



THE
BUSINESS
CENTRE



VIETNAM 2019 WATER SECTOR BRIEFING

*Prepared by Business Centre
British Business Group Vietnam*

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British
Chambers of
Commerce

International Affiliate

BBGV HCMC Office

25 Le Duan, Ben Nghe Ward,
District 1, Ho Chi Minh City
T: +84 28 3829 8430 (Ext. 122)
E: enquiries@bbgv.org

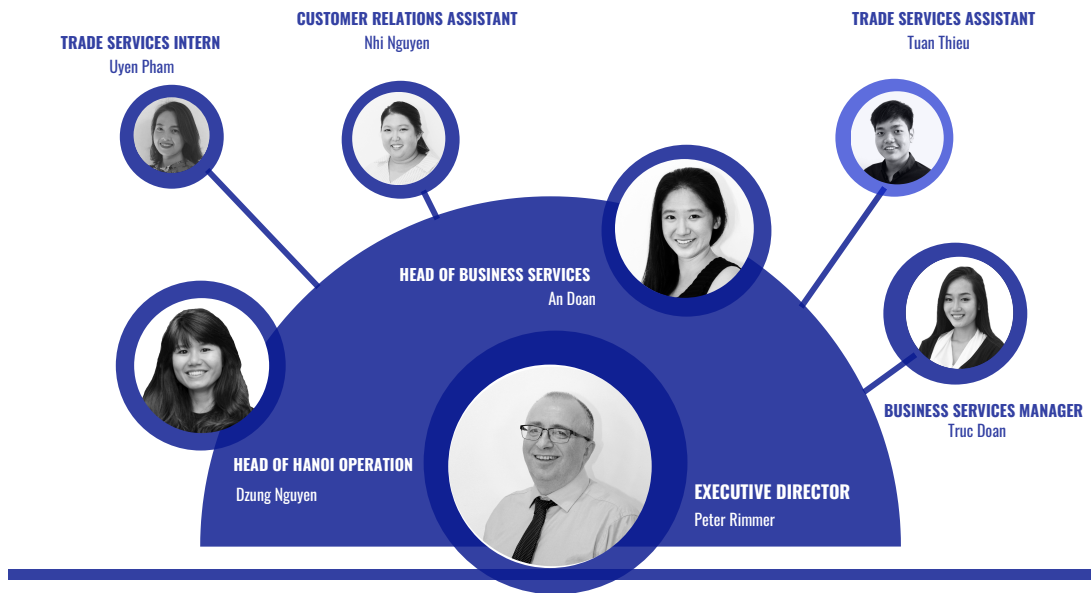
BBGV Hanoi Office

4th Flr, Belvedere Building, 28A
Tran Hung Dao, Hoan Kiem, Hanoi
T: +84 24 3633 0244
E: enquiries@bbgv.org

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OUR TEAM



what we do ?

The British Business Group Vietnam (BBGV) was officially established in Ho Chi Minh in 1998 with its Ha Noi branch founded in 2007. BBGV aims to support and develop Vietnam-UK business links while raising the profile of Vietnam in the British business community and vice versa. As an accredited British Chamber, BBGV in association with the Department for International Trade (DIT), is committed to promote strong business links between Vietnam and the UK.



BUSINESS MATCHING:

Partner search and one-to-one meetings with potential clients, agents/distributors or outsourcing partners



BUSINESS DEVELOPMENT REPRESENTATIVE:

Provide a professional business development representative to act locally on your behalf, strengthen existing engagements with the Vietnam market on a long term basis and develop further business relationships within the market.



