



**EUROPEAN  
INTERNATIONAL  
UNIVERSITY**



## COVER PAGE AND DECLARATION

	<b>Master of Business Administration (M.B.A.)</b>
<b>Specialization:</b>	<b>Marketing &amp; Sales Management</b>
<b>Affiliated Center:</b>	<b>CEO BUSSINESS SCHOOL</b>
<b>Module Code &amp; Module Title:</b>	<b>MGT540-Marketing Management</b>
<b>Student's Full Name:</b>	<b>Mahmoud Rajab Mohammad Abualsha'ar</b>
<b>Student ID:</b>	<b>EIU2022804</b>
<b>Word Count:</b>	<b>3966</b>
<b>Date of Submission:</b>	<b>5-2-2025</b>

**I confirm that this assignment is my own work, is not copied from any other person's work (published/unpublished), and has not been previously submitted for assessment elsewhere.**

**E-SIGNATURE:**

**DATE:**

**5-2-2025**

**EIU Paris City Campus**

**Address:** 59 Rue Lamarck, 75018 Paris, France | **Tel:** +33 144 857 317 | **Mobile/WhatsApp:** +33607591197 | **Email:** [paris@eiu.ac](mailto:paris@eiu.ac)

**EIU Corporate Strategy & Operations Headquarter**

**Address:** 12th Fl. Amarin Tower, 496-502 Ploenchit Rd., Bangkok 10330, Thailand | **Tel:** +66(2)256923 & +66(2)2569908 | **Mobile/WhatsApp:** +33607591197 | **Email:** [info@eiu.ac](mailto:info@eiu.ac)

## **Table of content**

1. Introduction.
2. The executive summary
  - Vision, Mission and Goal
  - Branding – Logo – Slogan
3. Situational analysis and target market
  - SWAT Analysis
  - PESTEL
4. Marketing objectives
5. Marketing strategy
6. STP
7. Marketing mix
  - 4P'S
  - 7C'S
8. Schedule and budget
9. Implementation
10. Control
11. Conclusion
12. References

## **Introduction.**

Tranquil Water will provide sustainable water bottles made from environmentally friendly materials, and will launch them in their new form, which will target the largest segment of society interested in preserving the environment and interested in obtaining healthy products.

We have explained in this plan the importance of preserving the environment and enhancing the role of establishments in preserving it through activities, awareness campaigns, initiatives, courses and factories that adopt the best manufacturing technology to reduce global warming and educate employees and the local community in this regard.

## **The executive summary**

Tranquil Water was established in 2010 in California, USA. It is considered one of the most important companies specialized in producing healthy water bottles made from environmentally friendly biomaterials that do not depend on fuel, which makes it one of the leading companies in preserving the environment and human health and interested in preserving sustainable materials. It is one of the most important contributors to combating global plastic pollution. The target market for our company is individuals, companies, markets, health and sports clubs, the tourism sector, schools and universities, and in the future it targets global markets.

The study of markets and competitors was taken into consideration, identifying their strengths and weaknesses, and exploiting expansion opportunities to target the largest segment of target markets through studying the population growth rate. It was found that the annual consumption of bottled water in the United States of America amounts to \$25 billion, equivalent to \$150 per person. The factory's annual revenues are expected to reach \$12 million, and expansion revenues are expected to reach \$45 million over the next five years. It is worth noting that the required amount of financing is \$8 million to establish the company and \$1 million for marketing. The profit margin is expected to be 25% (supported by special prices and low cost prices).

## **Commitment to Sustainability:**

The company relies on bio-materials manufactured from renewable sources instead of traditional plastic derived from oil to reduce gas emissions by up to 70% compared to

regular plastic. Its bottles are characterized by being convertible into biodegradable compost under certain biological conditions, which reduces the accumulation of plastic waste in landfills and oceans. It also relies on renewable energy such as solar and wind energy in its manufacturing to operate the facility and follows strict standards in replacing water consumption and recycling industrial waste in the best possible way. It has obtained prestigious environmental certificates for its commitment to comprehensive sustainability standards.

