

FINAL ABSTRACT / RESUME DE COMMUNICATIONS

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MAIN THEME THEME GENERAL	Accès universel à l'eau
SUB THEME SOUS THEME	Progrès en matière de technologies innovantes
TOPIC TACKLED WITH/ SUJET ABORDE	<ul style="list-style-type: none"> • Partenariats public-privé et engagement des parties prenantes • Planification de la sécurité hydrique et gestion de la qualité de l'eau potable • Technologies pour le traitement de l'eau et des eaux usées
TITLE OF THE PAPER/ TITRE DE LA COMMUNICATION	On-site chlorine generation as a smart and cost-effective alternative for chlorine sourcing for water utilities located in conflict areas
AUTHOR (S) AUTEUR (S)	<i>Castella Grégoire Duvernay Pierre-Gilles Bünzli Marc-André</i>
POSITION / FONCTION	<i>Castella Grégoire – directeur adjoint Duvernay Pierre-Gilles – responsable programme Afrique Bünzli Marc-André – directeur de programme</i>
ORGANIZATION/ ORGANISATION	<i>Castella Grégoire – Fondation Antenna Duvernay Pierre-Gilles – Fondation Antenna Bünzli Marc-André – Direction du Développement et de la Coopération Suisse (DDC)</i>
COUNTRY / PAYS	Suisse
CONTACTS	Email : gcastella@antenna.ch Phone : +41 22 737 12 43 PO Box: Avenue de la Grenade, 1201 Genève

Chlorination is an important step for water treatment and supply. Chlorine kills most waterborne pathogens and protects against recontamination. It is usually sourced in the form of chlorine gas or HTH (High Test Hypochlorite) by water utilities. Both substances are however highly toxic and considered dangerous goods. As they can be used in chemical warfare, they are often under embargo and their trade and transport are problematic in countries affected by armed conflicts. For water utilities operating in such contexts, chlorine sourcing can thus be very challenging, putting at stake both the quality of the water and the health of populations already under great distress.

To reduce these risks, the Swiss Humanitarian Aid (SHA) introduced the WATA® technology, a simple and low-tech solution developed by Antenna Foundation to locally produce active chlorine (Sodium Hypochlorite) by electrolysis of saltwater. This presentation aims to show how Vodadombassa, the Eastern-Ukraine water utility, used this innovative solution to maintain the quality level of the water it produces and distributes. The installation of the WATA® devices, which was part of a larger program including the provision of Aluminium Sulphate and other water treatment products as well as trainings, was done in a progressive way in order to allow a smooth adaptation to the technology by the water company.

It resulted in the maintenance of good quality water distributed to its customers in most of its region of operation. The main challenge identified for the on-site generation of chlorine is the steady power supply needed for running the devices, which is often problematic in conflict affected regions. An additional positive outcome is the increased autonomy of the water utility, which reduced its dependency on external chlorine provision. This technology has a potential in other regions affected by conflicts, like the Middle East for instance, or in isolated regions where the logistics of chlorine sourcing is complex.