BUSINESS REGISTRATION:

Offer step-by-step support to setting up and registering a company in Vietnam



BUSINESS SERVICES EVENTS:

Organise trade missions, product launches and seminars/workshops



MARKET STUDIES:

Sector reports, competitor analysis and local prospect background research



EXPORT OPPORTUNITIES:

Sector reports, competitor analysis and local prospect background research

CONTACT US

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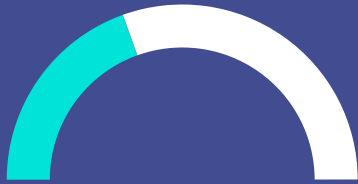
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Li: www.linkedin.com/company/british-business-group-vietnam/

E: enquiries@bbgv.org

POPULATION
97 MILLION

39%



● under 25 years old
● over 25 years old

61%

35.9%



● urban areas ● rural areas

64.1%

VIETNAM ECONOMY: A QUICK REVIEW

AS OF NOVEMBER 2019

7.31%

GDP GROWTH RATE

\$2,564

GDP PER CAPITA

2.2%

UNEMPLOYMENT RATE

LABOUR FORCE

35%

Agriculture

29.2%

Industry

35.8%

Services

WATER OVERVIEW

2,360 rivers
Across Vietnam
Minimum Length: 10km



310 billion m³ /year

Ho Chi Minh City = 1910 mm,
Hanoi = 1763 mm,
Hue = 867 mm
with the rainy season (Oct-Dec)

accounting for **70%** of the yearly discharge.

43%

electricity is generated through
hydroelectric plants



28 billion m³

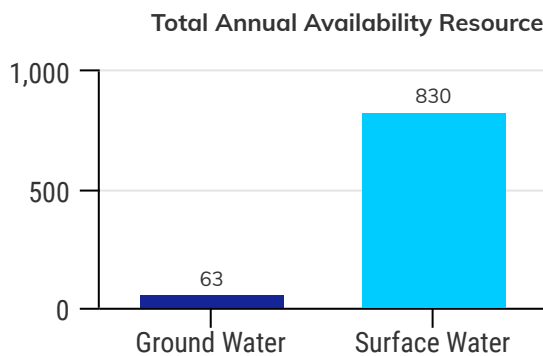
7,500 water storage facilities

in ten major river basins
across the country



70% of the population

is living in coastal areas and low-lying deltas



Unit: billion m³/year

9000 m³/year

Total water
availability per capita

ACTIVE STAKEHOLDERS IN THE SECTOR:



REGULATIONS

The legal framework is guided by the commitment to the Socio-Economic Development Plan 2011 – 2015. The Law on Water Resources emphasises on the quality of national water resources.

- **Decree No. 80/2014/ND-CP** dated 6th August 2014, on drainage, sewerage and wastewater treatment.
- **Decree No. 04/2015/TT-BXD** dated 3rd April 2015 guiding the implementation of some articles in Decree No. 80/2014/ND-CP
- **Circular No. 02/2015/TT-BXD** dated 2nd April 2015 guiding the methodology for pricing wastewater services.
- **Decree No. 117/2007/ND-CP** dated 7th November 2007 on clean water production, supply and consumption.
- **Decree No. 124/2011/ND-CP** dated 28th December 2011 on amendments and supplements to several articles in Decree No. 117/2007/ND-CP
- **Decree No. 167/2018/ND-CP** dated 26th December 2018 regulating the restriction of underground water exploitation
- **Circular No. 47/2017/TT-BTNMT** dated 7th November 2017 regulation on supervision and exploitation and use of water resources

WATER AND SUPPLY SANITATION TARGETS FOR 2020¹

- Urban water supply (access to public piped network): 85%
- Rural water supply (access to clean water meeting Ministry of Health standards): 75%
- Urban sanitation (proportion of wastewater treated): 45%
- Rural sanitation (use of hygienic latrines, meeting Ministry of Health standards): 85%

WATER RESOURCES IN VIETNAM

Vietnam's water resources are diverse, comprising of both artificial and natural water bodies. Despite this, the country's resources are facing immense pressure from over-exploitation due to increased irrigation demand, urban and industrial development as well as concentrated areas of rapid population growth.² Vietnam's primary water supply is sourced from surface flows captured by rivers and aquifers. The two largest of these flows are the Mekong River and the Red River, which have significant importance during periods of water scarcity, in the dry season in Vietnam.

