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NETHERLANDS
WATER PARTNERSHIP

Expanding the horizon of the Dutch Water Sector

A sector view on international positioning
and financing challenges



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Foreword

A dazzling USD 7,500 billion dollars are needed between now and 2030 to build the infrastructure required to reach SDG6 and protect the world's population from 'too much, too little, and too polluted water'. The Dutch water sector is known globally for its excellent water expertise, hands-on mentality, innovative technologies and capacity to address global water challenges. The Dutch water sector is, however, facing obstacles to meeting the demands of the sector and advance internationally.

USD 1,200 billion dollars will not be available if current trends continue. Water projects are disproportionately financed with public money and future worldwide water challenges will never be met by the public sector alone, and certainly not in emerging markets. Furthermore, meeting these challenges will need full-service solutions such as Engineering, Procurement and Construction (EPC) and Design Build Finance Operate and Maintain (DBFOM). The Dutch water sector (DWS) has the expertise and innovation needed and is well known and well positioned internationally. However, the DWS is facing obstacles to further international growth. This market analysis not only captures the DWS' views on these obstacles, but also on potential solutions. In the light of our existing partnership, both FMO NL Business (FMO) and the Netherlands Water Partnership (NWP) are committed to play an active role in implementing the recommendations put forward in this report.

FMO's NL Business department, mandated by the Dutch government to provide finance solutions for public and private projects that are of interest to the Netherlands, is well positioned to support the DWS to further advance internationally. The analysis has identified a lack of (access to) **financing** products and thus the need for more innovative and applicable project modalities to better position the DWS internationally.

NWP and FMO are actively liaising with and partnering financial institutions to ensure their early involvement in projects and to crowd in the required financing to scale up the DWS to have a greater impact. FMO's expertise in project development and financing will further advance the DWS by ensuring that bankable projects are developed and appropriate finance is in place for project implementation.

In partnership with key public and private stakeholders in the Netherlands such as the Netherlands Enterprise Agency (RVO), the Ministry of Infrastructure and Water Management, Dutch commercial banks and International Financial Institutes (IFIs), FMO will invest in developing, structuring and implementing quality projects and contracts in which the DWS supplies local demand. In addition, FMO is building on its existing partnerships internally, locally and internationally to crowd in blended finance. This will make the water sector more attractive to financiers, and thus promote the DWS in emerging markets. The FMO-NWP partnership will be instrumental in matchmaking between the DWS and local companies. This will lead to the development of consortia that will be able to bid for projects and provide full service solutions. The FMO-NWP partnership will do this by drawing upon existing partnerships with

international development financial institutions, local governments and other local private and state-owned intermediaries.

One outcome of this analysis is the realisation that the DWS's competitive position first requires self-reflection. As such, NWP is currently investing in developing a capacity building programme to increase the DWS's capacities in the fields of financial engineering and project development. The analysis also shows that the DWS needs companies that have the knowledge, skills and the financial position to act as lead organisations in offering full-service integrated EPC solutions. To overcome this, NWP will take on a more active role in matchmaking within the DWS and facilitate the creation of competitive consortia between various entities such as contractors, technology suppliers, water authorities and drinking water companies. In addition, NWP will invest in involving potential financiers more actively in the water sector. One way it will do this is by linking them to DWS stakeholders that focus on mature non-Development Assistance Committee markets such as the EU.

Last but not least, as a representative of the DWS, NWP will actively engage with the Dutch Government to ensure that the need for the early involvement of financial expertise and the wish for a 'One Stop Shop' are taken into account in the development and implementation of the Government's export and international water policies such as the Netherlands International Water Ambition and InvestNL. It is crucial that the challenges put forward in this analysis are taken into account in Dutch Government policies if we are to double the DWS's international turnover by 2030.

In the face of this joint analysis, NWP and FMO are fully committed to continuing and intensifying their cooperation. More importantly, we will continue to collaborate on developing sustainable and financially sustainable water projects, thereby increasing the DWS's impact worldwide. Looking at the excellent reputation of the DWS we are confident that this will lead to the implementation of more sustainable solutions that protect the world's population from too much, too little, and too polluted water.



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Preface

Blog NWP Newsletter (18-04-2019):

Early involvement of financing expertise in project development is key for international growth

The Dutch water sector could increase its market opportunities abroad by offering full-service solutions, structuring projects better by involving financial experts at an early stage and creating a one stop shop for funding instruments. That is the key message in the market analysis that FMO and NWP conducted as part of their Memorandum of Understanding. Arthur Gleijm from Rebel, one of the authors, lists the main issues.

"The Dutch water sector is well positioned internationally, but it does face obstacles to further international growth. We identified these obstacles and potential solutions in the analysis. I will touch on three aspects in this blog.

The first aspect is that the market analysis shows an increasing demand worldwide for full-service solutions such as Design Build Finance and Maintain (DBFM), but the Dutch water sector offering is limited. It would help if a Dutch company would come forward that has the knowledge, skills and the financial position to act as a lead organisation to win water supply and treatment contracts abroad. Small and medium-sized businesses could benefit from this as well by internationalising in the slipstream, acting as a subcontractor to this company. However, there is currently no company like this in the Netherlands. The public drinking water companies and water boards could take on this potential role, but they are cautious and their mandate to operate internationally is limited.

Pieces of the puzzle

Nevertheless, we do have the right pieces of the puzzle for integrated sustainable water solutions for fast-growing metropolises in emerging markets. So let's put those pieces together for the challenges these metropolises are facing. By joining forces instead of working separately, we may open new markets for the Dutch water sector and forge competitive consortia with regular partners, depending on the assignment at hand. In my view, drinking water companies and water boards can bring in the necessary operational expertise without bearing the risks that commercial entities are expected to accept. But the most important piece of the puzzle is to partner with the right local champion: to be able to compete in terms of cost, to gain access to local networks and knowledge about operational and investment risks, and to manage these risks properly. Just look at Manila Water that is structurally conquering the South East Asian water supply market. It works with local partners at the urban level through various World Bank programmes for the initial most risky phase of the market entry, and in partnership with Japanese banks to finance growth. We have proof that we are able to develop full service solutions here in the Netherlands too. At the financial close of the integrated contract for the reinforcement of the Afsluitdijk, more than half a billion euro of private capital had been mobilised. This is unique for a delta project of this size, and something that could be replicated overseas and adapted to the local situation.