**Its community impact in addition to its environmental role:**

Tranquil Water Company participates in consumer awareness to enhance its consumer culture in California, such as its role in beach cleaning campaigns and programs that educate schools about the importance of reducing waste, and cooperates with farmers in purchasing plant-based raw materials that support the local economy.

**Vision:**

To be the company that precedes its peers in producing and distributing healthy water bottles and keeping up with the most important issues related to preserving the environment and citizen health and applying them on the ground.

**Mission:**

Producing pure, high-quality drinking water that meets the needs of the customer with a focus on innovation, sustainability and commitment to environmentally friendly practices in all our operations.

**Goal:**

- Achieving distinctive quality so that all products at all stages from manufacturing until they reach the consumer are based on the highest standards of quality and food safety.
- Maintaining sustainability and reducing environmental impact by using sustainable water sources.
- Expanding market share by increasing it in California within 4 years by 15%
- Providing customer service by communicating with customers effectively on all communication channels, most notably social media channels, and training employees to keep up with developments.

- Cooperate with the local community to spread awareness of the importance of clean water and preserving water resources, participate in seminars and community activities, and launch campaigns and initiatives.

### - **Branding (Tranquil Water)**

The brand name was adopted to match the calm, purity, beauty and relaxation of nature, and to resemble the city of California as a state that cares about well-being and sustainability.

### - **Logo**

Abstract shape

Leaves symbolize environmental conservation

Human body symbolizes health, freedom, happiness and belonging to the environment

Water drops nourish the human body to make it healthy and reflect positive energy

Water wave symbolizes purity and strength

Colors

Green symbolizes nature and sustainability

Blue symbolizes the color of water and purity

### - **Slogan (EVERY SIP- A NEW LIFE)**

1 .Literal meaning (every sip – new life):

“Every sip:”

Refers to every time a person takes a sip of water, giving the impression that the bottle is part of their daily routine.

“New life:”

Reflects the idea of renewal, both in terms of physical health



(hydration is revitalizing) and sustainability (recycling gives the bottle new life).

## 2 .Symbolic connotations:

### Daily renewal:

Associates drinking water with refreshment and a new beginning, as if each sip recharges energy.

Reminds of the importance of water as a “source of life” for humans and the planet.

### Environmental sustainability:

If the bottles are recyclable, “new life” may refer to reusing plastic instead of throwing it away.

### Commitment to health:

Pure water supports better health, giving the consumer the feeling that they are choosing a “new life” free of impurities.

## **Situational analysis and target market:**

The shopper has become aware of the importance of healthy water through his search for safe and guaranteed alternatives to pine water, which has made the market competitive with the presence of many brands, and the company believes that its opportunity still exists through competition based on promoting sustainable resources and high-quality mineral water and targeting specific and targeted markets.

- **Market Analysis:**

**Demand:** Increased demand for bottled drinking water in California due to drought and increased health awareness.

**Competition:** Existence of a number of large companies, requiring an innovative strategy to differentiate them.

- **SWOT Analysis**

1 .Strengths (High quality products, commitment to sustainability, flexible production capacity, focus on sustainability)

2 .Weaknesses (High production costs, poor distribution, poor planning and outdated technologies, lack of R&D)

3 .Opportunities (E-commerce, product diversification, expansion into emerging markets, increased environmental awareness, seasonal demand)

4. Threats (Fierce competition, new environmental laws, changing raw material prices, consumer substitution of water, natural disasters, reliance on limited water sources)

- **PESTEL Analysis**

**1 .Political factors:**

Laws, legislation, government-supported grants, all customs matters, and anti-corruption must be followed.

**2 .Economic factors:**

Use sustainable materials at competitive prices, study targeted seasons, monitor exchange rates, pay taxes due on the company, adhere to the ideal number of workers, rationalize energy consumption, and monitor potential economic changes.

**3 .Social factors:**

Raise community awareness, monitor population growth, and ideally target the age group.

**4 .Technological factors:**

Use the best technological techniques and automation, attract the best research and development teams, and reduce the amount of water returned from the water purification process.

