

Markets for Residential

Water

Treatment

Products and

Services in

Southeast

Asia

Newly
Updated
2024 Edition

Baytel Associates

www.baytel.org

The Market for Residential Water Treatment Products and Services in —

Newly Updated
2024 Edition



**Increasingly
Pivotal
Manufacturing
Hubs**

Markets for Home Water Treatment Products and Services in Southeast Asia

NEW! Q1 2024 edition

This comprehensive information product:

- *Covers all types of water treatment products used by consumers— filters, purifiers, softeners, and more...*
- *Provides the insights you need for success with these products and their “consumables”*
- *Includes six data-packed, individual country market analyses— PLUS regional analysis for SE Asia, one of the 9 regions covered in Baytel’s full (50 countries plus “other”) Global Markets report.*

Consumer demand for these products has been changing in different ways in different countries:

- *Increased demand in Southeast Asia due to robust post-COVID economies and customers seeking supply alternative to China.*
- *Get the reliable data and insights that you need for planning & strategy in a changing world!*

The best, most comprehensive report available on this industry:

- *Baytel has carried out research into this market “boots on the ground” — all over the world*
- *Baytel has been wholly focused on this product category doing “boots-on-the-ground” in-country work throughout Southeast Asia for 30 years! We have 30 years of data!*
- *Baytel analysts are grounded in the sciences; understand the underlying technologies*
- *Baytel has consulted for key participants in this market, including Amway, A.O. Smith, Brita, Coway, Toray, Mitsubishi Cleansui, Yamaha, a group of 15 Japanese and Korean companies and several Private Equity giants,*

Baytel Associates — The Choice of Industry Insiders

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Water and Water Treatment Products and Services for Consumers in SE Asia

For 40 years a small American company, [Baytel Associates](#), has researched the **global market** for the products and services that people obtain to improve the water they drink and use in their homes and businesses:

Introducing the New, Improved & Updated Southeast Asia section of Baytel's "Global Markets" report!

- **Bottled water** and **tap water** compete with and complement these products. **The three markets overlap** and collectively are worth **hundreds of billions of dollars a year**.
- Household water purifiers, filters, softeners, and the replacement of their "consumables" (cartridges, media, and service contracts) **account for an increasing share of the overall pie**.

WE HAVE EXPANDED THE SCOPE!

Baytel periodically updates its report comparing key country markets for these products — products that **filter, purify, disinfect, heat, chill, carbonate, mineralize, adjust pH, or improve the taste and appearance of drinking water, as well as softeners and filters treating working & bathing water**. The most directly competing and complementary products, **tap water** and **bottled water**, are **now also explored**.

Baytel segments bottled water into "Soft Drink Alternatives" (**bottles ≤10L**) and "Tap Water Substitutes" (**≥10 L jugs of water, often 18L to 20L**). The Tap Water Substitutes category also includes household deliveries by water tankers.

Baytel's principals conduct **field research worldwide**. They have provided information products and consulting services to over **100 clients** in the business (and its adjacencies). **Industry players include private equity giants like** Advent International, BDT Capital, and Bain Capital, **appliance giants like** Midea, LG, Samsung, Haier, Electrolux, and Whirlpool, **beverage giants like** Coca-Cola, Danone, Nestle, and PepsiCo, **and many others including** 3M, A.O. Smith, Amway, BASF, Brita GmbH, BWT, Coway, ChungHo, Clorox, Culligan International, DuPont Water Solutions,

Marmon Water, Electrolux, Emerson, Eureka Forbes, Lixil, Mitsubishi, NSF International, Pur, Panasonic, Pentair, Philips, Strauss, Toray, and Unilever.

The different product configurations have very different **features** and **consumables replacement costs**. **Consumer "compliance"** — correctly using and maintaining these products varies enormously.

Rentals vs. Purchases? The rental business models are of course far more capital intensive.

Covid-19 and Ukraine have impacted each country's market in different and sometimes surprising ways. The SE Asian market for these products has fared quite well and the market for these products is robust.

Email marketing@baytel.org TODAY for an **Easy Order Form for the Southeast Asia Regional Report**.

Read on for a Table of Contents and a full description of this valuable information product. There is also a sample (but somewhat redacted) chapter from the new 2023 edition: the section covering **Vietnam, a key and dynamic market**—one of the 50 country markets individually covered by the full global report.

...more...

WHAT Residential Water Treatment

WHERE

SOUTHEAST ASIA

One of the 9 regions covered in Baytel's Global Report

Nine World Regions

★ Fifty Countries ★

Northeast Asia

China
Japan
South Korea
Taiwan

Middle East & Africa

Egypt
Israel
Saudi Arabia
Turkey
Kenya
Nigeria
South Africa

Southeast Asia

Indonesia
Malaysia
Philippines
Thailand
Laos
Vietnam

South Asia

Bangladesh
India
Pakistan

Other

Other Asia
Other Europe
Other Americas
Other Africa

Latin America

Mexico
Costa Rica
Argentina
Brazil
Chile
Colombia
Peru
Venezuela

Oceania

Australia
New Zealand

Eastern Europe

Czech Republic
Poland
Russia
Ukraine

Western Europe

Austria
Belgium
Denmark
France
Germany
Ireland
Italy
Netherlands
Norway
Portugal
Spain
Sweden
Switzerland
United Kingdom

USA & Canada

United States
Canada

HOW MANY • WHAT KIND • WHEN

Market Breakdown

Product Types
Distribution Channels
Leading Market Shares

Market Characteristics

Market Drivers
Market Conditions
Market Directions

Current Market

New Systems (Units)
New Systems (Dollars)
Consumables, Service

2+5 Yr Forecasts

New Units (000)
New Units (\$)
Consumables (\$)