Vietnam's water markets are mature compared with other markets in the environmental goods and service sector, however as the World Bank has stated water resources in Vietnam are too dirty, supervised by too many management bodies and is insufficient to meet needs. For example, three million cubic metres of largely untreated wastewater is released from 787 towns and cities each day.³ Water pollution is now emerging as one of the greatest threats to the national economy, with its health effects possibly causing a 3.5 per cent decrease in GDP by 2035.⁴ Rapid urbanisation and in particular, industrial and urban wastewater are the primary causes of this water pollution.

Currently in Vietnam only 46 per cent of households in urban areas have outlets connected to the public sewer system and only 12.5 per cent of urban wastewater can be treated before it goes into water sources.⁵ Vietnam has an inappropriate investment in waste collection and treatment of its water supplies. By the end of 2018 Vietnam had 326 industrial zones, 251 operational ones and of these operational industrial zones 88 per cent had wastewater treatment systems, with only 71 per cent of these systems being able to treat the total wastewater, highlighting the lack of treatment of industrial wastewater, which accounts for 25-28 per cent of the total waste water in Vietnam.⁶ Further adding to Vietnam's wastewater problem, most of the large rivers in Vietnam originate from neighbouring countries, meaning Vietnam's water resources are vulnerable to the possible exploitation activities which may occur in the upper course. a

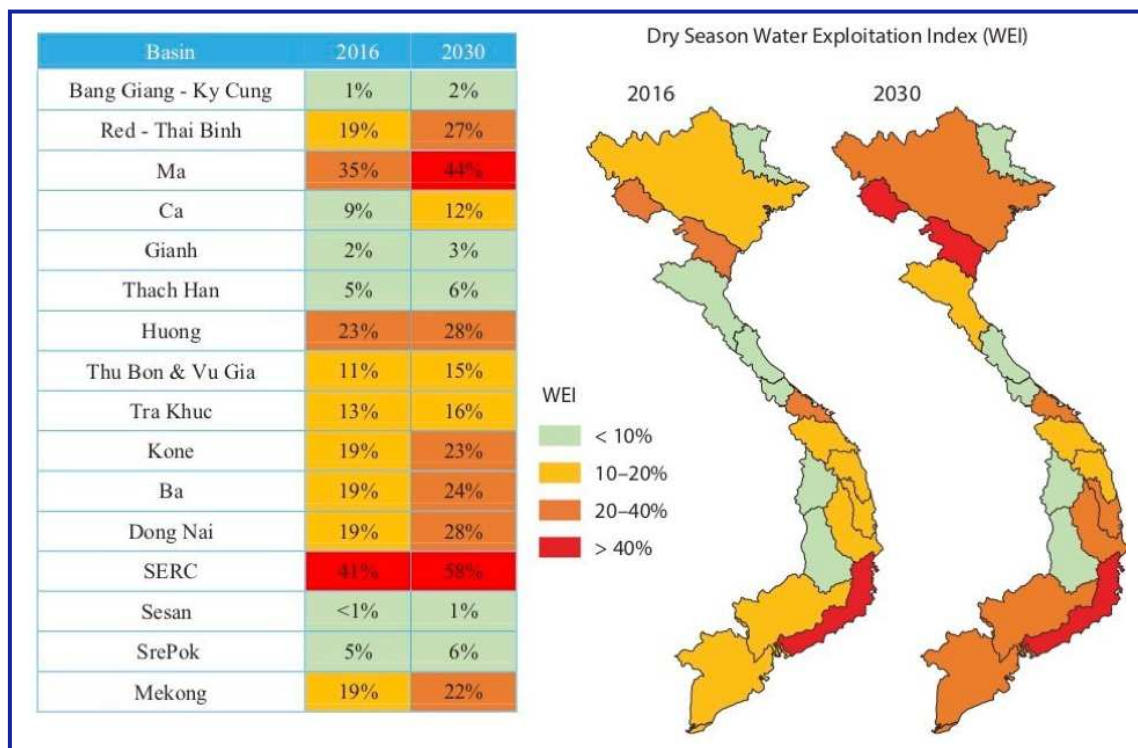


Figure 1: Vietnam's dry season water exploitation index
Source: Circle of Blue (2019)

Ample water supplies combined with open-market economic policies helped to transform Vietnam from an impoverished country to a rising low middle income nation within two decades.⁷ However due to this, rapid economic growth has caused significant industrial expansion placing extreme pressure on water resources. According to the World Bank the growing disparity between supply and demand in dry seasons in Vietnam is a major concern. For instance, if demand is unchecked and there are no drastic changes in policy, all but five river basins in Vietnam are expected to face water stress in the dry season by 2030, hampering Vietnam's economy.⁸ Additionally, Vietnam's agriculture sector produces vast quantities of waste from its fertilisers, pesticides and pharmaceuticals, which are fed to animals and 95 per cent of this livestock waste enters the environment untreated, carrying volatile compounds which pollute the air and water.