Gap between market and money

The second aspect is that there is a clear need to develop more capacity in financing project development and project implementation. You need to bridge the gap between the market and the money, and NWP could support and facilitate this. We have been talking about this for quite some time now. And at the same time, remarkably enough, investors and financiers are looking for investment opportunities. My conclusion is that, although we generate many project ideas, the business cases do not make ends meet – we have to do a better job. This is typically due to a mismatch between project risk profile (especially high in emerging markets) and return on investment. Furthermore, local and regional financiers and developers typically have a higher risk appetite compared to international financiers as they are typically more comfortable with the local regulatory environment. So it would make sense to consider this financing source as well. If the starting point is that the projects that we devise could be implemented at some point and have the potential to stand on their own two feet, it would be wise to involve high-quality financial expertise and financial institutions in the project cycle right from the start.

Ask the right questions

NWP can raise this issue with the governments, development banks and bilateral donors in its network. The point is to ask the right questions: what are the needs and necessity of the project; who is willing to pay for it; is the price reasonable, considering the risks? If the answers are positive, financing is no problem. If not, there is still time to structure the project in such a way that the signals turn green. And the starting point should always be local demand. Perhaps the willingness in an emerging market to pay may require scaling down the service offered, both in terms of scope and quality. We should not make our offer more attractive, larger or sophisticated than necessary and risk losing our competitive edge.

One stop shop

This immediately brings me to the third aspect. The funding instruments in the Netherlands are quite fragmented with many different and often small facilities. If this is to change, one thing is key: put the investment opportunity first, not the financing instrument. In the current situation, it is not necessarily the best project that gets financed, but the project that best fits a specific financing instrument. That has to be turned around and this requires willingness and the ability to think along these lines at the side of those who manage the instruments and to co-create in partnership.

A coherent system of financing instruments must be able to grow along with starting companies, project development and new products launched. Every phase in the project cycle, from initiation and development, to start-up and scale-up, has a different risk profile and requires different types of financiers and money. This requires a one stop shop in terms of funding instruments. Furthermore, part of the available financial resources should be used for structuring the business case to transfer promising project ideas into sound and bankable projects. Moreover, a fresh look from the financial point of view can be cleansing and offer new

perspectives. In the end, the financing facility will benefit from separating the wheat from the chaff and being able to focus on feasible projects.

Arthur Gleijm, Director at Rebel and Lead Consultant NWP Pool of Financial Engineering Experts

Executive Summary

In November 2018, the NL Business department of FMO (Entrepreneurial development bank) (referred to as NL Business, FMO herewith) and the Netherlands Water Partnership (NWP) renewed their Memorandum of Understanding (MoU), reaffirming their commitment to collaborate on developing and financing water initiatives by and with Dutch Water Sector (DWS) players. To create a better understanding of the international positioning and financing needs of the DWS, NWP commissioned RebelGroup and CSC Strategy & Finance to capture the sector's views. A water sector roundtable, followed by three Focus Group Discussions (FGDs) with respectively Dutch contractors, technology suppliers and water utilities and authorities, form the basis of this report. The consultations focused primarily on the water supply and waste water sector and included both the challenges in upcoming markets (DAC-countries) as well as in mature home markets (OECD-countries).

The analysis shows that the Dutch water sector can increase its market opportunities abroad by (i) offering full-service solutions, (ii) increasing collaboration, (iii) improving the structuring of projects through the early involvement of financial experts and (iv) creating a 'one-stop shop' for funding instruments.

Full-service solutions

There is an increasing demand worldwide for full-service solutions. In addition to the technical offering, potential partners are expected to contribute financially and assume operational responsibilities. However, the DWS offering is limited, and the Dutch support system¹ seems to have limited options that meet the DWS' needs fully.



Figure 1 – Focus area international expansion

There are a few positive exceptions: some of the larger Dutch technology suppliers indicated that they started exploring more comprehensive contracts. They are gradually extending their present design-build (DB) contracts with finance (DBF) and in some cases even operations (DBFO). DBF and DBFO type of contracts can help companies get a stronger grip on long term revenues and profitability and provide more reliable services to the client. A key criterion for this expansion is for DWS to feel comfortable in its home market.²

Matchmaking and consortium building

By joining forces instead of working separately, the DWS may open new markets for itself and forge competitive consortia. Both contractors and technology companies indicated that they could and should collaborate more with one another, especially on a project-by-project basis.³ For contractors, the Dutch technology companies' offer is relevant, provided they are willing to take some development risks, are competitively priced and/or if Dutch content is a requirement for finance. Technical quality alone is not enough. For Dutch technology companies, involvement

¹ Public and private financiers and export insurers, such as RVO, FMO and Atradius.

² The 'home market' can include OECD DAC countries.

³ According to the WEX 2017 'more cooperation with Dutch companies in the channel (77%)' is an important factor for international competitiveness.

at the early stage of a project is crucial, as their technology specifications should be known to the (Dutch) contractor and the end client and be included in the tender documentation.

The most crucial success factor however is to partner with the right local champion: to be able to compete in terms of costs; gain access to local networks and knowledge about operational and investment risks, and to manage those risks properly.

Role of water utilities and authorities

Dutch water utilities have other concerns. They typically offer technical assistance to utilities in emerging markets, which are often weak, via not-for-profit Water Operator Partnerships (WOPs), mainly through the WaterWorx program. They could play a 'neutral' advisory role as an ambassador for the Dutch water sector as long it does not damage their impartial credibility. The same holds for the partnerships that are currently being developed by the Dutch water authorities under the Blue Deal program. Although the involvement of the Dutch private sector is not the main focus of the Blue Deal, partnerships of the Dutch water authorities can play a valuable role in opening up market opportunities in the field of municipal waste water treatment (as well as in water management, although this subsector was not part of this analysis).