**5 .Environmental factors:**

Conserve water due to the scarcity of its sources, reduce the Corona footprint, and spread community awareness of the importance of recycling, harnessing climate and weather and studying them.

## **6 .Legal factors:**

Follow the laws, avoid monopoly, and practice and follow all laws related to work, environment, health, and safety.

### **Marketing objectives**

1. Enhance and increase brand awareness
2. Sustainability
3. Focus on e-ads and e-commerce platforms
4. Target and penetrate new markets
5. Diversify products
6. Target health value
7. Measure and improve performance through key performance indicators

### **Conclusion**

We seek to transform the water bottle from being a galaxy of bottles to a healthy product that individuals seek in search of a better life.

### **Marketing strategy**

Developing a marketing plan for Trinkle Water bottled water factory requires a comprehensive market study, setting goals, and effective strategies to reach the target audience. Here is a suggested marketing plan:

#### **1 .Market Analysis**

- Competitor Study: Analyze competing companies in the bottled water field, including prices, quality, and distribution.
- Target Audience Definition: Identify target groups such as individuals, companies, and restaurants.

#### **2 .Goal Setting**

- Increase Market Share: Determine a specific percentage to increase market share over a specific period of time.
- Achieve a specific level of sales: Set monthly and annual sales goals.



- Enhance Brand Awareness: Increase awareness of the Trinkle Water brand in the market.

### **3 .Marketing Strategies**

- Digital Marketing:

- Create an attractive and easy-to-use website.
- Use social media (Facebook, Instagram, Twitter) to interact with customers.
- Implement paid online advertising campaigns.

- Traditional Marketing:

- Distributing flyers and brochures in targeted areas.
- Advertising in local magazines and newspapers.

- Content Marketing:

- Writing articles and blogs about the benefits of drinking bottled water and the importance of hydration.
- Producing educational videos about the bottling process and quality.

- Collaborating with influencers: Collaborating with influencers in the health and fitness field to promote the product.

### **4 .Product Distribution**

- Identify distribution channels: such as supermarkets, small shops, and restaurants.
- Direct Distribution: Establish a direct home delivery system.

### **5 .Product Pricing**

- Identify the pricing strategy: It can be competitive pricing or value-based pricing.
- Offering special offers: such as bulk discounts or promotions.

### **6 .Performance Measurement**

- Identify key performance indicators (KPIs): such as number of sales, number of new customers, and customer satisfaction.

- Analyze results: Review performance periodically and adjust strategies as needed.

## **7 .Customer Service**

- Provide excellent customer service: Ensure prompt response to inquiries and complaints.

- Collect feedback: Use surveys to collect customer opinions and improve product and service.

## **8 .Product Sustainability**

- Move towards sustainability: Use environmentally friendly packaging and promote it as part of the marketing strategy.

By implementing this plan, Trinkle Water can achieve success in the bottled water market and strengthen its position among competitors.

## **STP**

### **1 .Segmentation**

Segment the market into segments based on different characteristics, including:

A. Demographic segmentation:

Age:

Young people (18-35 years): Health and fitness conscious.

Families (35-50 years): Looking for large packages at economical prices.

Income:

Middle and high income: Prefer premium or subsidized water packages.

Low income: Looking for small packages at low prices.

Geographic location:

Urban areas: Focus on sustainability and water quality.

Rural areas: Focus on providing clean water as an alternative to unclean sources.

B. Psychographic segmentation (behavioral/psychological):

Health conscious: Looking for pure or mineral water.

Environment conscious: Prefer recyclable or plastic-free packages.

Institutions: (Offices, gyms, hotels) Order large quantities at promotional prices.

C. Behavioral segmentation:

Frequency of use:

Daily users (athletes, office workers).

Seasonal users (events, events).

Benefit:

Convenience (small packages for carrying).

Quality (water from natural sources).

Sustainability (low environmental footprint).

2 .Targeting:

Identify the most attractive segments based on:

Market size and growth rate.

Compatibility with company capabilities (sustainable packaging production, institutional supply).

Lack of competition or opportunities for differentiation.

