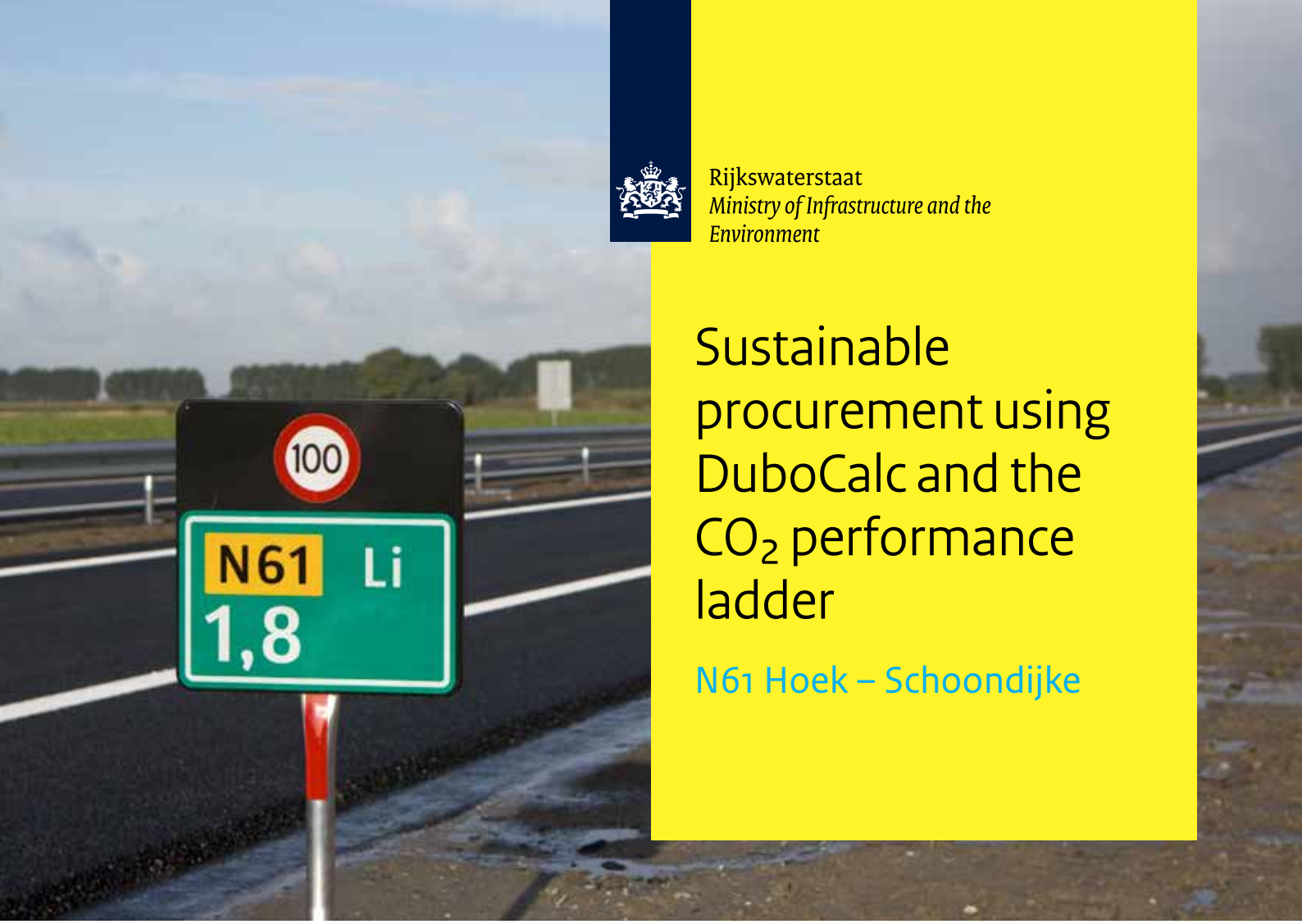

Rijkswaterstaat
Ministry of Infrastructure and the Environment

Sustainable procurement using DuboCalc and the CO_2 performance ladder

N61 Hoek – Schoondijke

The 21 km long N61 is the most important connection between east and west Zeeuws-Vlaanderen, however, it is one of the most unsafe roads in Zeeland. Modernising this national road will enhance safety considerably and also provides the opportunity to undertake a pioneering project which unifies the approach taken to sustainable procurement in infrastructure projects.