WHO

Baytel

Associates

30 Years of Focus on Water in the Home in Southeast Asia

The Southeast Asian Market for Water Treatment Products and Services

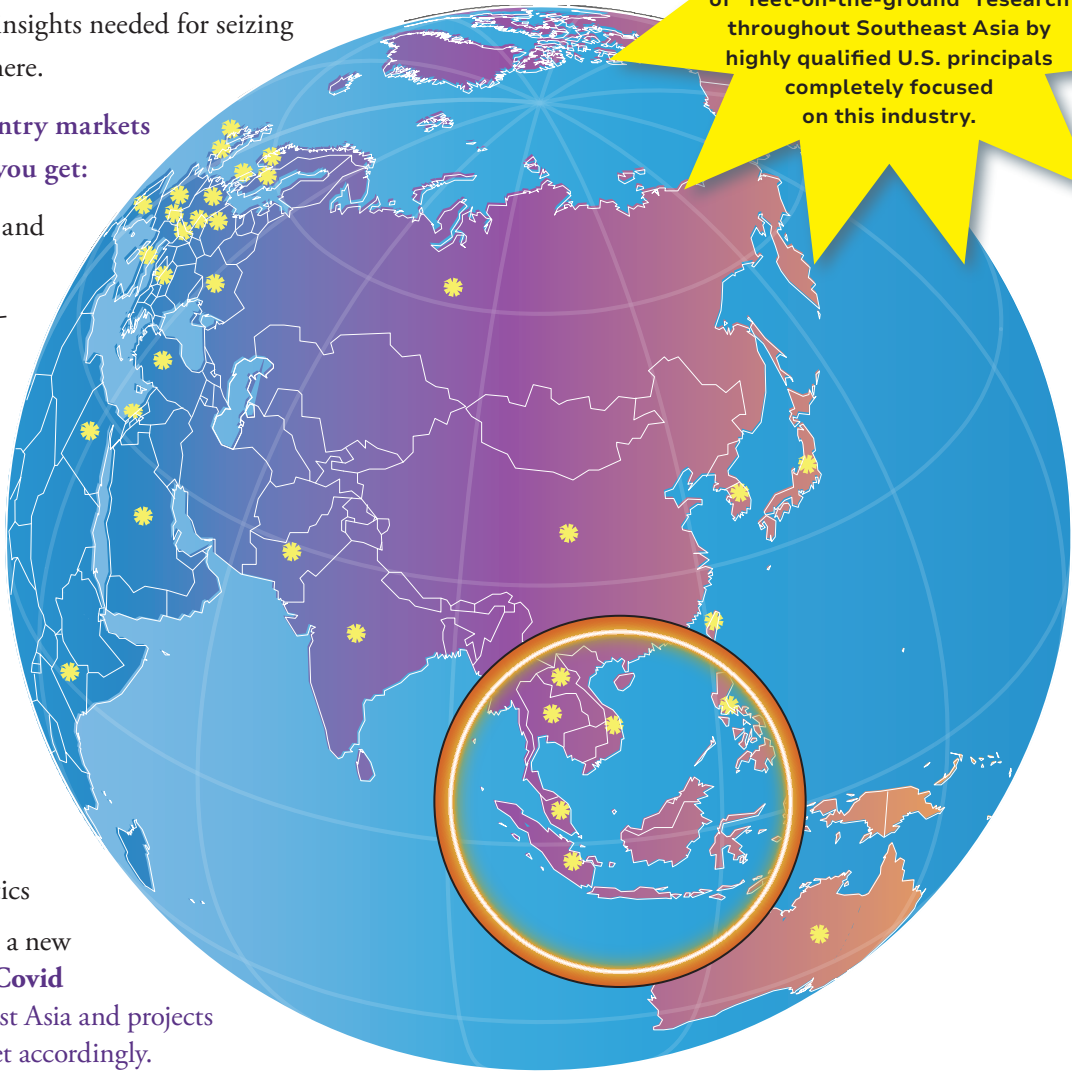
Product Overview

Baytel's new 2024 report on the Southeast Asian market for home water treatment products and services explores growth prospects and opportunities through 2028. It provides the information you need **now!** It analyses six individual country markets in the most dynamic regions of the world, providing the data and insights needed for seizing business opportunities here.

For each of the six country markets individually analyzed you get:

- Market size in units and dollars
- Consumables, installation and service spending
- Weighted average consumer prices by type
- Market segmentation by product type
- Market segmentation by technology
- A brief narrative description of each market's characteristics
- The forecast includes a new analysis of the **Post-Covid situation** in Southeast Asia and projects each country's market accordingly.
- **Two- and five-year forecasts** in dollars and units
- Market share estimates for the leading players
- Issues and drivers
- Distribution channel analysis by dollar volumes
- Many photos, images
- Relevant demographics,
- Data tables and graphs

Baytel's 2024 report on the market in **Southeast Asia** is an indispensable "MUST READ" resource. It is based on 30 years of "feet-on-the-ground" research throughout Southeast Asia by highly qualified U.S. principals completely focused on this industry.

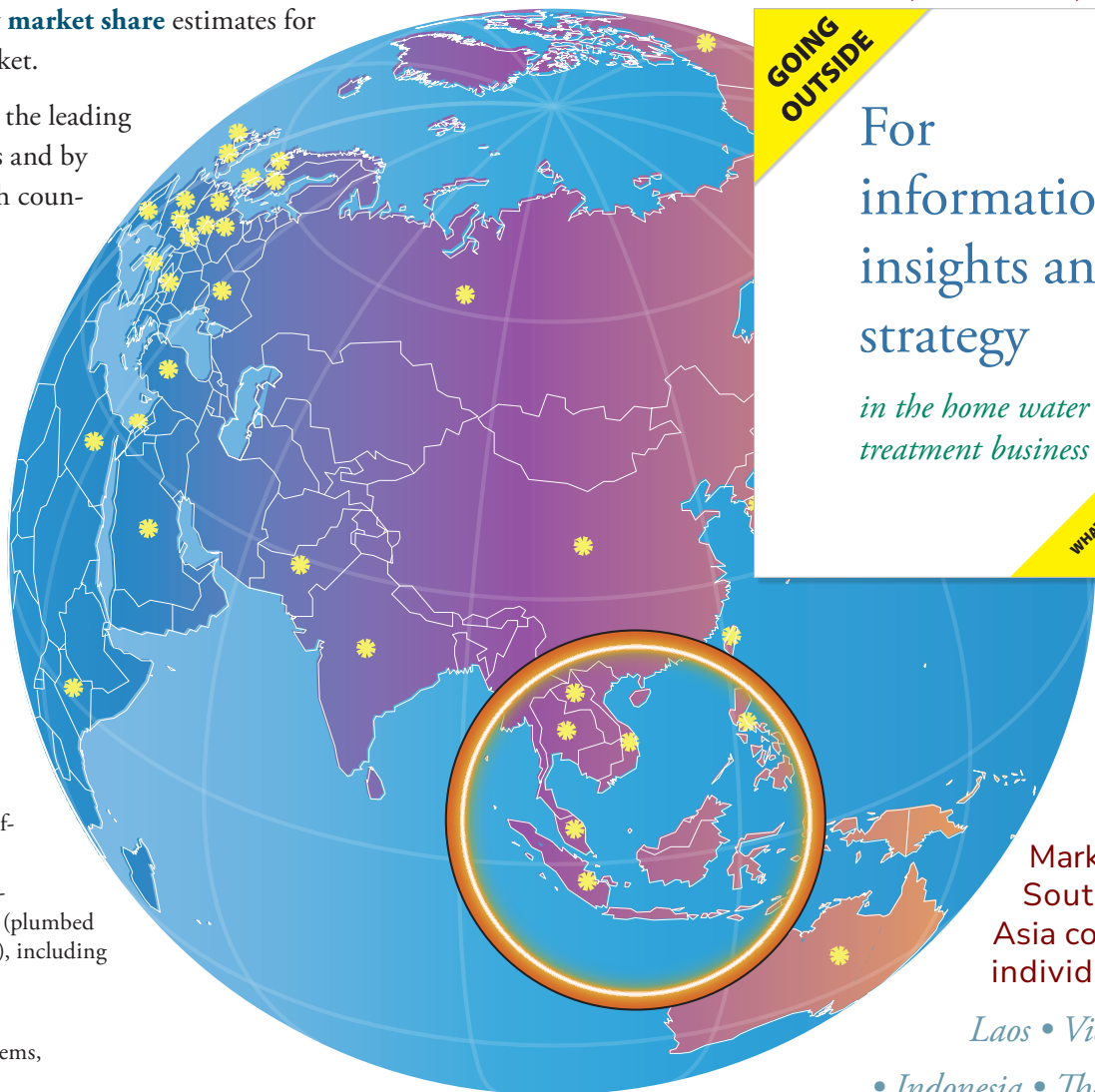


...more...

Features & Benefits

- ▶ Built on four decades of in-country **field work** analyzing home water treatment markets—now in over 50 countries.
- ▶ This report models the SE Asia region: analyses of **six separate countries** plus **regional totals** in units and dollars.
- ▶ Separate figures for **systems vs consumables** (replacement cartridges/filters, etc., installation and service).
- ▶ Countries are presented in parallel format (containing comparable data) so **comparisons are rapid and easy**.
- ▶ Leading company **market share** estimates for each country market.
- ▶ **Segmentation** by the leading product categories and by technology in each country market.
- ▶ **Average product prices** for each major product type, by country.
- ▶ Covers **all POU types of home water treatment products** including:
 - ✓ Housewares (filtering pitchers & sports bottles, faucet-mounted units, filters for coffee makers, etc.),
 - ✓ Countertop / wall-mounted systems (plumbed and non-plumbed), including filtering dispensers,
 - ✓ Free-standing systems,
 - ✓ Under-sink systems,
 - ✓ Water bars and similar products that heat, chill, purify, carbonate, and dispense water, etc.
 - ✓ Inline (external) filters for appliances, etc.

- ✓ Specialty filters and embedded appliance filters,
- ✓ Refrigerator and ice-maker water filters,
- ✓ Filters and/or UV-c LED modules embedded in faucets/taps
- ✓ Whole-house (**POE**) water treatment products,
 - ⇒ Water softeners & scale inhibition products,
 - ⇒ Well water treatment systems,
 - ⇒ Whole house sediment filters
- ✗ Not included: water heaters and water coolers or dispensers that do **NOT** include filtration or purification.



