Rethink Energy, Act NOW!
2017 in the city of Rotterdam,
from 15th – 18th May

Eneco
Dutch Innovation Award
Overview:

- CSC - Smart Control of Supermarket refrigerated display cabinets
- ITHO-Daalderop - Booster heat pump
- SolarCompleet - E-SKITT
- Inventum - Ecolution WTW-D
- Roodenburg - Optimising the refrigeration cycle by integration of the refrigerant expansion motor
- Senfal - Meeting the Energy needs
- ATB - Cooling with heat using a SolabChiller
- One Solution Holland
- Triple Aqua
- Rijswijk Buiten, Energy Costs Zero Houses
Jury:
Chair: Gijs Postma – Eneco
Lianda Sjerps Koomen – TKI Urban Energy
Thomas Nowak – European Heat Pump Association
Peter Wagener – Dutch Heat Pump association
Charles Geelen – Infinitus Consultants
Onno Kleefkens - Phetradico
Smart Control of Supermarket refrigerated display cabinets

In our current electricity market, the price for electricity is not constant but changes every hour due to the variability of production from renewables and due to demand.

A controller for time shifting of refrigeration demand makes it possible to let the refrigeration demand, and thus the electricity use of the refrigerating system, coincide with preferred periods of electricity use. Such preferred periods can be periods with low electricity prices.

Saint Trofee – Refrigeration Research & Innovations
Sietze van der Sluis - www.sainttrofee.nl
ITHO-Daalderop – Booster Heat Pump

The Booster heat pump is a small water-water heat pump that is capable of making DHW from low-temperature heat. Water that is supplied from a central location to heat and possibly cool houses is heated by a small booster heat pump (BWP) with a capacity of 2 kW up to approximately 60°C and then stored in a hot water tank. This with an efficiency of approximately 480%.

The product is the answer to two important needs in the market:

• The need for lower system temperatures for heating
• All electric solutions in new built and existing houses.

At the moment there is a large surplus of low temperature residual heat (<45°C), for the heating of houses.
E-SKITT

The E-SKITT brings three innovative technologies together in one skid. The technologies, the thermodynamic heat pump technology (CLIMER), the daylight thermal technology (HONE) and the PV-technology, combined put all the energy absorbers on the roof, leaving all the mechanics and moving parts of these technologies inside an plug & play premanufactured 80 by 80 skid that will reduce 4 tons of CO2-emissions annually.

www.solarcompleet.nl
Ecolution

Ecolution WTW-D is a compact high performance balanced ventilation system. It is generally considered to be a break through innovation and particularly well suited for use in “Passiefbouw”, “NOM dwellings”, and “EPC neutral houses”, thereby contributing to the goal of a sustainable energy supply.

www.inventum.nl
Optimising the refrigeration cycle by integration of the refrigerant expansion motor

By integrating a refrigerant expansion motor in the cooling circuit the overall need of electric energy is reduced.

The use of a ‘certain lost’ kinetic energy converted into electrical energy can be realised of a highly efficient refrigerant expansion motor in a traditional cooling circuit. Using a refrigerant expansion motor, the throttling loss can be reduced during the expansion process, and can be converted into useful energy.
Managing the Energy needs

The software from SENFAL connects online with heat pumps. It forecasts the customer’s energy demand and the prices on energy markets. We respond to demand by ensuring energy purchases and energy consumption are shifted to moments when prices dip. We only deviate from the usual schedules when it is economically sensible for the customer by not only optimising for market prices, but also taking process efficiency and switching effects into account. Furthermore, our dashboards and weekly reports provide real-time insights into energy usage, system behaviour and costs for the system as a whole, but also per asset.
Cooling with heat using a SolabChiller

A flexible cooling system based upon on "solid sorption“ taking advantage of the hygroscopic properties of silica gel. As driver waste heat is used. This Solab Chiller can be applied on individual domestic houses.
One Solution Holland
Triple Aqua
Rijswijk Buiten, Energy Costs Zero Houses