In the tender for this road project Rijkswaterstaat applied, for the first time, DuboCalc and the CO_2 performance ladder together as quality criteria in a 'Most Economically Advantageous Tender' process. These tools were used in conjunction with functional specifications to stimulate innovation and inspire bidders to come up with innovative solutions: sustainable materials, environmentally friendly designs and energy efficient business operations.

CO_2 performance ladder

The CO_2 performance ladder is a self-certification system that allows bidders to present the efforts they will make to reduce CO_2 emissions resulting from work undertaken efforts as part of the contracted projects. The ladder has five levels. The more effort the bidder puts into the reduction of CO_2 emissions, the higher up the ladder they are positioned. Once on the ladder, the bidder's offer is given a hypothetical discount, which has the effect of making the price more competitive. The higher up the ladder, the larger the hypothetical discount and, therefore, the greater the chance of winning the tender.

DuboCalc

DuboCalc is used to calculate the environmental impact of the material and energy use in a design. DuboCalc is a software tool, based on the life cycle analysis (LCA) of all the materials and energy used over the entire lifetime of the work, from the sourcing of raw materials to demolition. DuboCalc calculates eleven environmental impacts (including CO_2 emissions) and translates this into one number: the Environmental Cost Indicator Value (ECI Value). The

Sustainability ambitions of Rijkswaterstaat

Rijkswaterstaat aims to improve the sustainability of infrastructure projects and aims to reduce energy consumption in 2020 by 20 percent compared to 2009. Rijkswaterstaat uses four instruments to achieve this goal: the 'Omgevingswijzer' ('Context Appraiser'); DuboCalc LCA software; the CO_2 performance ladder and a tendering procedure based on functional requirements and the 'most economically advantageous tender'. This is Rijkswaterstaat's contribution to the government policy focused on green growth. In addition, Rijkswaterstaat collaborates closely with all partners, customers and clients in the civil engineering sector to make the sector more sustainable in a partnership called the 'Green Deal Sustainable GWW'.

Project	Reconstruction of N61 between Hoek and Schoondijke
Start of work:	Summer 2012
Delivery of work:	End of 2014
Type of contract	Design & Construct (D&C)
Tendering instruments	DuboCalc and CO_2 performance ladder
Result	The environmental impact is reduced by 25 percent

lower this ECI Value, the better the environmental quality and the higher the hypothetical discount to the bidding price.

Sustainability gains

John Duijsens is a senior consultant for environmental technology and sustainable procurement within Rijkswaterstaat: 'Rasenberg, the winning bidder of the N61 road construction tender, has given a lot of intelligent and creative thought to the design. This led to reductions in material use through, among other things, logistics optimisation. This reduced the ECI Value by 2 million Euros, which is 25 percent of the ECI Value estimated by the client. This represents a saving of 15.8 kilotonnes of CO_2 emissions, which is equivalent to the emissions of approximately 1,900 households in one year. Rasenberg also committed to perform the works on the highest rung (level 5) of the CO_2 performance ladder. This commitment as well as the ECI Value Rasenberg offered as part of the bid, became part of the mandatory contractual requirements. Rasenberg's performance will be monitored by Rijkswaterstaat.

More information

Do you want to know more about Rijkswaterstaat? Go to www.rijkswaterstaat.nl/en.
For more information on the Green Deal Sustainable GWW: www.duurzaamgww.nl/?lang=en

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