However, the fact that they can operate on a not-for-profit basis provides them with a unique opportunity to bring in the necessary operational expertise without having the risk exposure that commercial parties are expected to accept. They could be – and in some cases already are – valuable local partners to Dutch technology providers and contactors.

Financial and project structuring

There is a clear need to develop more capacity when it comes to financing project development and the implementation of projects, as there is still a sizeable gap to bridge between the market and the money. From the FGDs it also became clear that the DWS is not yet that familiar with the financial services and products that Dutch public and private financiers have to offer. Hence better and more coordinated marketing is required by financiers to further market their services to the DWS.

By involving high-quality financial expertise and financial institutions in the project cycle right from the start, a potential mismatch between project risk profile (especially high in emerging markets) and return on investment can be avoided. It is also recommendable to consider local and regional financiers and developers as they typically have a higher risk appetite compared to international financiers and are more comfortable with the local regulatory environment.

Adaptation of financial instruments

Last but not least, the Dutch funding instruments are quite fragmented with many different and often small facilities. The landscape is hard to navigate, and the general impression is that financing is not necessarily made available to the best project, but to the project that best fits the criteria of a specific instrument. There is a call for a coherent system of financing instruments that is able to match the diverse needs of start-up companies, project development

and the new products that are launched. Every phase in the project cycle, from initiation and development to start-up and scale-up, has a different risk profile and requires different types of financiers and money. This requires a 'one-stop shop' in terms of funding instruments.

Abbreviations

BOT	Build Operate Transfer
BOOT	Build Operate Own Transfer
BUZA	Dutch Ministry of Foreign Affairs (Buitenlandse Zaken)
CAPEX	Capital Expenditure
DAC	Development Assistance Committee
DB	Design Build
DBF	Design Build Finance
DBFM	Design Build Finance Maintain
DBFMO	Design Build Finance Maintain Operate
DWS	Dutch Water Sector
ESG	Environmental, Social and Governance (criteria)
FGD	Focus Group Discussion
FMO	Financieringsmaatschappij voor Ontwikkelingslanden (Dutch Development Bank)
FMO NLB	Netherlands Business Department (NLB) of the Dutch Development Bank (FMO)
MoU	Memorandum of Understanding
MDBs	Multilateral Development Banks (World Bank, African Development Bank, Asian Development Bank)
NWP	Netherlands Water Partnership
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
PPP	Public Private Partnership
RVO	Rijksdienst voor Ondernemend Nederland (Netherlands Enterprise Agency)
SPV	Special Purpose Vehicle
SME	Small and Medium-sized Enterprises
USP	Unsolicited Proposal
WOP	Water Operator Partnership

1. Introduction

Global water demand is projected to increase by 55% between 2000 and 2050.⁴ Much of the demand is driven by agriculture which accounts for 70% of global fresh water use.⁵ In the developing world, two out of 10 people lack access to a safe water supply, and five out of 10 have inadequate sanitation.⁶ These challenges also provide opportunities. The DWS may be well-positioned to explore these international business opportunities, though it may currently not reach its full potential.

One of the reasons for this is illustrated in Figure 2 below. It shows that 43% of the players in the Dutch water technology sector identify the lack of access to financial resources as a key missing element in seizing international opportunities in the water sector.

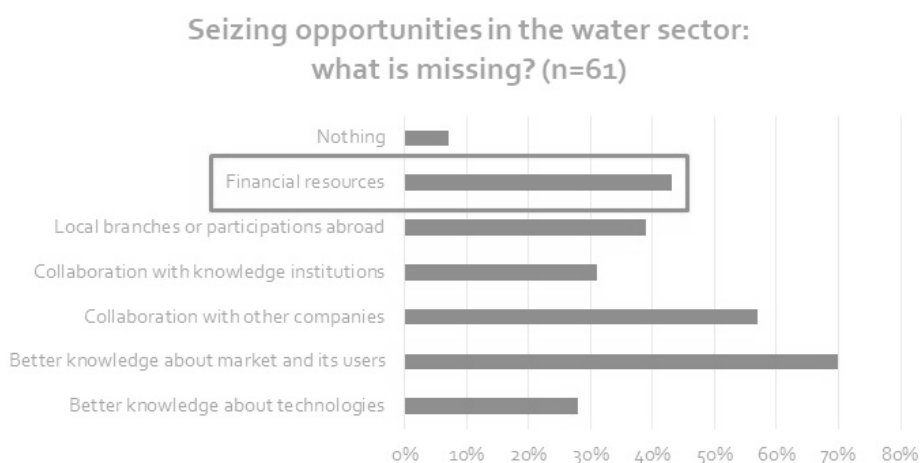


Figure 2 - Need for seizing international opportunities of DWS players (adapted from Water Sector Export Index 1995 - 2018)

To facilitate international opportunities for DWS players, the Netherlands Business Department (NLB) of the Dutch Development Bank (FMO) and the Netherlands Water Partnership (NWP) entered into a Memorandum of Understanding (MoU) in 2017. Several discussions between FMO NLB and NWP revealed a knowledge gap on how and where the DWS positions itself in the project development chain and consequently what the financing needs are. To gain more insight, NWP and FMO NLB engaged RebelGroup and CSC Strategy & Finance to execute a market analysis among key players in the Dutch water supply and treatment sectors.

In mid-2018, a concise Market Deep Dive was undertaken. It was based on desk research, the consultants' first-hand experience with project development and transactions in the water sector, and consultation with FMO and NWP. As a second step, the Market Deep Dive's main findings were discussed and tested in a roundtable session held at FMO on 13 September 2018 with key sector representatives. In a third step, the main findings were further validated in three Focus Group Discussions (FGDs) in October 2018. The FGDs were divided into three DWS categories: (i) contractors,

⁴ <http://www.globalwaterforum.org/2012/05/21/water-outlook-to-2050-the-oecd-calls-for-early-and-strategic-action/>

⁵ http://www.fao.org/nr/water/aquastat/water_use/index.stm

⁶ Baietti, Aldo, and Peter Raymond. 'Financing water supply and sanitation investments: utilizing risk mitigation instruments to bridge the financing gap.' (2005).