Read what industry insiders have to say about this:

GOING OUTSIDE

For information, insights and strategy

in the home water treatment business

WHAT TO LOOK FOR WHERE TO GO

Six Major Markets in Southeast Asia covered individually:

Laos • Vietnam
• Indonesia • Thailand

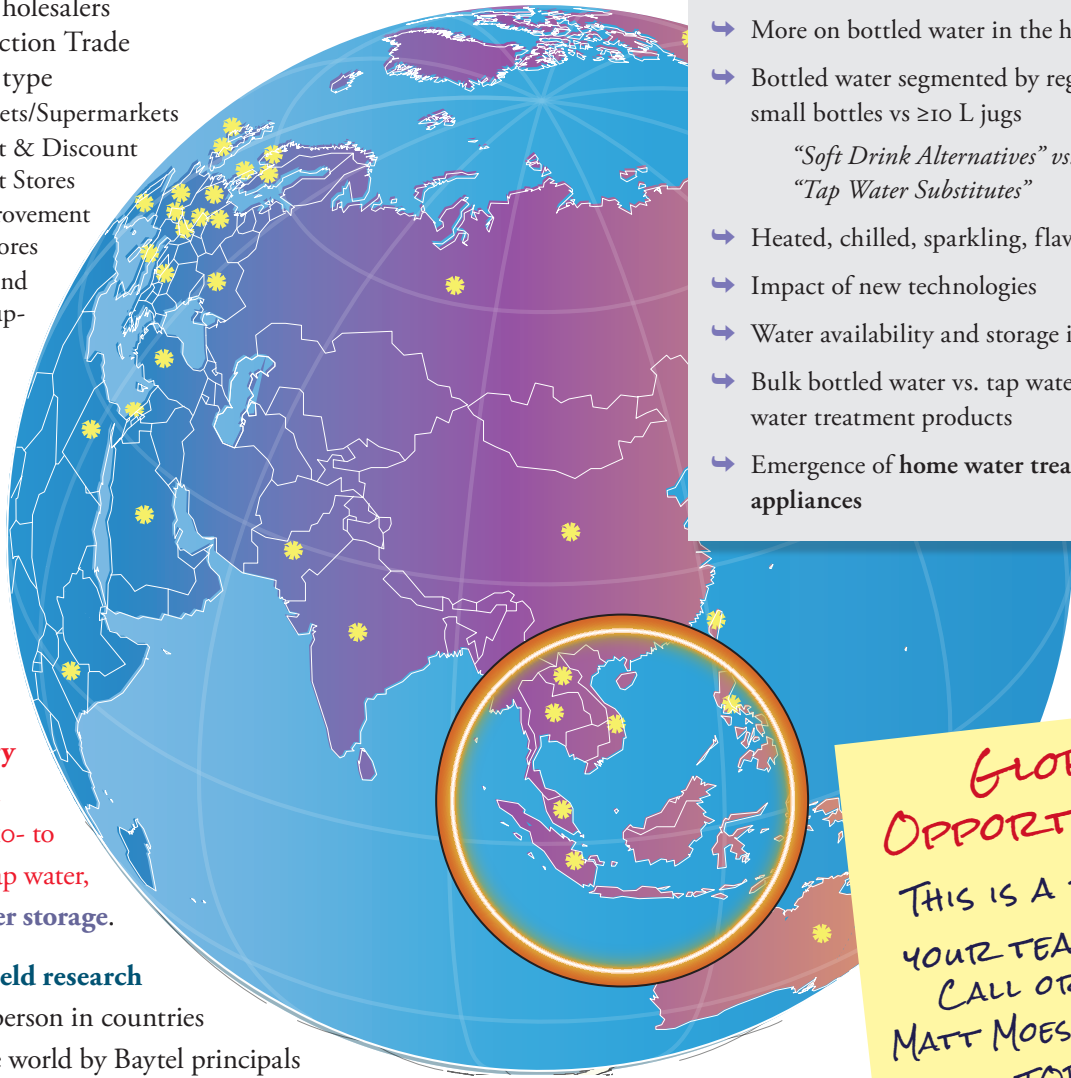
Vietnam • Malaysia • Philippines •

plus totals for the entire Southeast Asia region.



- Realistic **2- and 5-year forecasts** based on deep knowledge of the individual markets and decades of experience.
- **Issues and drivers** for each of the six markets, presented in graphical format to facilitate comparisons.
- **Up-to-date coverage of the Post-Pandemic** impacts of Covid-19 and the wars in Ukraine and the Middle East on each market and its future.
- Updated analyses of the **key distribution channels** pertaining to each country's market:
 1. e-Commerce
 2. Direct Sales
 3. Specialty Water Treatment Dealerships
 4. Plumbing Wholesalers
 5. The Construction Trade
 6. Retailers, by type
 - a. Hypermarkets/Supermarkets
 - b. Department & Discount Department Stores
 - c. Home Improvement and DIY Stores
 - d. Hardware and Building Supply Stores
 - e. Kitchen & Bath Stores
 - f. Consumer Electronics Stores
 - g. Home Appliance Stores
- Explores **competing and complementary products**: bulk bottled water (10- to 20-liter jugs), tap water, and home water storage.
- Grounded in **field research** carried out in person in countries throughout the world by Baytel principals and local research associates. Both **qualitative** and **quantitative research methodologies** were employed,

involving **interviews** with consumers, suppliers of systems, cartridges, and media; with people distributing and selling home water treatment products and services; and with public health and water utility officials, academics, and industry insiders, worldwide. Quantitative **audits** were carried out in **retail, online** and **direct sales** channels. The report's **many** data tables reflect Baytel's proprietary **quantitative model** of the industry, which has been verified and run through a **reality check: direct observations of the markets** covered.



ADDED HIGHLIGHTS

- More on bottled water in the home
- Bottled water segmented by region and small bottles vs ≥10 L jugs
“Soft Drink Alternatives” vs. “Tap Water Substitutes”
- Heated, chilled, sparkling, flavored
- Impact of new technologies
- Water availability and storage issues
- Bulk bottled water vs. tap water vs. home water treatment products
- Emergence of **home water treatment appliances**

GLOBAL OPPORTUNITIES!
THIS IS A REPORT YOUR TEAM NEEDS. CALL OR EMAIL MATT MOES AT BAYTEL TODAY!

THE BEST COMMERCIALY AVAILABLE REPORT

Brita GmbH

- "Baytel's reports are **well-researched and thus a valuable resource** for getting insights into markets. We appreciate their richness in details, which can be easily grasped as they are well-structured and well-written."

Kemflo

- "Your reports are highly rated / recommended by many others that I know... yours are **definitely my best choice.**"

Waterlogic

(Recently merged with Culligan)

- "**First thoughts** after giving the document about an hour of attention so far **are quite positive.**"

Toray

- "Dear Matt-san: We really appreciate your consideration and support. Also, **providing us with additional information is very kind of you.**"

3M Purification

- "Really helpful! Thanks for the follow up."

Brita Americas (Clorox)

- "Great work... You have been a good partner"

Pentair, GE

- "Much of my career has been in the home water treatment industry and **Baytel supplies the best information anyone can find.** You get **real value for your money.** These guys have been researching the markets and business opportunities in this product category since well before I became involved back in 1994."

Shaldor Strategy Consulting

- "We are the leading corporate strategy consultancy in Israel. When we needed market & industry expertise in the global home water treatment space **we came to the best-in-class supplier.** **Baytel Associates teamed with us to provide the industry-specific expertise that we lacked, and the collaboration exceeded expectations.** We would not hesitate to make use of their services again!"

NSF International

- "I can tell you that Mr. Moes is very professional and quite at ease while travelling in foreign environments. I have witnessed Mr. Moes' interactions with [our] Japanese hosts and he was **very gracious and accomplished in his understanding of cultural and business differences and interests.**"

Pur (then part of Procter & Gamble)

- "Standing Ovation!"

Whirlpool

- "You have **good reports!**"

Rohm & Haas

(Acquired by Dow)

- "Very thorough. A thoughtful approach!"



Ametek

- "I find the Baytel research report on the U.S. home drinking water treatment market to be **the most thorough, comprehensive, accurate, and refined of any available to date.** I would highly recommend it to anyone involved in the industry."

Teledyne Water Pik

(30 years ago!)

- "The most complete source of industry information available."

Amway

- "Your presentation is still getting rave reviews from all who attended!"
- "Everything you could ever want to know about the industry — in one spot!"

Shurflo (now part of Pentair)

- "A sophisticated analysis of a complicated market. Must reading for any executive who's serious about the drinking water business."

3M/Cuno

- "An in-depth, comprehensive look at a little understood market. People should buy this report and really read it."

