National Collaborating Centres for Public Health

Centres de collaboration nationale en santé publique

Strong evidence, stronger public health

Small Drinking Water Systems Project

RES'EAU-WATERNET

The RES'EAU-WATERNET is a Canadian national research network launched in April 2009. Its primary goal is to develop affordable solutions for providing clean drinking water to small, rural and First Nations communities. The network is led by the University of British Columbia and includes communities, government, the private sector and six other Canadian universities comprising: University of Victoria, École polytechnique de Montréal, University of Calgary, Université Laval, Brock University, and Simon Fraser University.

Function

The network has four main objectives:

- Develop robust, necessary and affordable technologies.
- Create a technology assessment and operation tool to help water-treatment managers pick the right system for their needs and operate the technology effectively.
- Create a training protocol and manual for the operators of small systems.
- Develop a water-quality database to determine how the quality of water sources changes over time and space, and the implications of these changes for optimal treatment and disinfection.

Projects underway

To fulfill their objectives, the members of the network currently work on a panel of projects from the technology design and testing to implementation and knowledge transfer:

- The network has a strong focus on technologies adapted to small water systems with 13 projects underway. The network examines existing technologies and develops new ones specifically adapted to small water systems. More importantly, the network will test the effectiveness of these technologies on real water systems to ensure successful on-site implementation. The emerging technologies under consideration include: advanced oxidation and membrane technologies, ozone and UV-based treatments, in situ electrosynthesis coupled with hydrogen peroxide, composite, nano-scale photocatalysts, and low cost visible light photocatalysis.

Highlights
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- The technologies identified above will be assessed for capital and operating costs. Users will be consulted for cost drivers with the purpose of finding solutions to reduce this cost.

- The network also emphasizes source water quality. The network is putting together a classification of raw water sources of small and remote communities. It is also developing a source water-technology tool for the identification of the most suitable treatment technology for a particular source. Lastly, the network is building a model of human activities, seasonal and regional variability and their impacts on source water quality to adopt suitable technological solutions.

- The network works at developing toolbooks and arranges specific technology transfer events to facilitate information exchanges between industry partners, researchers and communities. The network will transmit user feedback and needs to technology researchers with a special emphasis on affordability and cost. It will also collect data on current technology in use regarding cost, state, age and possibility of updating existing technologies with new technologies.

- The RES'EAU-WATERNET is also committed to the training of qualified personnel through research placements of students, exchanges with various laboratories and research groups, annual meetings, networking events and industrial fellowships.

For more information on RES'EAU-WATERNET,
please visit their website at: **www.reseauwaternet.ca**

For more information on this project, please visit **www.nccph.ca**

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