The International Energy Agency  
Solar Heating and Cooling Programme

**TASK 24: SOLAR PROCUREMENT**

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Solar Procurement

- Joint Efforts for 10,000 Systems
- $\text{CO}_2$ Reduction – 5,000 tonnes per year
- Solar Market Growth
  - market growth about 20–25% per year
  - 10-fold increase in the Solar industry expected according to ”Sun in Action” study
- Green Profile
Participating Countries

Belgium
Canada
Denmark
The Netherlands
Sweden
Switzerland
Technology procurement

1. Purchasers and buyers collaborating in innovative buyer groups can create new criteria for energy efficiency.

2. Common criteria for environmental performance allows producers to compete for orders and ranking.

3. For producers, strong buyer groups means lower investment risks.
Product Complexity "Ladder"

- **Single component**: Ex. Motor
- **Single system**: Fan driven by motor
- **Multiple systems**: Ventilation & Cooling
- **Whole facility**: Power station, whole building with services and process

MORE AND MORE IMPACT OF CULTURE

Difficulty
Overview of results

<table>
<thead>
<tr>
<th>Project area/Result</th>
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</thead>
<tbody>
<tr>
<td>Lifts for existing buildings</td>
</tr>
<tr>
<td>Cost reduction by 48%</td>
</tr>
<tr>
<td>Refurbishment of bathrooms</td>
</tr>
<tr>
<td>Reduc. from weeks to 2 days</td>
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<tr>
<td>Energy-efficient products/systems</td>
</tr>
<tr>
<td>Energy reduction 30–50%</td>
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</table>
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Solar Heating & Cooling Programme

INCENTIVES

OTHER CONTROL MECHANISMS

FUNCTION

NEED

OBJECTIVES

NETWORK

BUYERS
Lead users
Future oriented

TESTING METHOD FACILITY

INCENTIVES
OTHER CONTROL MECHANISMS

FUNCTIONAL SPEC.

STANDARD, INFORMATION, LABELLING

FUNCTIONAL SPEC.

NETWORK BUYERS

Lead users
Future oriented

PROCUREMENT
Definition:

"Technology Procurement refers to a process, through which a commodity, service or system is procured, and for which development of new technical solutions is essential in order to meet the requirements of the buyer. The technical development work, being part of the process, may concern application of advanced technology, but also minor stages of development as well as product modifications. The development work may concern the product, the system or the production process, for which it is developed."

From the Swedish Ministry of Industry (Ds I 1982:4)
Solar Procurement
TASK 24

TASK OBJECTIVES
To create a sustainable, enlarged market for active solar water heating systems (mainly domestic systems)

TO BE FULFILLED THROUGH
- Major cost and price reductions for all cost elements, including marketing and installation
- Performance improvements
- Joint national and international purchasing
Procurement & Marketing

SUBTASK A

OBJECTIVES:
- To raise general interest in active solar thermal solutions
- To form buyer groups to purchase state-of-the-art and innovative systems

TWO ROUNDS:
- First Round with small projects and low degree of international collaboration
- Second Round with larger projects and higher degree of collaboration

Subtask A Lead Country: The Netherlands
OBJECTIVES:

- To collect, analyse and summarise experience
- To create tools to facilitate creation of buyer groups and realisation of projects and procurements. Tools to be included in a manual "Book of Tools"
- To define a process for prototype testing and evaluation using existing methods
Overview of results

- Procurements initiated in all countries
- Buyer groups established in most countries
- Different facilitating measures developed as
  - handbook of buyer groups
  - internet tools
  - testing methods developed
- Smaller procurements finalised
- Major cost reductions result of Task 24 work
- 20–40% reduction of total cost in including installation
Belgium

- Has joined Task 24 recently
- 20–30 systems being installed
- Very ambitious programs
- Brussels Solar Water Heater Promotion
  - Campaign for medium size installations
  - Call for proposals until Sept. 2002
- Walloon region for both small and larger systems
  - Buyer groups being prepared
- Preparation for "VLAZON" project in the Flemish Region
CANADA