BASF

- "A well-written, comprehensive report that is **accurate, readable, and utilizes excellent graphics.**"

Ecowater

(Now owned by Warren Buffet)

- "A real credit to the Water Quality Industry—**every manufacturer should buy a copy!**"

InSinkErator (Emerson)

(Recently purchased by Whirlpool)

- "I was looking for actual industry experts who had personally spent time in each market and possessed a **hands-on understanding of the competitive landscape, technology offering, and overall industry trends.** The **Baytel team** are the true **global experts** when it comes to the water industry. Not only have they done extensive in-country research of almost every market in the world, they have consolidated that knowledge into high quality research reports which provide executives with the **critical information needed to assess business opportunities and weigh investment risks.**"

Dow Water & Process Solutions

(now DuPont Water & Process Solutions)

- "Baytel's residential water treatment reports have been **valuable** in our market assessment activities, particularly **due to the detail provided from having experienced people on the ground** actually investigating the market dynamics."

Coway

- "Your reports covering Mexico and Brazil are **helping me understand the markets better.**"

Electrolux AB

- "We have now used Baytel's reports for [the home drinking water treatment markets in] China, Korea, the United States and Europe... [They] have been **comprehensive, well-structured and contained correct information...** They have proven to be **very useful to us** in our process to determine market opportunities... We look forward to future business contacts with confidence."

Unilever

- "Thanks for this.. I have just completed my tour of (city redacted) and agree with your view on the huge presence of refill BW market." "We have received the report on (country redacted), thank you. It is quite a detailed report and **let me compliment you and your team on making this very exhaustive analysis covering a very fragmented water purification industry.**"

Monsanto

- "Baytel delivered excellent value for the money, especially when compared with a number of the 'big name' market research firms that we have had occasion to make use of in the past."

Unilever Ventures

- "A **fantastic analysis.** I really appreciate the time you put into these insights."

Pentair

- "A **terrific research report** on "The Global Market For Home Water Treatment Products And Services"

Aquion (Pentair)

- "Both Andy and I have read the report and found it **quite useful.**"



Yamaha Motor

- "Efficient, Reasonably Priced ... Baytel is a very small firm with low overhead. But in terms of the quality of its people and its research capabilities, **Baytel is capable of competing head on with the major consulting firms.**"

Robert Slovak

- "Essential in developing **successful strategic plans** in this growing and increasingly complex marketplace"

Amway

- "Endorsed for **Strategy, Competitive Analysis, Marketing, Analytics, Online Marketing, and Key Account Management**"

Brita GmbH

- "The feedback I received from all colleagues was **VERY positive.**"

Elken

- "**Matt and the Baytel team are true experts** on the subject matter. They do extensive research, on the ground, in the countries on which they report. We have purchased other reports, from "bigger" and more well known research firms. They are not nearly as good as those we've received from Baytel. I recommend them wholeheartedly."

Strauss Water

- "Hope you are doing well. The report is **very useful.**"

3M Purification

- "Worth the expense. **Original research and insightful analysis.**"

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Introduction

Scope
The Complete Global Market
Key Issues and Drivers
Effects of Covid-19 and the War in Ukraine
Technologies, Terms, and Jargon
Tap Water & Bottled Water
Methodology
Limitations of the Methodology and the Quantitative Model

Six (6) Southeast Asia Country Market Profiles, Each Covering a Single Country's Market

Country chapters vary in length, depending on each market's size, complexity, and importance.

Each country chapter is packed with photos, graphs, tables, and concise text.

Each country chapter includes:

Market Overview
The 2023 Market
Weighted Average Price by Product Type / Configuration
Number of New Units Shipped by Product Type / Configuration
Systems Market in Dollars by Product Type / Configuration
Consumables (cartridges & filters, media, etc.), Service, Installations & Rentals, in dollars, by type / configuration
Major Demographics & Water-Related Statistics (tap water, well/spring water, bottled water)
The Market for New Systems Segmented by Type and Primary Technology
Market Forecasts (2- and 5-Year Projections)
Estimated Market Shares for the Leading Players
Segmentation by Distribution Channel (for each major channel in that country)
The Roles of Tap Water & Bulk (large jugs) Bottled Water
Impact of the Covid-19 Pandemic
Impact of the Ukraine War
Issues and Drivers

And MUCH MORE! (See the sample chapter for Vietnam below)

Total SE Asia Regional market analysis in Units and Dollars, and regions summary by Product Type

A SAMPLE FOLLOWS:



The Market for Home Water Treatment Products & Services *in Vietnam*

Market Overview

VIETNAM MAY CURRENTLY CONSTITUTE the most competitive market for residential water treatment products in the world. Baytel's files indicate the presence there of more than REDACTED manufacturers, OEMs, and ODMs, with product lines ranging from those with more than REDACTED products to those with a single toe in the water. Having a presence in Vietnam these days seems *de rigueur* if one is to count as being a *bona fide* card-carrying member of the global residential water treatment industry.

Imported products used to account for xx% of new home water treatment systems sales revenues in Vietnam, with many of the imported items being components assembled into complete systems locally.

...continued on next page...

Market Size by Configuration (2023)

Configuration	Weighted Average Price	New Systems Sold (000)	Systems Market (Millions)	Consumables & Service (Millions)
Free Standing RO cabinet; multiple filter housings	\$000	000	\$000	\$000
Undersink RO	\$000	000	\$000	\$000
Free Standing "Nano" filter system*	\$000	000	\$000	\$000
Undersink "Nano" system, not an RO†	\$000	000	\$000	\$000
Countertops	\$000	000	\$000	\$000
Housewares‡	\$000	000	\$000	\$000
Whole-House (POE)	\$000	000	\$000	\$000
Total / Average	\$000	000	\$000	\$000

* Typically with 0 to 0 separately-housed filtration stages

† Typically comes with multiple filter stages; often made in Russia although Russian exports are down due to payment transfer issues

‡ Old-fashioned stainless steel drip pots, plastic gravity-fed multi-media Chinese & Korean drip pots, simple inexpensive faucet filter, sophisticated faucet-mounted hollow fiber membrane purifiers, etc.)



Guaranteed—100% pure filtered water only. Meets U.S. Standards. You get a free gift when you buy a Pureit!



A timeless slogan for Coway?



POE water treatment systems are often placed on roof, fed from water storage tanks

Population.....	000 million
Households.....	000 million
GDP (PPP).....	\$000 billion
Per Capita GDP.....	\$000
Urban Population.....	000%
Human Dev. Index*.....	000
Percent with piped-in water.....	≤ 000%
Percent using well or spring water.....	000%
Percent bottled water, routine use [§]	000%
Percent with inadequate sanitation.....	≥ 000%
CAGR 10 to 22 L Bottles of Water.....	000%
CAGR Piped-In Water (Households).....	000%
CAGR Home Water Treatment Market.....	000%

* Norway = 0.000; Niger = 0.000.

§ Includes only water originally brought to the home to be consumed there or elsewhere; all bottle sizes.

Major investments were made in establishing factories in Vietnam for meeting both domestic (Vietnamese) and overseas (exported) demand in recent years. Those investments also led to increased vertical integration: the manufacturing of the components needed by Vietnamese manufacturers for assembly into complete systems. “Consumables” (replacement RO membranes, filters and filter cartridges) constitute an important part of the value chain and so this has also received local attention. As domestic and exported demand for these products grew, some of the larger Vietnamese manufacturers eventually started branching out into producing other kinds of kitchen appliances. Like Korea, Vietnam is REDACTED .

The market in Vietnam has been growing by leaps and bounds in recent years. Back in REDACTED only 2% Vietnamese households were using a home water treatment product. Since then, household penetration has grown very significantly in both urban and rural areas of the country. It is currently estimated by Baytel to be in the vicinity of XX% .

Of course, there are huge differences between the north (Hanoi, NN%) and the south (Ho Chi Minh City, NN%) in terms of urban household penetration; and there are also large differences in penetration— NN percentage points at one point—between Vietnam's urban and rural areas.



Free-standing water purifiers at a typical retailer in Vietnam

Despite all the exciting growth in the market, it is important to remember that Vietnam remains a very poor country. Only REDACTED can be seriously considered candidates for buying expensive home water treatment systems. And, of course, many of those households use bottled water.