Target segments:

Health and fitness conscious individuals (18-35 years old in urban areas):

Targeting reason: Rapid growth in health awareness, willingness to pay higher prices for premium products.

Institutions (offices, gyms):

Targeting reason: Continuous demand for large quantities, with the possibility of long-term contracts.

Environmental awareness:

Targeting reason: Global trend towards sustainability, opportunity for brand differentiation.

3 .Positioning:

Build a distinctive brand image in the minds of target audiences:

A. For health conscious people:

Message: "Your pure water... energizes you throughout the day"!

Strategy:

Focus on source purity and advanced purification technologies (e.g. ozone and reverse osmosis).

Add minerals and vitamins to support energy.

Use international quality certifications (e.g. ISO 22000).

B. For organizations:

Message: "Your trusted partner in sustainable hydration."

Strategy:

Competitive prices for large quantities.

Provide customized packaging with the organization's brand (private label).

Fast and flexible delivery service.

C. For environmentally conscious people:

Message: "Every drop protects the planet."

Strategy:

Use packaging made from recycled plastic (rPET) or biodegradable materials.

Launch recycling campaigns with customer rewards (discount on next purchase).

Cooperate with environmental organizations to support sustainability initiatives.

STP Strategy Summary:

## Targeting Segments Positioning

Health-conscious individuals Focus on quality and health "Pure water that supports your active lifestyle."

Companies that provide large quantities at special prices "Your partner in providing safe water without complications."

Concern for the environment Focus on sustainability "Your conscious choice makes a difference."

Recommendations to strengthen the strategy:

Product differentiation:

Develop smart packaging that shows the water temperature or expiration date.

Effective communication:

Using customer success stories (e.g. corporate partners) in marketing campaigns.

Continuous innovation:

Introducing refillable packaging (e.g. 20-liter Jerry cans with pumps).

Strengthening partnerships:

Collaborating with influencers in the health and environment sectors to increase credibility.

Through this analysis, a clear marketing strategy was built that focuses on quality, sustainability and flexibility, strengthening the manufacturer's position in the competitive bottled water market.

## **Marketing mix**

### Marketing Mix for Water Bottling Plant

The marketing mix is an essential tool for balancing marketing elements to increase market share and build customer relationships. Here is a breakdown of the four elements, taking into account the nature of the water bottling plant:

1 .Product:

Physical characteristics:

Plastic bottles (recyclable or biodegradable).

Premium glass or metal bottles.

Various sizes (from 250 ml for single use to 20 liters for home use).

Added value:

Water fortified with minerals or vitamins.

Smart bottles (expiry date indicator, easy-to-open designs).

Quality certifications (ISO 22000, health certificate from local authorities).

Services:

Private brand services for hotels or companies.

Recycling programs with rewards for customers.

2 .Price:

Pricing strategies:

Competitive price: for standard bottles (such as 500 ml) to compete with competitors.

Premium price: for premium bottles (glass or mineral water) or fortified.

Volume discounts: for companies or distributors who buy in bulk.

Promotions:

15% discount on the first order for new businesses.

Monthly home subscriptions with free delivery.

3 .Place:

Distribution channels:

Direct distribution:

Sales via the website or delivery apps (such as Talabat).

Direct delivery to institutions (offices and gyms).

Indirect distribution:

Partnerships with retail stores (supermarkets and pharmacies).

Distribution through local distributors in remote areas.

Geographic coverage:

First focus on densely populated urban areas.

Later expand to rural areas that suffer from lack of clean water.

4 .Promotion:

Digital marketing:

Targeted ads on Facebook and Instagram showing the eco-friendly production process.

Short videos on TikTok about the importance of daily hydration.

Public relations:

Sponsorship of sporting or environmental events (such as marathons or clean-up campaigns).

Participation in trade shows to showcase innovative packaging.

Corporate promotion:

Special supply offers bearing the company's brand logo (B2B).

Sending e-catalogs to purchasing managers in hotels and companies.

Awareness campaigns:

Posts on the harms of conventional plastic and the benefits of recycling.

Partnerships with environmental organizations to enhance brand image.

