



SEAD

SUPER-EFFICIENT EQUIPMENT AND
APPLIANCE DEPLOYMENT INITIATIVE

Governments Working Together to Save Energy.

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Linking Energy Management Systems and Motor Efficiency Incentive Policies

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Agenda

- The Clean Energy Ministerial and SEAD
- Motor policies and EnMS
- Approach
- Initial results
 - Canada
 - South Africa
- Next steps





Collaborator

Technical Analysis

Operating Agent



A Global Initiative: SEAD governments work together to save energy



Linking Energy Management Systems and Motor Efficiency Incentive Policies

- The primary objective of this study is to identify the potential benefits of and obstacles to linking energy management systems with increased awareness and use of incentive policies for electric motor driven systems (EMDS) efficiency.
- Survey of individual facilities that had both implemented an EnMS and performed some form of EMDS efficiency measure to understand what enabled them to identify and implement motor-driven system efficiency opportunities.

<https://www.surveymonkey.com/r/ENMSSurvey>



Initial Approach

- Survey emailed to list of facility operators
 - About 20 minutes to complete
 - Incentivized survey completion
- Targeted facility operators in 3 countries (U.S., Netherlands, South Africa)
- Received filled-in survey from 5 facilities after 2 months of concerted efforts... (and those necessitated direct follow-up telephone conversations walking through the survey)



Survey

- United States
 - 3 responses
- South Africa
 - 28 case studies
 - Interview with IEE Project Mgr.
- Netherlands
 - 1 completed response
 - Interview with Knowledge Network Chairman
- Canada – 7 reviewed case studies
 - 4 survey responses
 - 1 interview with facility manager

Renewed Approach

- Closely review existing data to find companies or facilities that have implemented electric motor programs within EnMS (i.e. U.S./SEP, EMWG, IEE case studies)
- Broaden country/regional scope
 - 4 participating facilities found in Canada



Canada

- High availability of programs and incentives
- Natural Resources Canada
 - energy management project financial assistance
 - CAN/CSA-ISO 50001 Standard Implementation Pilot (Cost Share)

Canada

- Provincial / Utility programs
 - Save on Energy (Ontario)
 - Energy audit funding
 - Energy managers
 - Compressed air
 - Variable frequency drives
 - Premium efficient motors
 - BC Hydro Power Smart program
 - BC Province Innovative Clean Energy (ICE) Fund



Canada Surveyed Facilities

- What motivated your facility to develop an energy management system?
 - Increase energy sustainability and reduce the environment impact
 - Cost reduction and environmental benefits
 - Cost and CO₂ emissions reduction

Canada Surveyed Facilities

- Greatest energy related challenge?
 - Resources both financial human
 - Keeping long term focus on energy management
- Facilities utilized EnMS Training Courses
 - Dollars and \$ents EnMS workshops (NRCan)
 - BC Hydro Strategic Energy Management Program (SEMP). Funding to hire full time energy engineer

Canada Surveyed Facilities

- Describe the tools and services that best helped you to identify and implement motor system efficiency opportunities?
 - #1 response is Energy Monitoring (equipment metering)
 - Surveyed facilities used external energy auditor for large systems.
 - Compressors, ventilation, dust collection, process optimization

South Africa

- Literature Based Research
 - 28 case studies
- South Africa no MEPS for electric motors
- Focused Industrial Energy Efficiency Project (IEE)
 - Interview with Senior Project Manager

South Africa

- Limited access to incentives
- Eskom Demand Side Management (DSM)
 - Incentives/Rebates suspended
 - Limited funds for ESCo model
- No EE related government tax incentives
 - Tax incentives for manufacturing competitiveness
 - No evidence these were used

South Africa

- IEE goal to promote EnMS and Energy System Optimization (ESO)
 - EnMS training classes
 - ESO training on pumps, compressed air, steam, motors, and fan systems
- One day awareness workshop
- Two day users training
- Experts Training

South Africa

- Most measures were low hanging fruit
 - Lighting
 - Idle equipment shutdown
 - Employee awareness
- Motor projects mainly
 - VFD installation on fans
 - Compressor optimization

South Africa

- Reason for participating in IEE
 - Reduce energy consumption/costs
 - Increase business sustainability
 - Increase global market competitiveness
- Begin to Phase II (2016-2019)
 - Regulatory support
 - Implementation assistance
 - Continued capacity building

Preliminary Conclusions

- Drive employee awareness
 - Energy monitoring (Canada)
 - Motor system training (SA)
- Provide expert advise
 - Incentivize external energy assessments/audits

Next Steps

- Need more data!
- Looking for willing facilities to participate
- Broadening geographical scope

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Questions?

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Thank you for your time!