



## Measures for the reduction of fuel consumption and CO<sub>2</sub> emissions in inland navigation

		Shore-based electricity for inland navigation
1.	Keywords	Shore power facilities for inland shipping in the Netherlands
2.	Short description	<p>Shore power is a concept indicating that a vessel is using a connection to the electricity grid ashore. Running diesel engines in the port is unnecessarily harmful to the environment. It mainly concerns the emission of CO<sub>2</sub>, NO<sub>x</sub> and PM<sub>10</sub> particulate matter. Inland vessels are often moored in residential areas where noise pollution is important.</p> <p>Quay managers opt for shore power as a service to skippers and to avoid harmful emissions, bad odours and noise from diesel generators.</p>
3.	Objective & target	Port authorities aim to contribute significantly to local air quality. The use of diesel generators by moored vessels in your port is associated with significant particulate emissions and causes odour and noise pollution for local residents. Shore power not only offers skippers a sustainable alternative for their energy supply, but also addresses the issue of emissions, odour and noise pollution. Skippers make quick and easy use of shore power. There are no longer any stationary diesel generators droning in the port. There are shore power cabinets integrated ashore, however.
4.	Key success factors	<ul style="list-style-type: none"> <li>• Industry organisations involved in development</li> <li>• Measure significantly contributes to cleaner air in residential area</li> <li>• No odour and noise pollution from droning diesel generators in inland ports</li> <li>• Keep the price for shore power as competitive as possible with the costs of using diesel generators</li> <li>• User-friendly concept</li> <li>• Information about usage through direct feedback</li> <li>• Shore power complied with national guidelines of National Ports Council (the Netherlands)</li> <li>• From 1 March 2010, a generator ban is in force in Rotterdam at locations where a shore power cabinet has been installed. The Drecht cities will follow in January 2012.</li> </ul>
5.	Innovative aspects	<p>User-friendliness was the main objective of the design of the service. Being able to organise all actions easily and quickly with the use of a mobile phone.</p> <p>The client starts supply by providing the code of the socket by telephone via a computer. Upon departure the client cancels the service. A daily SMS reminds the client that the supply is active and also informs him about his/her consumption.</p> <p>The electricity consumed is paid monthly by direct debit (99% of the skippers) or by credit card. The costs for the skipper are similar to using a diesel generator.</p> <p>The design of the shore power cabinets can be adapted to the surroundings. In Dordrecht, for example, the appearance of the cabinets fits in with the conservation area of the old centre.</p> <p>For commercial vessels, linking payment to the ECOCARD of the EPS (Ecocard Payment System), which will be used for payment of the disposal contribution for professional vessel-generated waste as from 1 July 2010, is currently being considered.</p>

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6.	Benefits for users	<ul style="list-style-type: none"> <li>• Fast and easy activation and deactivation by mobile phone</li> <li>• Convenient SMS notification messages with feedback on energy consumed and corresponding costs</li> <li>• Measure contributes to the need to contribute to a better environment</li> <li>• No odour and noise pollution of droning diesel generators from one's own or a neighbouring vessel</li> <li>• Rates similar to using a diesel generator</li> <li>• No need for skipper to look for ticket machine or coin changer machine</li> <li>• Monthly invoice including VAT</li> </ul>
7.	Geographic area	No restrictions
8.	Status	<p>In 2008 and 2009 shore power proved to be a successful pilot project in the Rotterdam port of Maashaven, where 168 connections for Utiliq Shore Power were installed. The port of Amsterdam, Zeeland Seaports, the province of South Holland and municipalities such as Nieuwegein, Wageningen, Dordrecht, Zwijndrecht and Papendrecht have decided to emulate the sustainable example of Rotterdam.</p> <p>The registration and payment system of Utiliq shore power has now become the Dutch standard, as decided by the National Ports Council.</p> <p>There is a new website and a telephone option menu in four languages (English, German, French and Dutch)</p>
9.	Difficulties met	<p>Many users perceived shore power as costing more than a diesel generator.</p> <p>The pricing currently used for shore power (€0.24/kWh) is such that electricity supply from the public network for the sector should, in nearly all situations, be cheaper than the power supplied by one's own diesel generator (calculation based on € 0.80 per litre of diesel).</p>
10.	Year(s)	Pilot project from November 2007 to April 2009
11.	Users, stakeholders	<p>Ports, companies and quay managers</p> <p>Skippers</p> <p>Industry organisations</p> <p>Fitting contractors</p> <p>Network of power companies</p> <p>Shore power provider (Utiliq) for customer management, payment interfaces, invoicing, direct debit, national breakdown hotline, customer support, data communication and SMS, customer website, IT management and innovation</p> <p>Energy suppliers</p>
12.	Contact person	Mr Richard Bevelander <a href="mailto:r.bevelander@utiliq.com">r.bevelander@utiliq.com</a> +31(0)621515038
13.	Costs & financing	<p>The ports of Rotterdam, Amsterdam, the Drecht cities and the province of South Holland have received European funding (EFRO) for the construction of shore power and guarantee that there will be more than 1,100 shore power connections by 2012, the first major step towards a national network in the Netherlands.</p> <p>Furthermore, there are funding opportunities for the professional skipper under the VAMIL (Arbitrary Depreciation of Environmental Investments) subsidy measure F 2211</p>

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14.	Website / links	<a href="http://www.walstroom.nl">www.walstroom.nl</a>
15.	Available data, publications	<p><a href="http://www.evs.ee/Checkout/tabid/36/screen/freedownload/productid/193231/doclang/en/preview/1/EVS_EN_15869_2;2010_en_preview.aspx">http://www.evs.ee/Checkout/tabid/36/screen/freedownload/productid/193231/doclang/en/preview/1/EVS_EN_15869_2;2010_en_preview.aspx</a></p> <p><a href="http://www.havenraad.nl/images/Mew%20018%20NHR%20Richtlijn%20Walstroom%20Binnenvaart,%2019-11-2009_tcm226-232625.pdf">http://www.havenraad.nl/images/Mew%20018%20NHR%20Richtlijn%20Walstroom%20Binnenvaart,%2019-11-2009_tcm226-232625.pdf</a></p> <p>other publications upon request.</p>
16.	Added value: possibility for application elsewhere	<p>Further rollout of the shore power concept in the Rhine Countries provides additional value to inland shipping through the standardisation in use and payment, through technical harmonisation within the EU, through economies of scale and by using the learning experiences and promoting the exchange of knowledge.</p> <p>For commercial vessels, linking payments to ECOCARD, which will result in additional economies of scales, is currently being considered.</p>
17.	Further information	<p><a href="http://www.cbrb.nl/component/docman/doc_download/212-walstroom">http://www.cbrb.nl/component/docman/doc_download/212-walstroom</a></p> <p>further information can be provided upon request.</p>
18.	Filled in by	Richard Bevelander
19.	Date	17 March 2011