(ii) technology suppliers and (iii) water utilities and authorities.⁷ Some participants that were unable to attend the FGDs were contacted separately for bilateral discussions. The fourth and final step was analysing the FGDs and updating the Market Deep Dive results. This report is the outcome of that process.

⁷ See Annex 1: List of Participants FGDs.

2. General Outlook

The fresh water challenges facing the world over the coming decades also provide business opportunities for DWS players.⁸ These opportunities can be divided into three main areas:

- (i) improving water use efficiency;
- (ii) improving industrial and municipal waste water treatment; and
- (iii) applying new technologies and innovations.⁹

Improving water use efficiency

Improving water use efficiency includes three main opportunities: (a) reuse of water, (b) capturing the value from waste water and (c) improving public services.

Firstly, the reuse of water is an increasingly important method to optimise the quantity and quality of water used for different purposes. The Netherlands is a pioneer in both (i) linking water users by using the outflow of one water user (e.g. households) as the inflow for another (e.g. industrial users), and (ii) in applying different forms of technology for treatment, disinfection and distribution.

Secondly, waste water is increasingly seen as a resource rather than as waste. Several Dutch companies are leading in harvesting resources (such as energy, nutrients and minerals) from used water, in particular from industries producing effluent water. See the example in the box.

Thirdly, the Dutch Water Authorities and the water governance system in the Netherlands were recently qualified by the OECD as 'a global reference'. The Dutch system has its origins in the 13th century. The institutional structure is efficient and effective in engaging stakeholders and building trust. These aspects are prerequisites for the improvement of public services and good water governance.

Improvement of waste water treatment

DMT Environmental Technology has developed a system which produces biogas by fermenting the organic waste in waste water treatment plants. The benefits of this system are 30-35% higher conversion to biogas, 40% less sludge and lower capital operational costs. DMT has installed these biogas upgrading systems in seven countries in the EU and in the USA. www.dmt-et.nl

⁸ Much information in this paragraph is derived from the Watersector Export Index (WEX), 1995 – 2016, prognosis 2017 (Panteia 2018).

⁹ 'Economische Kansen en Hoogwaardige Kennis in Water', NWP, BBO and PNO, April 2018

Improvement of industrial and municipal waste water treatment

Worldwide, there is much demand for good treatment technologies given increased environmental awareness and the need to comply with legislation. This is leading to increased willingness of national and international industrial players, who are often able to pay the bill, to invest in new technologies. This presents business opportunities for DWS players. The primary revenue streams for household waste water treatment systems are primarily from: (i) the sale of the product; (ii) annual maintenance fees; and (iii) installation charges. For industrial waste water systems, the main revenue streams include: (i) the price of system set-up; (ii) consulting fees; and (iii) operating fees. Industrial waste water treatment enterprises generally either just design and build the systems for municipalities and large processing plants, or manage the complete end-to-end installation and operations.¹⁰

Application of new technologies and innovations

Of most interest to the DWS are high value supplies of equipment for new technologies and innovations, such as pumps, membranes, silt treatment, measuring instruments and disinfection material. Dutch water technology suppliers excel internationally in innovation and quality. The next step is to further export this technology.¹¹ Figure 3 illustrates the distribution of international revenues of DWS technology suppliers. It shows relatively low international revenues in African and Asian countries. China in particular is seen as highly challenging for new entrants. As the revenues in African and Asian countries are still relatively low, they have a high potential for growth.

For the water utilities and technology suppliers, the major opportunities are in water efficient appliances and water saving policies.¹² Dutch engineers have also perfected the distribution of water to the point where there is practically no leakage in the Netherlands, providing a stark contrast with other countries worldwide.¹³

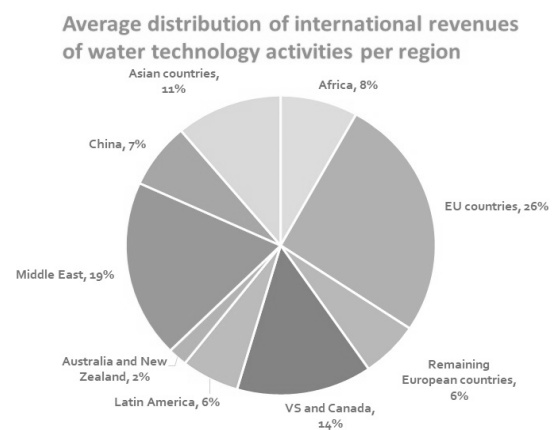


Figure 3 - Distribution of international revenues of Dutch Water Sector players (adapted from Water Sector Export Index 1995 – 2018)

Dutch Water Sector positioning

A particular challenge (and potential opportunity) for the DWS is that clients worldwide are increasingly seeking full-service solutions. Besides comprehensive technical solutions, they are expecting companies to also provide finance and assume some level of operational risks. Merely constructing or delivering technology alone may not suffice anymore.¹⁴

¹⁰ World Bank Group (2017), 'Inclusive Business Models for Wastewater Treatment'.

¹¹ According to Panteia's 'De Watersector Exportindex (WEX) 1996 – 2017', the export of water activities is expected to increase substantially (7% in 2018). This growth is due both to growth in the field of water technology and to a recovery in demand in the field of delta technology.

¹² This statement is based on Rebel's experience in working in the water sector.

¹³ In London for example leakage is around 20%.

¹⁴ As one participant put it: "We need to go beyond Design, Build, Neglect".

The central premise of this sector analysis is that the DWS could make better use of available financial services and products to position itself more strongly internationally, and that Dutch (public and private) financiers could support a more pro-active pursuit of full-service opportunities by facilitating cooperation among the DWS.

Overall, the DWS is experiencing challenges positioning itself across the entire life cycle of goods and/or assets, typically following the sequence of design and/or develop, build and/or deliver, finance and operate and/or maintain, as illustrated below.



Figure 2 – The life cycle of goods and/or assets and DWS' positioning challenge

Integrated contracts

Each phase of the life cycle of goods and/or assets comes with its own challenges and risks. Integrated contracts have emerged as a response to these risks and break with the practice of passing on risks to the following phases. Integral contracts can trigger bidding companies to take overall responsibility in managing and mitigating these risks. Instead of optimising every phase, the focus will be on overall effectiveness and efficiency. Optimising design could lead to a better built asset with easier maintenance requirements leading in turn to better and more reliable services. In addition, the assets are pre-financed by the private sector that expects repayment based on services provided to the clients over the contracted years.

