotus, Advanced
Excel, Autocad, Access, Visual Basic, VB, html, VBscript, PHP, Java.
1974 Course in Electric Control of Air Conditioning Systems
1983-1985 Courses in Business Management
1987-1988 Course in Systems Analysis (authorization)
1990-1993 Ph.D. phase I - Hebrew University in Jerusalem:
Economic optimization of energy conservation measures.
The studies did not conclude with the Ph.D. degree, but with computer program:
Building Energy Simulation and Optimization – BESO.
The studies included first year economics for economists.
2007-2012 UN Climate Change Convention (FCCC) Clean Development Mechanism (CDM) and
Joint Implementation (JI) Training (UN FCCC – Bonn)

List of courses: <https://sites.google.com/site/nowarski/courses>

PROFESSIONAL EXPERIENCE

2004 to present **UN FCCC (Climate Change Convention) CDM program (Clean Development Mechanism) – external expert.**
Review of more than five hundreds CDM GHG mitigation technologies projects in developing countries all over the world, most of them Renewable Energy, Biomass and Energy Efficiency.
Review of 11 CDM Methodologies.
Participation in CDM and JI accreditation activities.
Review of few GHG mitigation technologies projects in JI framework countries.

2004 to present Energy conservation surveys in industry, big hi-tech company, big hotels, commercial buildings, public institutions and TV studios (surveys are submitted to

- Ministry of Energy)
- 2017 to present Energy efficiency tests of large air conditioning installations (tests results are submitted to Ministry of Energy)
- 2018 to present Energy efficiency tests of large pumping installations (tests results are submitted to Ministry of Energy)
- 2020 to present Corona-virus work from home online applications:
· Chiller Efficiency Online - COP of Air Conditioning Units, nowagreen.com/cop/
· pump efficiency online tests, nowagreen.com/pump/
- 2014 to 2018 Consultant to the Israeli Government – Energy Conservation
- 2014 to 2018 Meydar Engineers:
○ Techno-economic evaluation and optimization of 1.6 MW PV project in Israel
○ Green solutions for waste and sewage
○ Energy Services Company – Analysis of activities and reorganization plan
- 2014-2015 Product File Package – Solar Power Plant
- 2011 Techno-economic evaluation of cool storage for load shifting (DSM) of large Air Conditioning installations
- 2010-2012 Peer review of CDM projects in Philippines
- 2010-2011 Renewable Energy and Energy Efficiency Partnership (REEEP) – external expert - projects assessments
- 2008-2009 UNDP and Government of China (UN Development Program + GEF) – International energy efficiency expert for commercial and residential sector in China
- 2006 Techno-economic evaluation of 5x100 MW Solar Thermal Power Plant in Israel (for private investment company)
- 2006 Techno-economic evaluation of PV projects
- 2005 Meydar Engineers
Report to the Israeli Ministry of Energy - Energy conservation policies in EU countries:
• Sustainable development
• Renewable energies
• Energy in buildings
• Demonstration projects scheme
- 2004 Energy Conservation Consultant
Parliament of Israel – Environmental Lobby
Law drafts:
• Renewable Energies for Electricity Generation (PV oriented)
• Energy Conservation in Public Institutions
- 1983-- 2003 Israeli Ministry of Energy
Head of Energy Conservation Department
Legislation, national standards, green buildings standard.
Hundreds of demonstration projects:

- Heat and power cogeneration (including triple cogeneration)
 - Solar energy for industry, commercial, public buildings and residential sector
 - Solar Houses passive and active, Green buildings, "Green neighborhood", "Green village", "Zero energy village", cities energy efficiency management
 - Cool storage
 - Efficient lighting for commercial and public buildings and municipalities
 - Tracks and transport
 - Water pumps stations and networks
 - Micro-hydro electric
 - Geothermal energy for agriculture
 - Wind energy
 - Bio-energy from municipal, industrial and agricultural waste and sewage
- Monitoring
Techno-economic evaluation
National energy policy analysis
Educational and training
Accreditation of external entities
- 1999 Government of Uzbekistan - First International Solar Energy Course in Uzbekistan
- 1996 Government of China - First International Solar Energy Course in China – 3 provinces
- 1994-1995 University of Haifa - **Senior lecturer**
Energy conservation course (200 hrs)
- 1988-1990 Tel Aviv University - **Senior lecturer**
- Energy Conservation Course
 - Energy Surveys Course
- 1986-1993 **Head of Computers Unit – Ministry of Energy**
(in addition to position of Head of Energy Conservation Department)
- 1978 Israeli Ministry of Energy - Energy Conservation Department
- 1983 **Senior Engineer and Deputy Director**
- Responsible for Energy Conservation in Buildings
 - Solar legislation (Nowarski's Law – the first solar legislation in the world)
 - Energy managers legislation and education
 - Energy surveys legislation and accreditation of auditors
- 1976-1978 - Koor Chemicals Ltd.
- Project Manager - Solar Energy Products**
- Research and development of new solar products
 - Solar laboratory
 - Testing prototypes of solar products
 - Preparation for mass-production solar products
- 1975-1976 - Tadiran Ltd., Electrical Appliances Plant, Tel-Aviv
- Project manager and production line manager**
Split air conditioning unit according to U.S. Mil.Spec.
- Design of the unit
 - Quality control procedures
 - Design and construction of calorimetric room
 - Tests of air conditioning units
 - Bills of materials and prices
 - Construction of production line
- Techno-economic evaluations of new products
Import policy
- 1974-1975 - Herouth Ltd., Air Conditioning Department, Jerusalem
- Site Engineer - large air conditioning installations:**

- universities, hospitals, hotels, schools, museums, etc
- design of air conditioning systems and components

1969-1973 - Israel Shipyards Ltd., Haifa

Senior Engineer

- Design of engine rooms:
 - sizing and specifications of main engines
 - engine room layout
 - main engine fuel, lubrication and cooling water systems
 - automatic control systems
- Design of main propulsion
- Design of marine cranes
- General mechanical design
- Site supervision of assembling engine-room and piping systems
- Test cruises

OTHER PROFESSIONAL ACTIVITIES

- ASHRAE member.
- Former representative of the Minister of the Energy in the Israeli Standards Institute.
- One of the first Israeli members and Vice-Chairman of ISES (International Solar Energy Society).
- Member of Heat And Power Cogeneration Forum – Israel Institute of Technology.
- Member of "Sustainable Jerusalem" committee (NGO).
- Member MED-ENEC: EU - Energy Efficiency in the Construction Sector in the Mediterranean.

PUBLICATIONS

1. Central Solar Water Heating Installations (in Hebrew)
Petroleum and Energy Institute of Israel
pp.40, January 1979
2. Specification - Central Solar Water Heating Installations (in Hebrew)
Ministry of Energy and Infrastructure
pp21, 06.06.1978 and 01.05.1979
3. Solar Installations - Instruction Brochure (in Hebrew)
Ministry of Energy and Infrastructure and
The Israeli Consumers Council, pp.16, May 1979
4. Thermal Insulation (in Hebrew)
Ministry of Energy and Infrastructure, pp21, May 1979
5. Energy Conservation Recommendations for Army Camps (in Hebrew)
Ministry of Energy and Infrastructure, pp8, 10.10.1979
6. Specification of Hot Water Solar Installation in the Parliament Building (in Hebrew)
Ministry of Energy and Infrastructure and Maintenance Dept of the Parliament, pp10,
15.10.1979

7. Thermosyphonic Solar Installations (in Hebrew)
Engineering and Architecture - Electricity
p. 41-47, 1982
8. Participation of the Israeli Government in the Field of Solar Energy for Water Heating
Presented at Second Workshop of the CNRE –
United Nations
Naxos, Greece, June 1988
9. Dissemination of Solar Water Heating Systems
United Nations CNRE Guideline No.4
pp14, 09.02.1989
10. Energy Conservation in Households and Public Buildings (in Hebrew)
Institute of Productivity
pp.200, March 1990
11. Energy Conservation in Buildings and Systems (in Hebrew)
Ha-Mif'al p. 26-30, August 1990
12. Efficient Simulation of Building Energy Systems
First Joint Conference of International Simulation
Zurich, p.674-678, 22-25.08.1994
13. Small Wind Turbines Demonstration (in Hebrew)
Ministry of Energy and Infrastructure and IDF
EC-09-95, pp19, August 1995
14. Small Wind Turbines Specification
Ministry of Energy and Infrastructure and IDF
EC 11-95, pp38, September 1995
15. Energy Conservation – Policy and Programs (in Hebrew)
Ministry of Energy and Infrastructure
Editions 1-8
EC-05-96, pp71, 08.05.1997
16. Energy Conservation Policies in Various Countries
Ministry of Energy and Infrastructure
EC 07-99, pp27, 25 April, 1999
17. Non-CO2 Energies for Israel 1996-2050 (in Hebrew).
Ministry of Energy and Infrastructure
EC-05-99, pp150, 17.06.1999
18. Economic Evaluation of Thermal Insulation of Residential Buildings (in Hebrew).
Ministry of Energy and Infrastructure
EC-14-99, pp43, 04.08.1999
19. Solar Cells – Economic Evaluation Computer Program
Ministry of Energy and Infrastructure
pp 12 + computer program, 17.10.1999
20. Solar Israel – A Practical and legislative model
Renewable Energy World.
p. 92-99, Vol. 3 No 2, Mar-Apr 2000
21. Recommendations of Energy Conservation Audits in Industry and Institutions (in Hebrew)