WASTEWATER TREATMENT

Although Vietnam is rich in water, supply is difficult due to rapid urbanisation, challenging terrain and the weather all hamper storage. As a result, modernisation of the infrastructure is one of the central axis of the water management policy, which needs to be implemented in Vietnam as much of the country's wastewater isn't treated before being discharged causing an increase in water pollution from agriculture. To solve these challenges enterprises in Vietnam are focusing on innovative technologies and improving quality of human resources, as well as increasing production efficiency and service quality.⁹

Vietnam is making strong efforts to mobilise private sector financing for the water sector in the country, creating a heightened demand for private firms in the sector. For instance, marquee opportunities include the firm Acciona's 200 million Euro wastewater plant contract.¹⁰ The company will build, operate and maintain the plant, in Ho Chi Minh City, with a peak capacity of 34,000 cubic metres an hour. This wastewater plant project will treat wastewater from the Nhieu Loc-Thi Nighe Basin and will be an essential part of Ho Chi Minh City's second environmental plan, benefitting more than 1 million people and creating a vast number of opportunities for the water industry in the area. Although this project is supporting the treatment of wastewater in Vietnam, there is still a long way to go, as stated by the Ministry of Construction, as currently only 15% of wastewater is adequately treated in the 33 wastewater treatment plants in urban areas.¹¹

The World Bank suggests, in its latest report, a number of solutions for Vietnam such as improving its institutions that manage water and encouraging government bodies to manage water basins through inclusive arrangements. The report also considers the increasing value of water in terms of its role in agriculture, prioritising pollution control and improving risk management and disaster responsiveness,¹² as well as advising Vietnam to increase market-based incentives for water programs. As a whole, the World Bank acknowledges that Vietnam needs to give more attention to policies, incentives and tighter fiscal discipline to improve the standards of its wastewater treatment, which if utilised efficiently, can create vast opportunities for firms and new technologies in the industry.

Key Technologies in Demand:¹³

- Waste handling equipment
- Engineering, procurement and construction services
- Advanced filtration
- Membrane filtration
- Waste to energy technology
- Anaerobic digestion
- Nitrification
- Biological denitrification
- Monitoring equipment
- Testing equipment
- Air flotation

CLIMATE CHANGE

Vietnam's geographical location means that it is highly vulnerable to climate change and unfortunately as a result clean water in the Mekong Basin has become a serious concern. The area accounts for 12% of Vietnam's land mass, produces around 40% of the country's agriculture GDP and over half of its agro-food exports. However, due to its low elevation, rising sea levels and shifting rainfall patterns, the vulnerability of climate change in the area is also exaggerated due to inadequate management and degradation of water sources.¹⁴ As a result, nearly a quarter of people living in the Mekong Delta region don't have access to clean drinking water. Although, improvements are becoming more evident, for instance between 2011 and 2017 the Mekong Delta Water Management for Rural Development invested in its water management infrastructure to protect and enhance the utilisation of water resources in the provinces of the Mekong Delta and sustain its agriculture productivity.

The project contributed the following results:¹⁵

- Approximately 215,000 farming households benefitted from improved irrigation services
- Prevention of salinity intrusion and flood risk management allowed agricultural production on 104,864 hectares of land.
- Water productivity increased by 35% with the adoption of new technologies
- 66,165 rural households benefitted from supply of potable water

Global warming has led to global sea levels to rise, which has resulted in saltwater intrusion hitting many coastal areas in the Mekong Delta of Vietnam, earlier than expected in early 2019. This has led to an increased shortage of water for households and for agricultural production. Additionally, water levels were measured, at the beginning of the 2018-19 dry season, at Tonle Sap and recorded much lower levels than previous years, (3.1 billion cubic metres lower than that of the same period of 2017),¹⁶ highlighting how climate change is affecting Vietnam's water supply and only increasing the need for the country to improve its water resource management via several projects.