In the Netherlands, DBFM (Design Build Finance Maintain) contracts are widely used for infrastructure projects such as roads, sluices and buildings. These contracts are based on availability payments¹⁵ where the public sector takes the market risks (for instance variation in traffic flows or user payments) and is responsible for payment of the private sector consortium. Most Dutch contractors are comfortable with this type of contract in the Netherlands and in other developed markets as these governments are credit worthy offtakers, no market risks are transferred and there is a stable well-developed legal framework.

However, these comforting elements are rare in BOT (Build Operate Transfer) or BOOT (Build Operate Own Transfer) type contracts that are more common in emerging markets and developing economies. While some, often state owned, companies in Asia work with these contracts, the DWS and the Dutch support system cannot currently cater to these type of contracts. For the DWS, DB (Design Build) or DBF (Design Build Finance) contracts may be

¹⁵ As the term implies, availability payments are payments by public sector for the availability of infrastructure that is build, financed and maintained by private sector. This model is in contrast with BO(O)T type contracts that are mostly based on direct payment by users. Like for instance toll roads whereby private sector's investments and operations are paid for by individual users of the road.

a good start for certain trusted public sector clients where projects are structured and tendered as a Public Private Partnership (PPP) or similar. DBFO (Design Build Finance Operate) contracts may be worth considering for selected and credit worthy private industry clients.

Design

In the design and/or development phase of a project, bids can be defined as solicited (tenders) and unsolicited (direct contracting) bids. The former may range from 'open and price focused' to 'focused on price and quality'. Many countries and Multilateral Development Banks (MDBs) are struggling with the latter. For transparency purposes, direct contracting may not be permitted or unsolicited bids may need to follow an often lengthy alternative procurement route. In addition, companies that are involved in the design phase may not always be permitted to bid in the ensuing tender procedure for the build/deliver phase.

Build and deliver

The build and/or deliver phase is the phase where the DWS is positioning itself most prominently. This is where assets are built, goods are delivered and the DWS makes the most of its turnover. Financing or DWS involvement in other phases are only relevant if they strengthen the position of the DWS in this phase. This does however not include the water utilities, as they have a different not-for-profit and supporting mandate (providing technical assistance during design and procurement phases).

Finance

Export or trade finance mechanisms such as Letters of Credit are predominantly used to finance DWS' transactions and create payment security, which is a major concern for any international transaction. Dedicated (house) bank departments structure financing packages with the support of the Atradius Dutch State Business (the official Export Credit Agency for the Netherlands) and, if opportune, are supported by sovereign guarantees. The OECD is an important regulator, stipulating various conditions including the level of Dutch content and local content (<30%) and the maximum tenor of the loan.

FMO NLB can also help structure these export finance type arrangements in low and middle-income countries (assuming this does not crowd out commercial banks) and can provide financial and/or technical support in the project development phase. This is a relatively new service by FMO.

Operate and maintain

The responsibility for operations and maintenance for most DWS projects rests with the local public sector. The Dutch water utilities support local utilities to improve operations through Water Operator Partnerships (WOPs). Most of the other DWS commercial parties have not yet engaged in this phase.

The current dominant position of various DWS subgroups is pictured below.

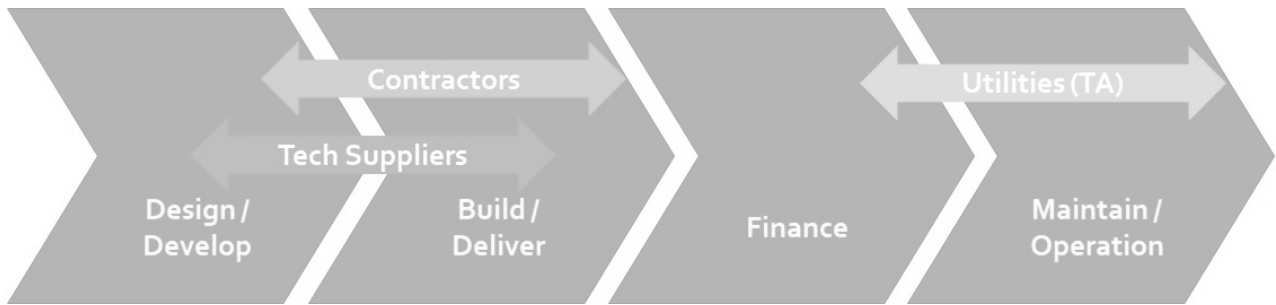


Figure 5 - Dominant position of participating DWS groups

3. Meeting the Dutch Water Sector

In October 2018, a Roundtable Discussion and three Focus Group Discussions (FGDs) were held with participants from the DWS to gain greater insight in their challenges and opportunities and in the interventions needed in financing international projects. The leading questions and presuppositions used at these meetings are listed in Annex 2. The table below lists the informants in this market analysis. Information was gleaned from them through the Roundtable, the FGDs or through direct interviews.

Contractors	Technology suppliers	Water utilities and water boards
BAM	Hatenboer Water	Vitens Evides International
Strukton	MTD Pure Water	Blue Deal
A. Hak	DMT Environmental Technology	Waternet
Ballast Nedam	Landustrie Sneek B.V.	Aquanet
Denys	Paques	Dunea
	Nijhuis Industries	Dutch Water Authorities
	Royal Eijkelpark B.V.	WaterWorx
	Xylem	

Table 1 – Informants of the market analysis (see Annex 1 for detailed list of participants)

The four sub-points below outline the views of the DWS players represented.

3.1) Generic

The main findings of these FGDs that are valid for all three types of DWS players, can be summarised as follows.