7C Marketing Mix for a Water Bottle Manufacturer (Based on Shimizu's Compass Model)

This model emphasizes a holistic, customer-centric approach. Here's how each "C" applies to a water bottle manufacturer:

1. Company (internal capabilities and values)

Focus: Align operations with sustainability and innovation.

Examples:

Embrace green manufacturing (e.g., solar-powered factories, recycled materials).

Achieve certifications such as B Corp or Carbon Neutral to build trust.

Invest in R&D for leak-proof designs or smart bottles (e.g., hydration tracking).

## 2. Commodity (product features)

Focus: Differentiate through design, functionality, and sustainability.

Examples:

Offer insulated stainless steel bottles (retain temperature for 24 hours).

Use materials that are BPA-free, biodegradable, or ocean plastic.

Provide customization (e.g., engraved logos and colors).

## 3. Cost (Pricing Strategy)

Focus: Balancing affordability with perceived value.

Examples:

Premium pricing for high-tech or eco-certified bottles.

Economy pricing for bulk orders (e.g., corporate customers).

Bundled offers (e.g., bottle + retainer + cleaning kit).

## 4. Communication (Marketing and Branding)

Focus: Highlight sustainability and lifestyle fit.

Examples:

Run campaigns like “1 bottle = 10 plastics stuck in the ocean.”

Partner with fitness influencers or environmental NGOs.

Use social media storytelling (e.g., “behind the scenes” eco-production videos).

## 5. Channel (Distribution)



Focus: Ensure easy accessibility across platforms.

Examples:

Direct-to-consumer (DTC): Sell via the manufacturer's e-commerce site.

B2B Partnerships: Provide gyms, schools, or corporate wellness programs.

Retail: Partner with eco-friendly stores (e.g. Whole Foods) or Amazon.

#### 6. Consumer (target audience)

Focus: Segment and customize products according to key demographics.

Examples:

Outdoor enthusiasts: Market durable, lightweight bottles.

Eco-conscious buyers: Emphasize carbon-neutral shipping.

Students/office workers: Offer sleek, compact designs.

#### 7. Conditions (external factors)

Focus: Adapt to market trends and regulations.

Examples:

Leverage single-use plastic bans to promote reusable bottles.

Monitor competitors (e.g. Hydro Flask partnerships).

Address supply chain risks (e.g. material shortages).

Key points:

Position the brand as a sustainability leader through eco-innovation and transparency.

Use multi-channel distribution to reach diverse audiences.

Align pricing and communication with the values of eco-conscious consumers.

By incorporating these seven principles, a manufacturer can build a strong, ethical brand while remaining competitive in the growing reusable bottle market.

### **Schedule and budget**

Creating a schedule and budget for a water bottle factory involves balancing timelines, costs, and operational goals. Below is a sample framework tailored for a medium-sized factory producing 50,000 units/month, assuming a mix of stainless steel and reusable plastic bottles. Adjustments can be made based on scale, location, and automation levels.

Project Timeline (12-18 Months)		
Phase	Duration	Key Activities
1. Planning & Feasibility	2-3 Months	- Market research
		- Business plan finalization
		- Securing permits/licenses
		- Supplier negotiations
2. Factory Setup	4-6 Months	- Land acquisition/lease
		- Construction/renovation
		- Equipment procurement & installation
		- Hiring core team
3. Production Testing	1-2 Months	- Trial production runs
		- Quality assurance checks
		- Packaging design finalization
4. Full-Scale Production	Ongoing	- Ramp-up to target capacity
		- Launch of marketing campaigns
		- Distribution setup
5. Scaling	6-12 Months	- Expand distribution networks
		- Introduce new product lines (e.g., smart bottles)
Budget Breakdown (Sample Estimates)		

Note: Costs vary by region (e.g., Asia vs. North America) and automation levels.