Vietnam's water resources are being affected by the El Nino phenomena. El Nino will last from August to November during 2019 in Vietnam, meaning temperatures throughout the entire country will be up to 1 degree warmer than the previous year.¹⁷ El Nino will also cause rainfall particularly in the central regions to be lower than that of the previous year, resulting in the water levels in all rivers in the central regions of Vietnam to be reduced between 40 and 65 per cent, with some localities such as Quang Nam and Binh Dinh to expect water shortages of up to 80 per cent.¹⁸ Such situations have led to a large number of droughts in Vietnam, especially the central regions.

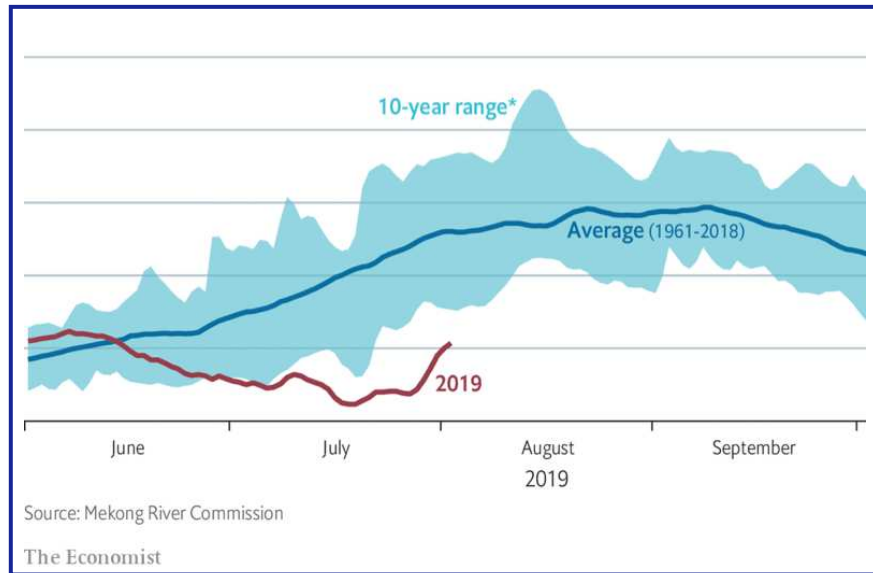


Figure 2: Water levels of Mekong river at a 100 year low
Source: (Economist 2019)

MARKET BARRIERS

The office of Energy and Environmental Industries has identified the four following barriers as the most problematic for firms, in the water industry, wanting to export to or do business in Vietnam.¹⁹

1. Ineffective government agencies, inadequate regulation and weak enforcement.
2. Lack of transparency and corruption
3. Immature environment to support foreign investment
4. Intellectual property rights protection

OBJECTIVES GOING FORWARD

With the increasing water risks from climate change and surface water pollution from the inadequate water treatment infrastructure, Vietnam has taken steps to improve its water resource management through several water projects and environmental planning. This will be implemented under the National Strategy on Environmental Protection to 2020 with visions to 2030. These steps will align with Vietnam's rapid economic growth and will increase business opportunities and the demands for new technologies in Vietnam's water sector.

Objectives to 2020:

- To generally control and minimise the increase of environmental pollution, resource deterioration and biodiversity degradation.
- To improve the capability to actively respond to climate change and the increase in greenhouse gas emissions.
- To mitigate deterioration and exhaustion of natural resources; to restrain the degradation of biodiversity

Visions to 2030:

- To prevent and push back environmental pollution, resource deterioration and biodiversity degradation.
- To improve quality of habitat
- To actively respond to climate change
- To create fundamental conditions for a green economy, with low waste and low carbon for the sake of the country's prosperity and sustainable development

REFERENCES

Acciona (2019). ACCIONA enters Vietnam with a 200 million euro wastewater plant contract. [online] Acciona-agua.com. Available at: <https://www.acciona-agua.com/pressroom/news/2019/april/acciona-enters-vietnam-with-200-million-euro-wastewater-plant-contract/>.