- **International clients increasingly seek full-service solutions.** In addition to the technical offering, financing and sometimes operational responsibilities are also expected. The DWS and the Dutch support system are currently not set up to cater for these.
- **Contractors and technology suppliers prefer a sub-contractor role.** Both seek collaboration with reputable local contractors who understand the client, the local culture and the local market and who are willing to absorb any associated risks. Finding these contractors is challenging, limiting DWS' international expansion.
- **There is only interest in tender procedures if they are quality oriented, have pre-qualification rounds and a limited number of competitors.** Fully open tenders which are not quality-based are not pursued. Given the risks, costs and time-investment associated with participating in international tenders, it is highly important that there is a good chance of winning.
- **For all players, international competitions that significantly undercut price is a reason to withdraw.** It is deemed impossible to compete internationally on price (when 'competitors are 20-25% cheaper') and on additional differentiators like concessional finance, undesirable ethical behaviour (e.g. on Environmental, Social and

“There is a lot of segmentation within relevant institutions that provide assistance. The instruments are there, but way too many, there should be a one-stop-shop.” (Dutch Drinking Water Utility Company)

Governance (ESG) criteria, political economy and labour conditions), and willingness to assume operational risks.

- **Contractors and technology companies indicated that they need to increase their efforts to finding each other for consortium building.** Consortium building will however only be done on a project-by-project basis.
- **Dutch export instruments and procedures do not create a level playing field.** According to DWS players interviewed for this analysis, the Dutch instruments currently available do not meet the needs of the DWS due to the complexity and length of procedures and/or the level of the financial ceiling. Furthermore, foreign financiers are perceived to be quicker in deploying their instruments.
- **The DWS calls for a 'one-stop shop' for project development, structuring and financing.** Finding a deal team that supports project development; structures the finance package (concessional finance offering, covering 100% of the needs); deals with the above-mentioned procedures, instruments and windows; and arranges payment security, came out as the most important issue for exporters.

3.2) Contractors

Specific FGD findings for contractors can be summarised as follows.

- **Consortium building within the Netherlands needs attention.** DWS players have trouble finding each other, but do see the added value of collaboration. Dutch technology suppliers seek business development in the slipstream of contractors. Dutch contractors have a preference working with Dutch technology suppliers because of a similar work culture and background, and in some cases to qualify for financing (i.e. if there is a threshold of 25% Dutch content to qualify for Export Finance and/or Atradius DSB guarantees). Contractors also prefer sub-contractors to absorb development risks. Quality seems not to be a differentiating factor.
- **Business outside home markets typically does not exceed 10% of turnover.** Project development may be self-financed (which is often quicker, though for relatively low amounts) or with help from the Dutch support system (e.g. FMO, RVO, Atradius).
- **Business development strategies vary greatly, from direct contracting only (unsolicited bids) to participating in tenders only (solicited).** Some contractors do not participate in tenders for reasons of principal, instead they develop, build and structure the finance package themselves. Some only participate in tenders. Yet others support clients in project development via associated advisers, wary of being excluded from the subsequent tender process.
- **Contractors are often looking for a local partner, especially for relatively simple civil engineering work.** DWS contractors cannot compete with local players on pricing and also need intelligence on markets, clients and culture.

"Where the Chinese finance providers can offer a grace period of 4-5 years with a tenor of 30 years, we cannot, which makes it very hard to compete with Chinese parties in the price-driven international market." (Dutch Contractor)

- **Political and currency risks were mentioned as important risks.** Political manoeuvring can influence transparency, the duration and outcome of the tender process and of follow-up activities. Currency risks mainly come into play if operational responsibilities are assumed. Whilst hedging may be too expensive, contractors opt for shorter term operational or maintenance contracts.

Tender versus direct contract

One contractor indicated most of its projects were developed 'from scratch' which was preferred over tendering. It has a long list of 40-50 projects, and always has 10 projects at different stages of development on the go. In several Asian and Sub-Sahara African countries, the contractor enters into direct agreements with clients (mostly utilities) to develop, build and finance, often concessionally, the required assets. These are mostly Water Treatment Plants. The contractor proactively seeks others to cover part of the development budget (max EUR 1 million and 1-1,5% of CAPEX) and invites technical advisory firms to co-develop at their own risk (providing services in-kind). It also seeks other stakeholders in the Dutch support system to provide development budget and/or grants. Operational risks are not accepted, but short-term follow up of operational support or maintenance contracts are standard practice.

3.3) Technology suppliers

The FGD findings for technology suppliers do not substantially differ from the contractors', although there are some additional observations.

- **Technology suppliers are only interested in a sub-contractor role.**
 - o Technology suppliers supply critical components, but in most cases these components only cover about 10-50% of the CAPEX.
 - o Their prime interest is payment security (Letter of Credit, Atradius), after that comes finance.
 - o The main contractor should deal with the end client and bear any risks.
 - o The main challenge is finding a trustworthy contractor if there are no Dutch contractors based locally.

*"The need to go abroad is clear: there is little to gain in the Netherlands, but it is highly challenging to find a good local civil partner."
[Dutch Technology Supplier]*

- They prefer to be in the slipstream of main contractor's business development.
 - They see the 'bigger picture': the project as a whole, needs to fit the client's full-service and societal (ESG) needs.
- **A few cases stand out: first steps towards financing and operations.**
- In home markets technology providers participate in Special Purpose Vehicles (SPVs).
 - The larger technology providers indicated that they have gained their first experience with DBFO (Design Build Finance Operate) transactions (see box below).
- **Early involvement in project development is key.**
- The company name and technology needs to be on the end-client's and/or lead contractor's radar. This is to inform tender specifications.
 - It allows technology providers to assess and mitigate business case risks earlier in the project development phase.

"From tendering to the start of the project can easily take three years in many developing countries. In this time the tender price remains the same, but other prices do not."

More integrated contracts?

The larger Dutch technology suppliers are experimenting with extending their current DB (Design Build) business contracts with DBF (Design Build Finance) and even DBFO (Design Build Finance Operate) type contracts. According to one supplier, "The client is seeking a more full-service solution but we would like to have more certainty on long term revenues and profitability". However, "the trend may be to outsource services, but it may not be as prevalent as we may want to believe". And, "clients often seek finance solutions but not always operational support".

