

Timo Laakso - CHALLENGES AND APPROACHES TO WIND ENERGY IN COLD CLIMATE

Due to the fast growing wind power market an increasing number of wind turbines are being installed at sites where atmospheric icing and low operating temperatures have either small or significant effect on the operation of standard turbines and equipment. Thus, there are additional uncertainties involved in the cold climate wind projects compared to standard lowland projects executed in mild climates. Regardless of the cold climate site and size of the challenge there is apparent need to understand and mitigate those additional risks right from the beginning of the project development. There is variety of technical solutions and mitigation strategies available nowadays, some of those are in the "off the shelf" phase and some are still clearly in the prototype phase. This paper provides an outlook of the present day situation and introduces some approaches to minimize the cold climate project risks.