Because of water quality issues and the way in which the market has developed, Vietnamese consumers contemplating the purchase of a home water purifier these days typically start their search facing a choice between “reverse osmosis” (“RO”) and “Nano” systems. Nano systems are promoted as not wasting water and not requiring electricity. ROs are promoted on the basis of the broader range of contaminants that can be removed—or that can be removed more completely.



Vietnamese consumers typically must decide between “NANO or RO?” systems

Regardless of whether an “RO” or a “Nano” product is chosen, the product is often configured as a REDACTED . Newer high-end units have “smart” controllers and better user interfaces. They can even provide wireless remote product status alerts on users’ smart phones and enable them to remotely

check into the purifier's operating performance (including the need to soon replace its filter cartridges).

However, the Vietnamese market is also still plagued by products and salespeople making preposterous health and certification claims. Counterfeit products have been a real problem here.

Bulk bottled water (that is, water in large jugs) remains hugely popular among those who can afford it and boiling (or doing nothing) is the solution for most others. Opportunities for changing this abound.

The number of families using private wells and/or rainwater harvesting, the poor situation with regard to utility water (in both reach and quality), the expense of bottled water, favorable demographic trends, regions with special water problems (arsenic, iron, etc.), and the openness of Vietnamese consumers to new ideas, technologies, and products all suggest that this remains a market worth targeting **if one has the means to keep up with the technology and product configuration trends and** REDACTED .

Market Characteristics

With Vietnamese households said to be spending about \$XX per year on replacement filter cartridges and other consumables and services, and with roughly XXXXX million households (half of them urban, half rural) now using these products, there is much to gain from a better understanding of REDACTED .

There is also much yet to be learned about what it takes for companies to maintain “account control” over the consumables segment of the business. Should RF chips be incorporated into RO membrane modules? Into the filter cartridges? Can this be done cost-effectively so that systems contain periodically

updated lists of replacement filter serial numbers embedded in the chips and downloaded into systems installed in the field so that they will not work with physically plug-compatible replacements from other brands or counterfeits?

Consumers have been trading-up from inexpensive gravity-drip multi-layered filtration media units to more capable (and more expensive) products, especially RO systems and also—to a lesser but growing extent—the so-called “Nano” filtration systems (which do not use RO and have no water storage tanks or water waste streams). Systems producing “Hydrogen” infused drinking water appear to be a growing niche as consumers are told that they provide various medical benefits. Alkalizers have been around for decades in Asia and produce water at various pH levels said to be optimal for various applications (water REDACTED vs. REDACTED vs. water that REDACTED , for example).

Despite the impressive size of the Vietnamese market and the very real opportunities there that remain, it behooves one to consider what it actually takes to be successful and make a significant return on investment here. While there are definitely some very exciting success stories, there are also hundreds of marginal players that are only creating confusion and difficulty in decision making for potential customers. As in many other countries, Vietnamese consumers are often quite confused as to what they need by way of a home water treatment product, and which brand and type of product they should obtain. Published rankings do exist for key brands based on social media buzz; some large sellers also promote the publication of brand rankings in media articles that favor the more profitable products they themselves carry.

The extremely crowded Vietnamese market for residential water treatment products necessitates large marketing budgets and very significant spending on advertising campaigns for those brands and products hoping to gain any significant amount of market share. For those that can afford this, however, the potential rewards can be large. As just one example,

one of the largest players, Kangaroo, got itself onto the map a decade ago by having its name repeated more than NN times during the xx-minute half-way break between the two rounds of the Champions League Final Game on Vietnamese national TV.

In NNNN, the Vietnamese market for residential water treatment products exceeded \$NNNN million in new systems sold. Baytel has also seen average annual expenditures of \$NN per household reported for consumables (replacement filter cartridges, etc.). Assuming an installed base of about NN million households using these products in Vietnam, about \$NNNN million would in theory have been spent on these “consumables” in NNNN.

However, Baytel does not believe that actual spending on the “consumables” and/or maintenance contracts for these products was REDACTED because such spending varies greatly based on consumers’ “compliance” in maintaining these products (the timely replacement of the filters and membrane modules, as specified by the manufacturers). Frequently, consumers’ “compliance” is much lower than that hoped for by the suppliers of the “consumables.” Good consumer survey data sheds very helpful light on this.

It is important to note that consumer compliance varies significantly based on the specific type of product used. Years ago, inexpensive products like gravity-drip pots using layered filter media accounted for a much larger share of the market and their “consumables” were also inexpensive.

To what extent such products remain in active use, especially among the poorer households, requires better survey data in order to carry out a more precise analysis of the current spending levels for consumables in this industry. Baytel has assumed that actual (as opposed to theoretical) expenditures in Vietnam for the consumables for these products are much closer to those listed in the table above than they are to a theoretical extrapolation assuming perfect compliance.

The Vietnamese market is evolving rapidly; several key unknowns remain. An examination of the available data suggests the need for a consumer survey probing deeply into several key variables so that knowledge-based investments can be made in production and marketing strategies.

■ Contact marketing@baytel.org today for information about **Water Opinions**, Baytel's series of analyses based on **robust consumer survey data for Vietnam** (and several other key Asian markets).

Water Softeners and Other POE

Whole house (POE) water purification systems are becoming more common in Vietnam, often mounted on the roof to treat incoming water pumped up to a rooftop water storage tank. REDACTED offers such systems, including some that soften the water. (According to REDACTED's Vietnam website up to NN% of households in Vietnam have hard water.)

The “softened water experience” for skin, hair and laundry is REDACTED. Locally produced or assembled whole-house systems typically sell in the \$NNNN to \$NNNN range. Imported systems are more expensive.

REDACTED, as well as REDACTED and other major POE system manufacturers are present in Vietnam offering both drinking water treatment products and household water softeners. REDACTED (and the U.S. firms) typically supply POE products in Vietnam that are manufactured in REDACTED. REDACTED.

Segmentation: New Systems Sold

In units, by configuration:

- > Housewares..... 000%
- > POU Filtration Only 000%
- > Nano (Free-standing and undersink) 000%
- > Under-sink RO 000%
- > Free Standing RO 000%
- > Non-softener POE and Other..... 000%
- > Softening / Scale Inhibition 000%

Consumer spending on new system units by configuration:

- > Housewares..... 000%
- > POU Filtration Only 000%
- > Nano (Free-standing and undersink) 000%
- > Under-sink RO 000%
- > Free Standing RO 000%
- > Non-softener POE and Other..... 000%
- > Softening / Scale Inhibition 000%

New System Unit Sales by Primary Technology:

- > RO & Hybrid 000%
- > Nano Alone 000%
- > Filtration Only..... 000%
- > Other..... 000%

Brands & Products to Know About

Brand 1

Brand 1 has become the leading brand in Vietnam, and is also exported to REDACTED. In addition to residential water purifiers, it makes REDACTED, and related products. It works in the residential, commercial, and industrial sectors.

In residential water purifiers, Brand 1’s two major selling points are the REDACTED, which goes from REDACTED



An illustrative image or an informative graphic appears here in the report.

REDACTED, and REDACTED in some models—system REDACTED, or both.

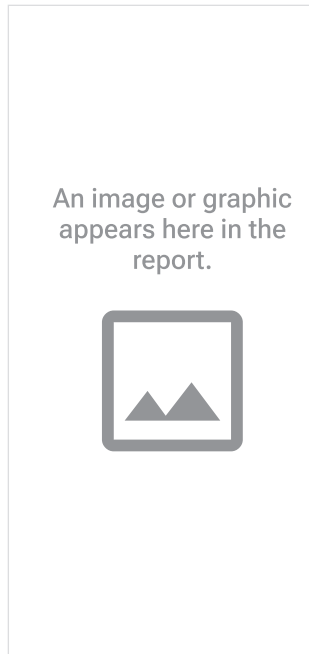
Brand 1 markets residential water treatment products under two brands: Brand 1 and REDACTED. The Brand 1 Group also owns REDACTED. Brand 1 claims to have some x,xxx “in-depth” selling points spread around the country.

One unusual pair of Brand 1 purifiers is specifically designed for the water of REDACTED, which can have a high salt content.

Several Brand 1 electric purifiers make provision for REDACTED.

Brand 1’s residential (up to ten people) free-standing water purifiers range in price from xxx,xxx,xxx^d (about \$xxxx) for a system with REDACTED to xxx,xxx,xxx^d (about \$xxxx) for REDACTED, the REDACTED

REDACTED The
REDACTED
REDACTED
REDACTED
REDACTED
REDACTED model
is pictured here.