3.4) Water utilities and authorities

Water utilities and authorities are distinct groups. All Dutch water companies, united in the WaterworX programme, have entered into Water Operator Partnerships (WOPs) with utilities in developing countries. From a mainly CSR and HR perspective, Dutch utilities provide technical assistance to local utilities. Unlike contractors and technology suppliers, these activities have no real business or operational risk implications for the utilities, although some affermage contracts¹⁶ have been concluded. Similar to the WaterworX programme, Dutch water authorities established their Blue Deal programme to enhance cooperation with their respective counterparts in developing countries.

¹⁶ Affermage contracts are generally public-private sector arrangements under which the private operator is responsible for operating and maintaining the utility but not for financing the investment.

Specific findings of the FGD with water utilities and authorities can be summarised as follows.

- **They see an opportunity to be ambassadors for the DWS.** Given their local presence and contacts with local utilities and markets, the Dutch water utilities and authorities could support contractors and technology suppliers. This should and could be done without compromising their independent broker role. In a similar fashion, over time Dutch Embassies also strengthened their role as providers of business intelligence to the DWS.
- **Local utilities are in dire need of investments (e.g. for non-revenue water reduction, enhancing operational effectiveness and provision of services).** Water utilities and authorities support local utilities, municipalities and other local governments, in their search for finance from Multilateral Development Banks (MDBs). These are mainly loans to government that are granted to water utilities or other local authorities.
- **The tendering procedures of local utilities and local governments (like municipalities) do not yet prioritise quality.** Local procurement laws focus predominantly on price instead of quality. This could be addressed in WOPs and the partnerships under the Blue Deal program.
- **The positive impact of the WOP concept may deserve more attention.** Dutch utilities believe in the success of the WOP concept and feel this could be more advocated. The WOPs are paid for by both the Dutch utilities themselves and DGIS and provide the independent long-term advisory support that local utilities need.

Consortium building: Food Security Alliance

The Food Security Alliance is a community of mainly Dutch companies and institutions collaborating in creating tailor-made and sustainable solutions in the agri-water-food business in Africa and Asia. Spearheaded by Eijkelkamp, Wageningen University, Grundfos (DK), Woord en Daad and Rabobank, it unites over 25 companies. Although this alliance is still young and therefore not yet trialed and tested, it is a promising approach that was inspired by two deals in Sri Lanka and Senegal. Rabobank has provided a Trade Finance loan, backed by Atradius, for a project in Sri Lanka (approx. EUR 20 million) and is presently negotiating a Terms Sheet for a EUR 50 million project in Senegal. (For more information: <https://nl-fsa.org/>)

4. Next Steps

A number of recommendations can be derived from this market analysis, bearing in mind that the analysis is limited to the water supply and treatment sectors. The analysis can be replicated in other DWS sub-sectors, such as the Dutch maritime sector given the size of its players and market opportunities. This would help paint a full picture of international positioning and the financing needs of the DWS.

Overall, the analysis shows that the Dutch water sector could increase its market opportunities abroad by offering full-service solutions, increasing collaboration, structuring projects better by involving financial experts at an early stage and creating a 'one-stop shop' for funding instruments.

Full-service solutions

As the DWS cannot, or is no longer able to, compete on quality and has never been able to compete on price, the need to provide additional services is compelling. These additional services could include project development, finance and operational services. Where some technology suppliers are already paving the way for operational services, the DWS may need to do some further soul searching and experimenting. And as some contractors are proactively developing projects and structuring finance, mostly with help from FMO NLB and RVO instruments, others may be invited to follow suit. With regards to project development and finance related needs, a Dutch support system could be created. It could include FMO NLB, and Dutch embassies and/or programmes such as WaterworX, the BlueDeal, Water as Leverage. Introducing or reintroducing instruments that give preferential treatment and concessions to the DWS however may not be feasible nor opportune politically, and may only be relevant if they would stimulate a more full-service product offering by DWS.

Matchmaking and consortium building

Both contractors and technology companies have stated that they could and should collaborate more with one another. They expressed keen interest for match-making, especially on a project-by-project basis¹⁷. For contractors, the Dutch technology companies' offer is relevant, provided they are willing to take some development risks, are competitively priced and/or if Dutch content is a requirement for finance. Technical quality alone is not enough. For Dutch technology companies, involvement at the early stage of a project is crucial, as they need to submit their technology specifications to the contractor for inclusion in the tender documentation for the end client. By forming competitive consortia new markets for the Dutch water sector may open.

The most crucial success factor, however, is to partner with the right local champion to be able to compete on costs, gain access to local networks and knowledge about operational and investment risks, and to manage these risks properly.

Role of water utilities and authorities

¹⁷ According to the WEX 2017 'more cooperation with Dutch companies in the channel (77%)' is an important factor for international competitiveness.

Dutch water utilities - and authorities - have a different outlook. Through not-for-profit Water Operator Partnerships (WOPs), utilities typically offer technical assistance to local utilities, often weak ones, in emerging markets. The same holds for the partnerships of the Dutch water authorities with their local counterparts (mainly local governments). The fact that they can operate on a not-for-profit basis provides both with a unique opportunity to bring in the necessary operational and investment planning expertise. As a neutral adviser observing their impartial credibility they could be – and in some cases already are – valuable local partners to Dutch technology providers and contactors.

Financial and project structuring

From the FGDs it became clear that the DWS is not yet familiar enough with the financial services and products that Dutch public and private financiers have to offer, hence better and more coordinated marketing is required by financiers to further market their services to DWS. For the DWS to be in a better competitive position, budget risks need to be shared and they may require some financial structuring expertise. Increasingly, clients seek finance which in the Dutch context entails the involvement of several grant making institutions (such as RVO) and/or guarantors (such as Atradius), and addressing regulatory concerns stipulated by the OECD Guidelines for export transactions (e.g. Dutch content, maximum local content, tenors). By involving high-quality financial expertise and financial institutions in the project cycle right from the start, a potential mismatch between project risk profile (especially high in emerging markets) and return on investment can be avoided. It is also recommendable to consider local and regional financiers and developers as they typically have a higher risk appetite compared to international financiers and are more comfortable with the local regulatory environment.