- First focused on projects with utility partners in Ontario
- TEAM Advanced Low Flow Solar Water Heater project
  - Recently started
  - Plan for 10,000 systems in the following years
- Goal
  - Cost reduction to 2,000 Canadian dollars
  - 1,000 systems installed by 2004
DENMARK

- Sunshine over Thy and Mors campaigns
  30 systems
- KFS-Houses will offer solar systems, 50 houses per year
- Internet: www.soltildbud.dk
  - Call for tenders for three categories
  - Four competitions, 12 groups submitted tenders
  - 20% price reduction to 1600 Euro
  - Installers also involved, offering fixed installation prices
    for 4 different house types
- New Danish government reducing renewable energy activities
THE NETHERLANDS

Domestic systems for existing buildings:
- "Solhas", organising housing associations
  - Netherlands and 9 other European countries

Domestic systems for new houses:
- Essent Supply Region, 1,500 systems contracted
THE NETHERLANDS

Medium sized systems projects:

- Space for Solar Housing associations
  – Turnkey delivery, 6–15 years guarantee

- Soltherm Europe Initiative 11 countries
  – Goal, 100 million sqm in 2010
  – Co-operation sales and installation companies
  – Information campaigns
  – Collaboration with Task 24 essential
  – Int. collaboration in Task 24 the most advanced in Europe
SWEDEN

- **Small systems**
  - 14 entries received, 3 from outside Sweden
  - Uponor winner, 5 test installations
  - Upgraded improved material tested
  - Start of delivery spring 2002

- **Large systems**
  - 11 tenders received, 4 from outside of Sweden
  - Goal 4,000–10,000 sqm
  - Project postponed
  - Not enough guaranteed volume
SWITZERLAND

- Work influenced by referendum
- 50 Solar Roofs in the City of Zug
- 100 Solar Roofs in Lucerne
- 50 Solar Roofs in Burghof
- Solar for Flumroc for employees
- SSES virtual buyer group (on the Internet)
- Manual for buyer groups
- New concept – the ”Solar Jacuzzi”
  - Solar hot water and upgraded bathrooms
Marketing activities and preparations for procurement
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Solar Heating & Cooling Programme

www.ieatask24.org

Active Solar Procurement
Facilitating cooperation among large buyer groups to realize the benefits of innovative solar water heating technologies.

Satisfied Customers
Cost Reductions
CO₂ Reductions
In the "First Task Round" national experiences gathered with Internet tools:

- **Sweden:** [http://solupphandling.bfr.se](http://solupphandling.bfr.se)
- **Denmark:** [www.soltilbud.dk](http://www.soltilbud.dk)
- **Switzerland:** [www.solarpooler.ch](http://www.solarpooler.ch)
- **Netherlands:** [www.baldezon.nl](http://www.baldezon.nl)
Creation of Tools

**SUBTASK B**

- Task 24 homepage including the "Book of Tools\Business Tools"
- Edited by Denmark
- Newsletter twice a year by Denmark
- Contacts with suppliers
- Draft Guide for Tender
  - Examples sent for supplier comments
- Information activities
- Award of Excellence
- Midterm Evaluation

Subtask B Lead Country: Denmark
In Denmark, a 20% price reduction was achieved for solar water heaters.

In the Netherlands, 59 housing companies formed a buyer group.

In Sweden, 8 small systems were tested.
Uponor winning system

Hot water
From other heating device
Optional
Electrical heating 2.2 kW 230V
4 solar panels à 2.25 m²
Stainless tank, 300 litres
Cold water
Control system
Circulation pump

Illustration: Matti Nordenström
Special Evaluation

COLLABORATIVE WORK

Small systems
Medium sized systems
Company
Internet buyer group
Website
Tender documents
Buyer tool
Manual
Champions & Enthusiasts

Important for innovation