Undersink systems range from a \$xx REDACTED brand system with PP, carbon, two UF cartridges, and a post-carbon cartridge, to a \$xx model that does largely what the REDACTED does.

For customers in the major metropolitan areas, installation, which generally costs about 000,000đ, is included.

Brand 2

Brand 2 is a Vietnamese company founded in xxx. It has strong visibility and has been advertising its brand since the very beginning. Today it supplies consumer products in a broad range of product categories. Brand 2 is headquartered in Hanoi and has foreign branches in Indonesia and Myanmar. It claims to have xxx sales points in Vietnam alone.

Brand 2 offers REDACTED systems. The company claims to be a pioneer in REDACTED, and some NNN of its water purifiers feature REDACTED. Some also offer REDACTED, and some offer both.

Brand 2 has almost xxx systems that can produce REDACTED dispensing. The least expensive costs xxx,xxx,xxxđ and is a simple REDACTED with

REDACTED. The most expensive costs xxx,xxx,xxxđ (about \$xxx). It is a narrow (290 mm) free-standing system, with REDACTED water. It is a REDACTED unit with seven treatment steps. It can produce xx L/hr.

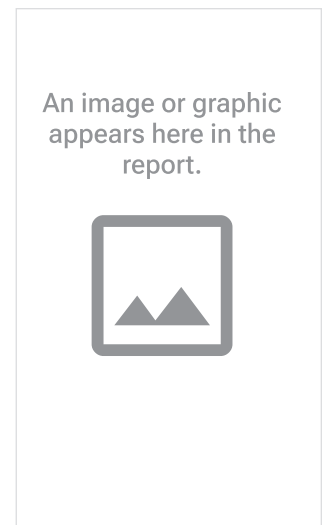
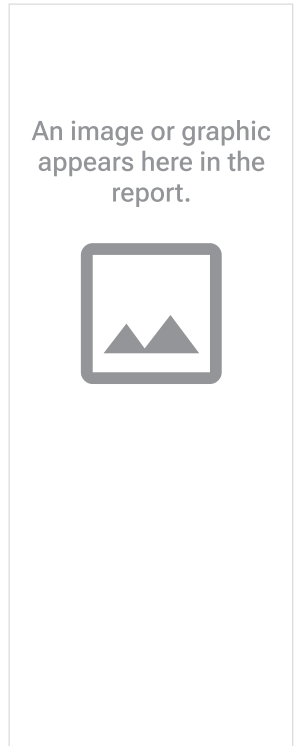
More than REDACTED of Brand 2's water purifiers produce REDACTED. They range from a \$xxx ten-step undersink RO to the \$xxx system described above.

Brand 2 also sells larger systems for whole-house, commercial, or industrial use. Like many of Brand 2's products, these systems often contain imported components—for example, REDACTED's composite filters. Many of the larger systems include UF membranes.

Brand 3

There is a single Brand 3 distributor for Vietnam (REDACTED), and there are three showrooms: REDACTED, REDACTED, and REDACTED.

The Brand 3 line in Vietnam is quite extensive, consisting of ten products. They range from the xxxx, which is similar to Brand 3's original product and has a capacity of 9 L.

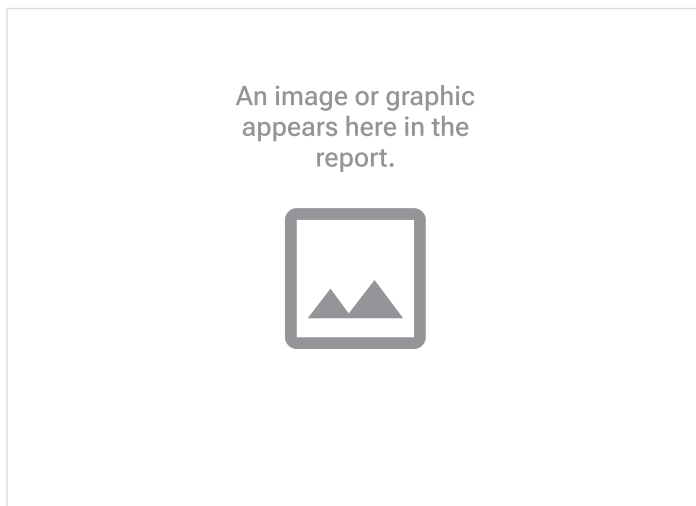


The machine itself costs just over \$x,xxx; NN (the consumable) costs about \$xxx.

At the other end of the spectrum, the undersink xxxx xxxxx goes for about \$0,000. It is a REDACTED system that can produce 2 L/hr with \geq NN% recovery. An automatic washing cycle can extend the life of the REDACTED. Consumables are a PCP (PP-carbon-PP) cartridge (\$xxx), a CTO cartridge (\$xxx), and the RO membrane (\$xxx).

Care and servicing of Brand 3 products is theoretically DIY so there are no maintenance contracts and there is no network of technicians. None of the systems have REDACTED.

Brand 3 stresses its lab results. According to the company, the Brand 3 products have been “Tested and certified by xxx global accreditation organizations.”



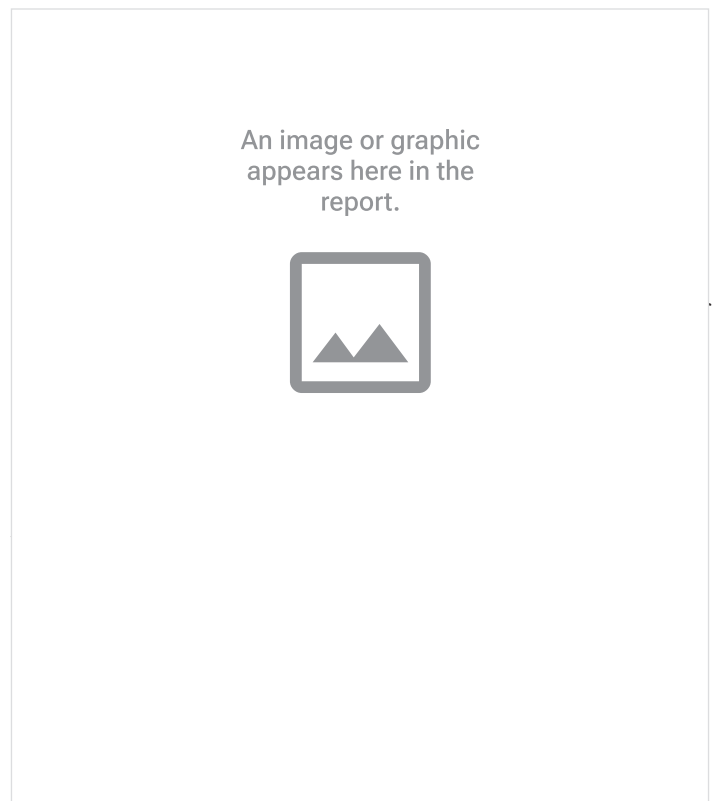
Brand 4

Brand 4 entered the Vietnamese market for home water purifiers in 0000 and started selling ROs there in 0000. It had a loss that year, but had turned a profit already in 0000. The company's products have been very well received—not just its water purifiers, but air purifiers and other products, as well.

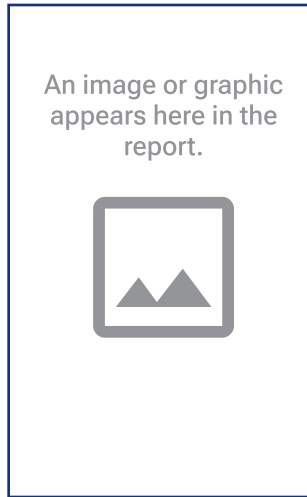
Brand 4 supplies seven models of whole-house water treatment systems, most of which have several versions. All of them have xxxx, xxxx, or xxxx certification, and the sources of components are stressed. Many of these systems have iron removal and softening capabilities. Some can be configured for well water or municipal tap water.

Brand 4's largest product line is REDACTED, and it uses both the Brand 4 brand and its other brands for these. Among these products are undersink models (both cased and uncased), countertops, and at least one full-height free-standing model. The firm offers REDACTED systems as well as REDACTED.

