Modelling improved resilience of military base being connected to nearby biogas plant with biogas storage

by Dr. Anders N. Andersen, Head of R&D, EMD International A/S, ana@emd.dk
assisted by Jens Peter Sandemand, Danish Army, FES-BES25@mil.dk, and Thomas Lund-Hansen, REO, tlh@releffopt.com

Agenda for the presentation

• Example of island operation of Air Base Skrydstrup in Denmark
• Example of Nyminddegab Military Camp in Denmark,
  - operated in island mode to show resilience in times of crisis
  - market based time in peacetime
Example of island operation of Air Base Skrydstrup in Denmark
Climate conditions at Skrydstrup
Global radiation at Skrydstrup in an average year
Duration curve for heat demand at Skrydstrup Air Base
Duration curve for electricity demand at Skrydstrup Air Base
Resilience in a winter situation at Skrydstrup Air Base operated electrically in island mode with biogas and battery storages
Resilience in a summer situation at Skrydstrup Air Base operated electrically in island mode with biogas and battery storages
Example of Nymindegab Military Camp in Denmark both operated in island mode and market based
Blåbjerg Biogas plant is situated 10 km from Nyminddegab Military Camp, connected with a biogas pipe to the camp.
A resilient energy system for Nyminddegab Military Camp operated in island mode
A resilient energy system for Nymindegab Military Camp operated market based
The CHP at Nymindegab Military Camp simulated in 7 days in June, covering both electricity and heating demand when operated in island mode.
The CHP at Nymindegab Military Camp simulated in the same 7 days in June, covering heating demand providing electricity market based with private wire operation of CHP.
Thanks for the attention!