How to make winter maintenance more Energy efficient

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Energy
1st step

Understanding how well winter maintenance (i.e. Salting) is performed according to the weather
The maintenance district

Lake Vänern

Sweden
RWIS – preset warnings about slippery conditions
Moderate Rime
Severe Rime
Precipitation with temperatures less than 1°C
Temperature fall below 1 °C and Precipitation during the last 12 hours
Weather Match

6 hour intervalls → 4 time spans

+ = Days of slippery indication
# The results

*Table 1, Presentation of questions and distribution in percentage of winter maintenance and weather match.*

<table>
<thead>
<tr>
<th>Questions</th>
<th>Abbreviation</th>
<th>Part of winter slippery indication (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Maintenance agrees with All RWIS in district</td>
<td>AMAR</td>
<td>27</td>
</tr>
<tr>
<td>All Maintenance agrees with Some RWIS in district</td>
<td>AMSR</td>
<td>30</td>
</tr>
<tr>
<td>All Maintenance does Not agree with any RWIS</td>
<td>AMNR</td>
<td>15</td>
</tr>
<tr>
<td>No Maintenance but All RWIS in the district</td>
<td>NMAR</td>
<td>3</td>
</tr>
<tr>
<td>No Maintenance even though Some RWIS</td>
<td>NMSR</td>
<td>9</td>
</tr>
<tr>
<td>Some Maintenance agree with Some RWIS</td>
<td>SMSR</td>
<td>11</td>
</tr>
<tr>
<td>Some Maintenance but No RWIS</td>
<td>SMNR</td>
<td>5</td>
</tr>
</tbody>
</table>
Energy savings potential

- 15% of the about 200 events = 30 events, 12750 kilometres winter
- 425 km of roads,

\[
\text{Assumed fuel consumption} = 3.5 \text{ l/10 km.}
\]

- \[3.5 \times 42.5 = 149 \text{ litres}\] of fuel saved. (1769 gallons)
- \[4462.5 \text{ litres}\] of fuel saved /winter in the district. (53064 gallons)
Thank you for your attention!

Questions?

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