1. Capital Expenditure (One-Time Costs)		
Category	Estimated Cost	Details
Land & Construction	500,000–500,000–1.5M	- 10,000–20,000 sq. ft. facility (rent or purchase)
		- Utilities setup (water, electricity)
Equipment	300,000–300,000–800,000	- Bottle molding machines
		- Insulation tech (for steel bottles)
		- Quality control systems
Licenses & Permits	20,000–20,000–50,000	- Environmental compliance
		- Business licenses
		- Safety certifications
	50,000–50,000	- Branding (logo, website)

Initial Marketing	0–100,000	- Pre-launch campaigns
		- Sample distribution
2. Operating Costs (Monthly)		
Category	Estimated Cost	Details
Raw Materials	100,000–100,000–200,000	- Stainless steel, plastic granules, silicone seals
		- Eco-friendly materials (e.g., recycled PET)

### **3. Contingency Fund**

**10–15% of total budget** (200,000–200,000–500,000) for unexpected delays, material price hikes, or equipment repairs.

#### **Key Considerations for Cost Savings**

1. **Automation:** Invest in semi-automated machines to reduce labor costs long-term.
2. **Bulk Purchasing:** Negotiate discounts for raw materials (e.g., stainless steel, plastic resins).
3. **Lean Manufacturing:** Minimize waste through efficient production workflows.
4. **Local Partnerships:** Source materials regionally to cut shipping costs.

#### **Revenue Projections (First Year)**

- **Selling Price per Bottle:** 8–8–25 (varies by type: basic plastic vs. premium insulated steel).
- **Annual Revenue (50,000 units/month):**
  - **Low End:**  $50,000 \times 8 \times 12 = **8 \times 12 = **4.8M**$
  - **High End:**  $50,000 \times 25 \times 12 = **25 \times 12 = **15M**$

### Break-Even Timeline

- **Assumptions:** \$3M initial investment, 40% gross margin.
- **Break-Even Point:** ~12–18 months (depending on sales velocity and marketing ROI).

### Final Tips

- Prioritize **sustainability certifications** (e.g., B Corp) to justify premium pricing.
- Use **pre-orders** to fund initial production.
- Monitor cash flow closely during the ramp-up phase.

## Implementation

### Implementation Timeline

Phase	Activities	Timeframe
Phase 1	Product finalization, regulatory approvals	Q1 2025
Phase 2	Soft launch in select stores, initial marketing	Q2 2025
Phase 3	Full-scale digital and retail expansion	Q3-Q4 2025
Phase 4	Performance analysis, optimization, expansion	2026

## Control

Creating an effective control system for a water bottle factory ensures consistent product quality, operational efficiency, and compliance with sustainability goals. Below is a structured approach to implement quality, process, and cost controls, tailored to a factory producing reusable bottles (e.g., stainless steel, BPA-free plastic).

### 1 .Quality Control

Objective: Ensure products meet safety, durability, and design standards.

Tools & Processes:

Raw Material Testing:

Inspect incoming materials (e.g., stainless steel grade 304, recycled PET) for defects.

Use XRF analyzers to verify material composition.

In-Line Inspections:

Deploy automated vision systems to detect cracks, leaks, or misaligned lids during production.

Conduct pressure tests for insulated bottles (e.g., 24-hour hot/cold retention).

Final Product Audits:

Randomly sample 5-10% of each batch for manual inspection.

Certify compliance with standards like FDA (for food safety) or ISO 9001.

KPIs:

Defect rate  $\leq 2\%$

Customer return rate  $\leq 1\%$

### 2 .Production Process Control

Objective: Optimize workflows to minimize waste and downtime.

Tools & Processes:

Real-Time Monitoring:

Use IoT sensors to track machine performance (e.g., temperature, speed).

Implement SCADA systems to visualize production data on dashboards.

Standard Operating Procedures (SOPs):

Document step-by-step processes for molding, assembly, and packaging.

Train staff using digital work instructions (e.g., QR codes on machines).

Lean Manufacturing:

Apply Six Sigma to reduce variability (e.g., cycle time deviations).

Use 5S methodology to organize workspaces and reduce clutter.

KPIs:

Machine uptime  $\geq 95\%$

Production cycle time  $\leq 30$  minutes per bottle

### 3 .Inventory & Supply Chain Control

Objective: Avoid overstocking or shortages of materials.