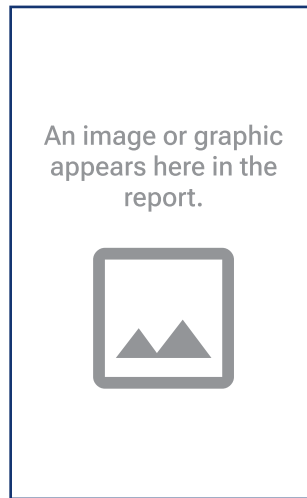
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As an example of a product using new Brand 6 technology, the xxx xxxxxx xx uses both the older xxxx and a REDACTED cartridge, “xxxxxx xxxxx,” said to be capable of removing REDACTED, REDACTED, REDACTED, REDACTED, REDACTED, REDACTED. One rather unique feature of the xxxx xxxx xxx is that, in Vietnam, it comes with xxxxxxx.

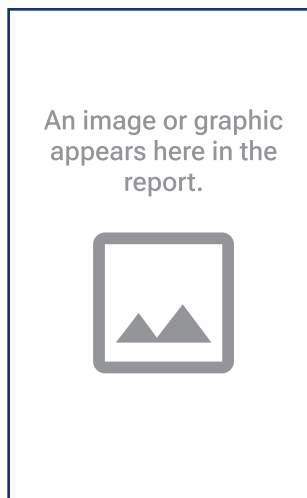


Brand 6 has a single representative in Indochina, REDACTED (REDACTED). REDACTED also represents xx, xxx, xxx, and xxxxx.



Market Forecast

Vietnam has a young population (the median age is 32 years), a stable political system, a commitment to sustainable growth, a relatively low inflation rate, and a promising long-term economic outlook despite the setbacks of the Covid-19 pandemic.



The need to take positive steps to deal with water safety—either treating water at home or purchasing bottled water—is very high, and despite major infrastructure initiatives, the nation is not keeping up with

demographic changes and the demands of new middle- and upper-income households.

Water pollution is severe in some areas and groundwater contamination limits potential sources, and endangers existing sources, of potable water supply. Droughts can be serious and REDACTED is increasingly a threat in REDACTED where population density is REDACTED. Rapid urbanization and urban industrialization around Hanoi and Ho Chi Minh City are increasing water pollution even as more households in rapidly growing urban areas are drilling wells—either believing that groundwater is safer/cheaper or that their needs are simply beyond the supply capacity of municipal waterworks.

On the sanitation side, less than 00% of households are connected to a truly modern sewage system and roughly one in NN households uses inadequate methods of handling human and animal waste. This situation is barely moving.

Many consumers from almost all demographics were raised with REDACTED or other REDACTED water treatment processes in their parents’ or grandparents’ homes. To these people, residential water treatment is a familiar, REDACTED.

With regard to the lower-middle income demographic, there is certainly room for growth in sales of REDACTED REDACTED REDACTED REDACTED REDACTED. Such products could succeed very well under the proper brands. However, all of these points—REDACTED REDACTED REDACTED, REDACTED REDACTED REDACTED REDACTED, and REDACTED REDACTED REDACTED—need to be addressed adequately. So far, this has not been the case.

For the REDACTED, the range of products available in Vietnam is REDACTED



Many of today's younger consumers knew ceramic candle drip pots from their parents' or grandparents' homes

REDACTED REDACTED. Most of the REDACTED REDACTED REDACTED have by now either shown their face in Vietnam or are increasing their efforts here.

Systems producing REDACTED are increasing in popularity. REDACTED have migrated from being expensive Japanese and Korean REDACTED imports to REDACTED products produced in Vietnam. It will be interesting to see if the attractive new REDACTED marketed under the REDACTED brand take off: the + REDACTED product configuration has not historically been as popular in Vietnam as in REDACTED and some other REDACTED markets.

Currently, in new units sold, the REDACTED market is about NN% REDACTED systems (costing on average about \$x) and NN% REDACTED (averaging \$xx at retail). Other REDACTED range from REDACTED through REDACTED, and REDACTED systems.

The whole house water treatment (“Point-of-Entry” or “POE”) segment of the Vietnamese market is REDACTED significantly, driven by REDACTED and a trend in treating

An image or graphic appears here in the report.



Caption here

the water REDACTED. There is still a market gap in the area of REDACTED.

While strong growth will continue, the increase in more or less generic products with very low prices, coupled with fierce competition, will temper financial gains.

Dow made a name for its Filmtec RO membrane modules in Asia but the business unit (now part of Du Pont) is being challenged by REDACTED.

Year	Units (000)	Equip. Mkt in Millions	CSI Market in Millions	Total Market	CAGR Systems	CAGR CSI
2023	000	\$000	\$000	\$000	—	—
2025	000	\$000	\$000	\$000	000%	000%
2028	000	\$000	\$000	\$000	000%	000%

Consumer expenditures in constant xxxx U.S. dollars.

Market Shares

Market shares for home water treatment products in Vietnam have been determined by many factors: promotion (especially brand advertising campaigns), timing and visibility (both online and in local brick-and-mortar stores, especially electronics and appliance stores), price,

product technology (e.g. REDACTED), configuration (e.g. REDACTED vs. REDACTED), and—to some extent also—breadth of product line and category emphasis.

Over the past decade, some of the larger companies involved with producing and/or marketing home water treatment products in Vietnam expanded into REDACTED REDACTED.

A new upstart—a domestic participant in the Vietnamese market, Brand 1—focused like a laser on developing and heavily advertising its one and only water treatment product. It did a good job of this and was thus able to rapidly gain market share. Brand 1 currently still appears to lead the pack with an estimated NN% of new unit shipments.

The most successful domestic players from the past, Brand 2, REDACTED brands), and Brand 5, lost a lot of market share to Brand 1 but have bounced back somewhat, and continue to do well, especially by exporting heavily to other countries.

It is difficult to REDACTED. One reason for the difficulty is the prevalence of REDACTED.

Products from a host of foreign firms—REDACTED, REDACTED, REDACTED, and more recently REDACTED and REDACTED, to name just a few—have gained some market share in Vietnam in the past. REDACTED

products, in particular those from REDACTED, have been well received by Vietnamese consumers.

Although very competitive in price, products from REDACTED have been less welcome (although lower prices are certainly somewhat persuasive with REDACTED). REDACTED products, those from REDACTED in particular—have historically also been welcomed in Vietnam as REDACTED.

The REDACTED and this initially posed problems for REDACTED that were doing well exporting to Vietnam: they found it difficult to REDACTED. Recently, some observers (for example some newspapers REDACTED) have remarked that REDACTED constitutes an opportunity for REDACTED.

A number of media sources in Vietnam have promoted things like “REDACTED.” A typical recent list of that sort was likely to include companies like REDACTED, REDACTED, REDACTED, REDACTED, REDACTED, REDACTED, etc. Social media buzz about brands is also often analyzed and presented in articles geared to potential buyers. A common advertising tactic for the numerous players with REDACTED.

There has been a trend towards REDACTED, especially by the larger players who are able to raise (or partner with others to raise) the capital needed to REDACTED.



Karofi claims to be “the only brand in Vietnam that uses genuine Dow Filmtec RO membrane imported from the US,”

■ Among the most important foreign brands active in Vietnam are [REDACTED]

Again, market shares for home water treatment products in Vietnam are determined by many factors: [REDACTED], breadth of product line, promotion (especially major ad campaigns), and visibility both online and in local brick-and-mortar stores).

Baytel's current estimates for 2023 market shares in Vietnam are:

Supplier/Brand	Share (New Systems \$)
[REDACTED]	000%
[REDACTED]	000%
[REDACTED]	000%
[REDACTED]	000%
[REDACTED]	000%
[REDACTED]	000%

Revenues and profits were reported for the leading players [REDACTED] before the pandemic hit and just after Brand 1 entered the market.

Revenues (\$ in millions)	2016	2017	2018	2019
Player A	0000	0000	0000	0000
Player B	0000	0000	0000	0000
Player C	0000	0000	0000	0000
Player D		0000	0000	0000
Brand 1 (late entrant)				0000

2019 Profits (\$ in millions)

Player A	\$x.x
Player B	\$x.x
Player C	\$x.x
Brand 1	\$x.x

Distribution Channels

Other than online sales, [REDACTED] stores constitute the biggest distribution channel in Vietnam. The largest of these is [REDACTED] which since its founding in 2010 has grown to have nearly 3,400 stores in 63 cities and provinces all around Vietnam.

