RADON REMEDIAL MEASURES IN COLD CLIMATE

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In this presentation a view is taken that mitigation of an indoor radon problem is often more complex than usually assumed, and that additional factors should be considered to avoid situations in which after mitigation the radon problem may be solved, but other problems have been created. Emphasis is put on how choice and design of radon remedial measures is influenced not only by effectiveness in reducing radon levels indoors, but also by climatic factors, energy-saving aspects, as well as economic and psycho-social factors.

Climatic conditions give rise to several concerns when attempting to mitigate a radon problem in areas with large seasonal temperature variations. Problems with humidity, energy consumption and durability of sealing materials are probably the most prominent issues. Commonly used radon remedial measures and their effectiveness in Norway is reviewed. Discussion is focused on principles and technical solutions which produce good results, and those which don't perform so well in cold Norwegian climate. Innovative technical solutions which successfully resolve some of the main conflicting issues are discussed. Results of some preliminary tests showing performance of such solutions in reduction of radon levels are presented.

Other aspects of mitigation systems, such as need and cost of maintenance, longevity, noise levels, "additional benefits", etc. are briefly mentioned. Homeowners' perceptions and willingness to implement various mitigation solutions are briefly reviewed. Based on discussion, several guiding principles which may be adopted in search for optimal solutions are suggested.