To reach SDG 6, private finance is needed at a large scale as public sector and Official Development Assistance (ODA) support are insufficient. The Dutch water utilities and authorities are well placed as honest brokers within their partnerships with local utilities and local governments to facilitate the blending of finance. This would require identifying more innovative business models to secure private financing and considering other financial routes than only MDB (grant) support.

Adaptation of financial instruments

The Dutch financing instruments are perceived as fragmented with many different and often small facilities. The landscape is hard to navigate, procedures are long and complicated and, overall, financial instruments do not always reflect the needs of various project stages. Every phase in the project cycle, from initiation and development, to start-up and scale-up, has a different risk profile and requires different types of financiers and money. There is a call for a coherent system of financing instruments that can run parallel with start-up companies, project development and the launching of new products. The need for a 'one-stop shop' was expressed more than once.

Additional learning

It may be relevant to assess export supporting systems in other countries to see if DWS could learn from or even use them. The exercise may also be relevant in assessing any advantages. Tracking and documenting cases where DWS players successfully closed transactions that included project development, finance, blended finance and/or potentially operational services, could provide inspiring lessons to others. Last but not least, we may learn from

expanding this positioning and finance analysis to other water subsectors, for instance the maritime sector. It would certainly provide a fuller picture of the challenges and opportunities for the DWS abroad.

ANNEX 1: List of Participants in Focus Group Discussions

The tables below list the participants who were invited for three separate Focus Group Discussions.

Technology and Equipment Suppliers

Institution	Name	Function
Hatenboer Water	Willem Buijs	CEO
MTD Pure Water	Bastiaan Lammers	Director Industry
DMT Environmental Technology	Joost Edens	Area Sales Manager
Landustrie Sneek BV	Erik Heukels	Sales Manager
Paques	Joost Paques	Global Director Business Development & Strategy
FMO	Jasper Klapwijk	Project Developer
FMO	Nienke Uil	Business Developer
NWP	Ger Pannekoek	Consultant
CSC Strategy & Finance	Hein Gietema	Financial Consultant / Owner
Eise van Maanen	RebelGroup	Consultant

Contractors

Institution	Name	Function
BAM	Wout van Doorn	Customer Finance Manager
Strukton	Arthur Vlaanderen	Finance Manager
A. Hak	Paul Langbroek	Work Winning Director
NWP	Tabitha Gerrets	Programme Manager Finance for Water
CSC Strategy & Finance	Hein Gietema	Financial Consultant / Owner
Eise van Maanen	RebelGroup	Consultant

Water Utilities and Authorities

Institution	Name	Function
VEI	Marco Schouten	Managing Director
Blue Deal	Nancy Kuper	Business Controller
Dutch Water Authorities	Emilie Sturm	Coordinator Dutch Water Authorities, Project Manager Blue Deal
Waternet	Steven van Rossum	Director World Waternet
Aquanet	Hielke Wolters	Managing Director
FMO	Jasper Klapwijk	Project Developer

FMO	Pritha Hariram	Water and Sanitation Specialist
NWP	Tabitha Gerrets	Programme Manager Finance for Water
CSC Strategy & Finance	Hein Gietema	Financial Consultant / Owner
Eise van Maanen	RebelGroup	Consultant

Individual interviews

Institution	Name	Function
Paques	Joost Paques	Global Director Business Development & Strategy
Ballast Nedam	Nico Boonstra	Managing Director Ballast Nedam International
Denys	Bart de Smedt	Director Division Manager Sub-Sahara

ANNEX 2: Leading questions Focus Group Discussions

The following leading questions and predispositions were discussed during the FGDs.

Questions for DWS participants

1. What is your current average project size (in EUR)? Is it in line with your ambition or not yet?
 - a. % of business in developing countries?
 - b. % of business in emerging markets?
 - c. % of business in developed countries?
 - d. What is the difference between developing, emerging and developed markets?
2. How do you presently finance international activities?
3. What business opportunities do you want to explore? Where?
4. What risks are you willing to take? Where?
5. What are the main challenges in terms of financing, project identification, development and structuring?
6. What is currently missing in terms of support and/or the enabling environment?
 - a. What gaps could FMO / NWP / others fill?
 - b. What specific support does the DWS seek from the Dutch support system / Dutch Government?

Predisposition

- Clients are increasingly seeking and are willing to pay a premium for full-service solutions expecting offering companies to also provide finance and assume operational risks.
- Early and proactive structuring of involvement by companies in the development phase lead to better positioning.
- DWS 'hardware' providers are traditionally transaction-only rather than entering longer-term investment and have limited to no appetite for market risks.
- Most of the DWS players are 'sub-contractors' that predominantly seek ways to assure business development and secure clients' payments (LoC, ECA Atradius).
- Design & Build ok. Finance & Operation not.
- The distinction between waste water versus water supply companies in DWS may be less relevant than their similarities (SMEs, risk appetite and transaction orientation). Waste water may have more private clients and possibly more revenue potential.
- There is a large gap between mature markets and developing markets regarding procurement, finance and associated risks. Bid risks versus development risks.

During the FGDs the following assumptions and/or recommendations were discussed and tested.

- Provide financial and technical transaction-oriented support to DWS companies in structuring projects to de-risk the process and reach financial close (FMO NL Business model). Think of new concepts (FMO-NWP Kickstarter).

- Enhance the quality and transparency of procuring governments in developing countries by providing Dutch transaction, structuring and procurement advice. IWC-TAS?
- Provide loans and concessional loans and/or guarantees to public and private sector clients of DWS covering 100% of the financing needs (combine Atradius, commercial banks, ORIO/RVO instruments).
- Need to re-organise the Dutch support system? Suggestions:
 - 'One stop shop'. DWS players should ideally reach out to only one desk for all financial and structuring support (deal team approach FMO NLB/RVO model, Invest NL).
 - Less funding windows: Invest NL, FMO NL business, RVO, DGGF, Atradius etc.
 - More tied aid, preferential treatment for Dutch companies.

Colophon

This market analysis is conducted by RebelGroup and CSC Strategy & Finance on behalf of the Netherlands Water Partnership and FMO NL Business.

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