Ministry of Energy and Infrastructure
EC-06-2000, pp133, 09.03.2000

22. Energy Conservation Measures Priorities - Expert System (in Hebrew)
Ministry of Energy and Infrastructure
EC-13-2000, pp18, 29.08.2000
23. Heat and Power Cogeneration Potential in Industry (in Hebrew)
Ministry of Energy and Infrastructure
EC-12-2000, pp25, 11.02.2001
24. Influence of Thermal Time Constant -TTC - on Temperatures and Energy in Buildings (in Hebrew)
Presented to Standards Institute of Israel
pp25, 10.03.2001
25. Electricity Peak Demand Reduction by Energy Conservation (in Hebrew)
Ministry of Energy and Infrastructure
EC-05-2001, pp28, 09.12.2001
26. Solar Power Station 5 x 100 MW, solar superheating, without cogeneration
Cost – benefit evaluation (in Hebrew)
Ministry of Energy and Infrastructure
EC-09-2001, pp23, 21.10.2001
27. Electricity Tariffs for Solar Power Station in Israel (in Hebrew)
Ministry of Energy and Infrastructure
EC-14-2001, pp11, 17.12.2001
28. Energy Conservation Targets for Israel 2003-2017 (in Hebrew)
Ministry of Energy and Infrastructure
EC-06-2002, pp11, 16.04.2002
29. Cost and Saving of Energy Conservation Measures
in Proposed Government Decision on Energy Conservation in Public Buildings (in Hebrew)
Ministry of Energy and Infrastructure
EC-08-2002, pp12, 16.04.2002
30. Greenhouse Gas Emissions of Jerusalem, Mitigation Technologies and Local CDM in Jerusalem
Presented at "Green Jerusalem" Workshop 23.01.2008 - Jerusalem Institute.
Publication: The Society of Senior Public Servants of Israel, publication No. 2008-01, pp19,
23.01.2008
31. Energy efficiency labeling for commercial and residential equipment
NDRC / UNDP / GEF / China End-Use Energy Efficiency Project
Ref: AITA6, Version 02, pp66, 16.11.2008
32. Renewable Energy in Israel and Guatemala
Presented at INTECAP Guatemala International Course
Ministry of Foreign Affairs - MASHAV Center for International Cooperation
pp.91, 25.05.2009
33. Energy and Thermal Time Constant in Buildings
ASIN: B01F18XGQK
pp.192, 2.05.2016
34. Hydro Electric Turbines Simulation and Optimization
academia.edu/31095810

pp.83, 27.01.2017

35. Energy Balance of Solar Water Heaters Thermosyphonic Systems
academia.edu/34457200
pp.58, 04.09.2017
36. Heat Transfer in Solar Water Heaters Pipes - Thermosyphonic Systems
academia.edu/34459205
pp.51, 04.09.2017
37. Economic Optimization of PV Array Tilt Angle
academia.edu/35242726
pp.14, 24.11.2017
38. Optimization of PV Panels Spacing
academia.edu/35242810
pp.42, 24.11.2017
39. Dynamic Trendline of Air Temperature in Jerusalem
academia.edu/35892246
pp.18, 11.02.2018
40. Economy of Plug-In Charging of Hybrid Car
academia.edu/36222234
pp.18, 21.03.2018
41. Changes of Extreme Air Temperature in Jerusalem
academia.edu/40602629
pp.21, 9.10.2019

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