Department of Water Resource Management (2018). Overview of Vietnam's surface water. [online] Available at: <https://data.opendevlopmentmekong.net/dataset/ef943a2f-b255-4c9f-bd49-a4104d9d3a2b/resource/cf06c0fc-6ba4-4dcd-8cb6-1d46c98f4cba/download/part-1-overview-of-vietnam-surface-water.pdf>.

ITA Top Markets Report (2017). Environmental Technologies. ITA Top Markets Report, [online] pp.105-115. Available at: https://www.trade.gov/topmarkets/pdf/Environmental_Technologies_Top_Markets_Report2017.pdf.

Ministry of Construction & BBGV. (2016). Vietnam Water Sector: Opportunities for UK Businesses Webinar. Accessible on: http://bbgv.org/bc-event-detail.html?event_id=238

NSEP (2012). The National Strategy on Environmental Protection to 2020 with visions to 2030. Approved by the Prime Minister in his decision 1216/ QĐ-TTg on September 05, 2012. Available at: <https://www.env.go.jp/air/tech/ine/asia/vietnam/files/law/QD1216-English.pdf>

Vietnam Net (2019). Drought, saltwater intrusion hits Mekong Delta sooner than expected - News VietNamNet. [online] English.vietnamnet.vn. Available at: <https://english.vietnamnet.vn/fms/environment/219065/drought--saltwater-intrusion-hits-mekong-delta-sooner-than-expected.html>.

Vietnam Net (2019). Water sources in Vietnam insufficient: report - VietNamNet. [online] VietNamNet. Available at: <https://vietnamnet.vn/en/sci-tech-environment/water-sources-in-vietnam-are-dirty-insufficient-and-managed-by-overlapping-authorities-548822.html>.

VWSA (2019). Vietwater 12-YEAR PARTNERSHIP WITH VIETNAM WATER INDUSTRY. [online] <http://vwsa.org.vn/>. Available at: <http://vwsa.org.vn/en/article/1681/vietwater-2019-a-12-year-partnership-with-vietnam-water-industry.html>

World Bank Group (2019). Vietnam: Sustaining Water Resources and Building Climate Resilience. [online] World Bank. Available at: <https://www.worldbank.org/en/results/2019/05/03/vietnam-sustaining-water-resources-and-building-climate-resilience>.

World Bank Group (2014). Water Supply and Sanitation in Vietnam. Water and Sanitation Program. [online] Available at: <http://documents.worldbank.org/curated/en/588551468197392348/pdf/100896-WSP-P131116-AUTHOR-Susanna-Smets-Box393244B-PUBLIC-WSP-SERIES-WSP-Vietnam-WSS-Turning-Finance-into-Service-for-the-Future.pdf>.

Wray-McCann, E. (2019). What's Up with Water - Vietnam's Water Challenges - Circle of Blue. [online] Circle of Blue. Available at: <https://www.circleofblue.org/2019/world/whats-up-with-water-vietnams-water-challenges/>

REFERENCES

- [1] (World Bank Group, 2014)
- [2] (Department of Water Resource
- [3] (ITA Top Markets Report, 2017)
- [4] (Vietnam Net, 2019)
- [5] (Vietnam Net, 2019)
- [6] (Vietnam Net, 2019)
- [7] (Wray-McCann, 2019)
- [8] (Wray-McCann, 2019), 2018)
- [9] (VWSA, 2019)
- [10] (Acciona, 2019)
- [11] (Ministry of Construction, 2016)
- [12] (Wray-McCann, 2019)
- [13] (ITA Top Markets Report, 2017)
- [14] (World Bank Group, 2019)
- [15] (World Bank Group, 2019)
- [16] (Vietnam Net, 2019)
- [17] (Vietnam Net, 2019)
- [18] (NSEP, 2012)
- [19] (ITA Top Markets Report, 2017)