There are many other [REDACTED] chains, both domestic (e.g., [REDACTED]) and foreign (e.g., [REDACTED]).

There are also brand stores, such as the [REDACTED] stores in Ho Chi Minh City and in [REDACTED] (Hanoi Capital Region). [REDACTED]'s representative, [REDACTED] Company, has showrooms in Hanoi, HCMC, and Da Nang.

Water treatment dealers can be found all over Vietnam, often functioning as [REDACTED].

[REDACTED] shops sometimes carry water treatment equipment, but [REDACTED].



The Điện Máy Xanh branch in Lộc Hà. The company is also a major online seller.

Estimated channel shares by total consumer expenditures including both expenditures for new systems and expenditures



There are 350 Media Mart stores in Vietnam. They carry water treatment products from xxxxx, xxxxx, xxxxx, xxxxx, xxxxx, xxxxx, xxxxx, xxxxx, and xxxxx. This one is in Hanoi.

for Consumables, Service, and Installation (CSI), including monthly payments for products rented or leased are:

Channel	Percent of Sales
Channel 1	000%
Channel 2	000%
Channel 3	000%
Channel 4	000%
Channel 5	000%
Channel 6	000%
Total	100%



Some local neighborhood shops carry low-tech water treatment products.

Tap Water & Bottled Water

Only about NN% of Vietnamese households have piped water and it rarely meets any reasonable water quality standards. Even where a municipal network exists, lower income households may not be able to afford getting hooked up to it.

Rainwater harvesting is very commonplace in Vietnam, especially outside the urban centers. Harvested water may be used as gray water or as a source of drinking water. However full drinking water treatment systems (which would be required for some rainwater harvesting methods) are still rare.

Bulk bottled water is the primary source of drinking water in REDACTED. We estimate that total percentage of households doing this to be about NN% to NN%. [Over NN% of the population of Vietnam should be considered REDACTED.]

Finally, a certain proportion of households that use bottled water for drinking nevertheless also use a home water treatment system for food preparation and some other tasks.



A local water treatment dealership in Ho Chi Minh City



Even low-income households sometimes use bottled water

The Post-Covid Situation

Prior to the effects of the pandemic, incomes had been rising quickly in Vietnam for at least a decade; spending on home water treatment has increased at an even faster rate since tap water from the public water supply is not generally potable, and has not been able to expand as rapidly as neighborhoods have been expanding in the major cities.

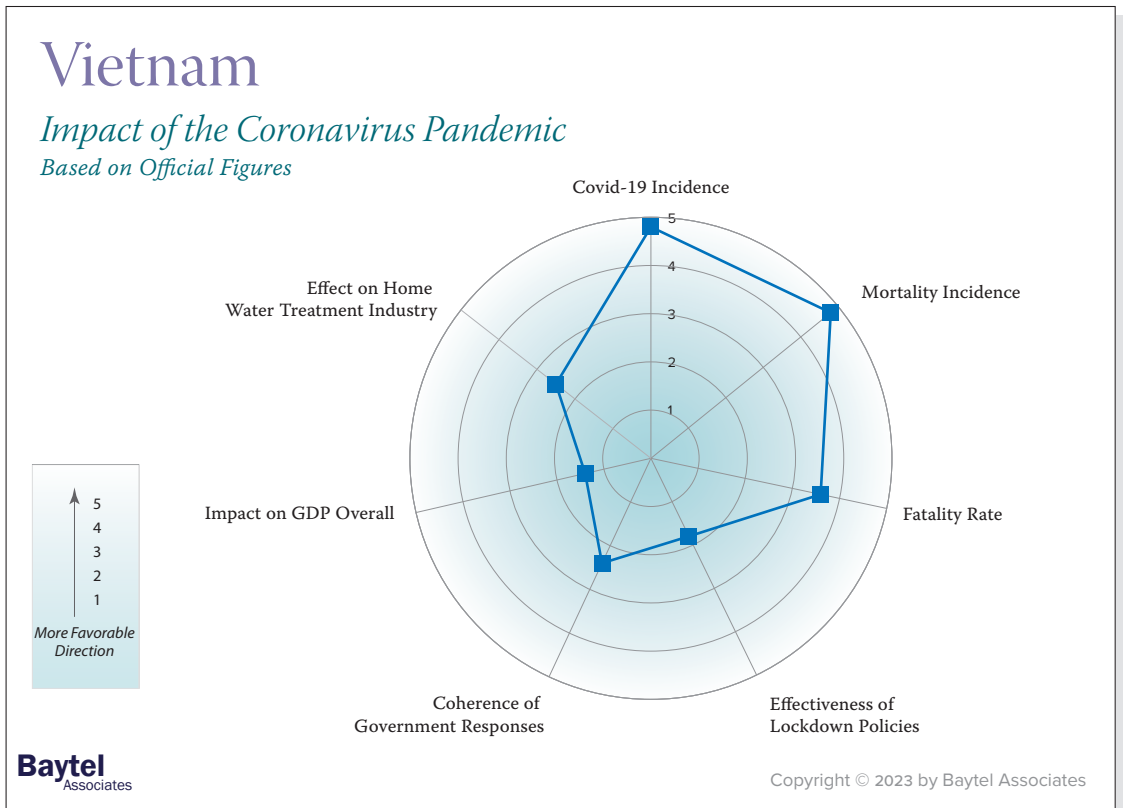
Vietnam did a highly effective job of containing the pandemic for the first 18 months, relying on an excellent public health infrastructure, quick and decisive government action, and its experience as the second country struck by the SARS-CoV-1 (SARS) epidemic starting in 2003. (Vietnam was the fourth country in the world to isolate and culture SARS-CoV-2, the

causative agent in the current epidemic.) It has several indigenous vaccine candidates in trials.

Despite the early success, things took a severe turn for the worse in late spring of 2021. The government quickly brought back lockdowns, quarantines, and its testing and contact tracing programs. In both 0000 and 0000 significant government aid and stimulus expenditures were made. The General Statistics Office (Tổng Cục Thống Kê) has estimated that more than NN million people have suffered economic losses due to the pandemic. Applications for unemployment benefits rose by NN%.

The Ministry of Health now estimates REDACTED .

The residential water treatment market experienced a boost in Vietnam for the same reasons it increased in certain other nations during the pandemic: a generalized uptick in attention paid by consumers to all types of health and wellness issues, more people working and studying from home, and so forth. However, given a background of strong growth



in demand for water purifiers pre-dating the impact of the pandemic in Vietnam, the pandemic boost in Vietnam was

REDACTED

Impact of the Ukraine War

On February 24, 2022 Russia's President Vladimir Putin ordered his troops to invade Ukraine. Most Western countries, including the United States, the countries of the European Union, the United Kingdom, Australia, and Canada quickly imposed sanctions on Russia in response.

These sanctions against Russia did not have as significant an impact as hoped for by Ukraine's allies. Russia was locked out of the SWIFT international payment messaging system and Western countries have effectively frozen \$630 billion in Russian foreign reserves, but Russia has made money selling inexpensive oil to India and other countries, and in other ways.

Removing Russia from the SWIFT system in particular created some initial difficulties for Vietnamese businesses, who export

goods and products to Russia REDACTED. Before Russia's invasion of Ukraine, bilateral trade between Vietnam and Russia was growing steadily, despite the negative impacts of the Covid-19 pandemic. Nonetheless, Vietnam still exports a diverse range of products to Russia and bilateral trade between the two countries reached \$NN billion in xxxx. Of this, Vietnam's total export value made up \$NN billion, a 00 percent increase over xxxx.

Vietnam's agriculture is one of the sectors that has suffered

most from the Ukraine conflict and has been forced to find new markets to survive.

Russian companies exporting home water treatment products to Vietnam (like REDACTED) remain in the market but are presumably hurting somewhat and are having to be creative to find ways to bring the profits home.

Issues and Drivers

Beyond the issues addressed in the graph below, one major issue continues to plague the home water treatment industry in Vietnam. It is the wide presence of REDACTED REDACTED REDACTED REDACTED REDACTED REDACTED.

See the introductory chapter of this regional report for an explanation of these graphs summarizing the Issues and Drivers of each individual country market.