Tools & Processes:

Just-in-Time (JIT) Inventory:

Partner with suppliers for on-demand deliveries of raw materials.

Use RFID tags to track inventory levels in real time.

Supplier Scorecards:

Rate suppliers on delivery timeliness, material quality, and eco-compliance.

Maintain backup suppliers for critical components (e.g., silicone seals).

ERP Integration:

Sync inventory data with software like SAP or NetSuite for demand forecasting.

KPIs:

Inventory turnover ratio  $\geq 8x/\text{year}$

Supplier lead time  $\leq 14$  days

#### 4 .Cost Control

Objective: Maintain profitability without compromising quality.

Tools & Processes:

Activity-Based Costing (ABC):

Track costs per production activity (e.g., molding, engraving).

Identify and eliminate non-value-adding steps.

Energy Efficiency:

Install smart meters to monitor electricity/water usage.

Switch to energy-efficient machinery (e.g., servo-driven injection molders).

Waste Reduction:

Recycle scrap metal/plastic into new products (e.g., bottle caps).

Penalize departments exceeding waste quotas.

KPIs:

Production cost per unit  $\leq \$3.50$

Energy consumption reduction  $\geq 15\%$  annually

#### 5 .Sustainability & Compliance Control

Objective: Align operations with environmental regulations and brand values.

Tools & Processes:

Carbon Footprint Tracking:

Use software like Ecochain to measure emissions per production batch.

Offset emissions via reforestation partnerships.

Wastewater Management:

Install filtration systems to treat and reuse water in production.



Test discharged water for pH and chemical levels (comply with EPA standards).

Certifications:

Maintain B Corp, Carbon Neutral, or Cradle-to-Cradle certifications.

KPIs:

Recycled material usage  $\geq 70\%$

Carbon emissions  $\leq 2\text{kg CO}_2$  per bottle

## 6 .Human Resource & Safety Control

Objective: Ensure a safe, motivated workforce.

Tools & Processes:

Training Programs:

Conduct monthly safety drills (e.g., fire emergencies, machine handling).

Certify operators in ISO 45001 (occupational health and safety).

Performance Metrics:

Track employee productivity (e.g., bottles assembled per hour).

Reward teams with zero safety incidents.

Ergonomic Assessments:

Redesign workstations to reduce repetitive strain injuries.

KPIs:

Workplace accidents  $\leq 1$  per quarter

Employee retention rate  $\geq 85\%$

## 7 .Technology & Automation Control

Objective: Leverage tech to enhance precision and scalability.

Tools & Processes:

Predictive Maintenance:

Use AI tools (e.g., IBM Maximo) to predict machine failures before they occur.

Robotics:

Deploy collaborative robots (cobots) for repetitive tasks (e.g., lid assembly).

Blockchain for Traceability:

Assign QR codes to bottles to track their lifecycle (materials → production → recycling).

KPIs:

Maintenance downtime  $\leq 2\%$

Automation rate  $\geq 40\%$

Control Dashboard Example

Metric	Target	Actual	Variance	Corrective Action
--------	--------	--------	----------	-------------------

Defect Rate	$\leq 2\%$	$3.5\%$	$1.5\%$	Recalibrate molding machines.
-------------	------------	---------	---------	-------------------------------

Production Cost per Unit	$3.50\$ \leq 4.20\$$	$0.70\$$	+	Renegotiate plastic supplier contracts.
--------------------------	----------------------	----------	---	---

Carbon Emissions	$2\text{kg CO}_2/\text{bottle}$	$2.8\text{kg}$	$0.8\text{kg}$	+	Switch to solar energy for 30% of power.
------------------	---------------------------------	----------------	----------------	---	--

Key Tools for Control

Quality Management Software: Qualio, MasterControl

Production Monitoring: MachineMetrics, Tulip

Sustainability Analytics: Sphera, Sustain.Life

Implementation Checklist

Define clear SOPs for all processes.

Install IoT sensors and integrate data into a central dashboard.

Train staff on quality standards and safety protocols.

Set up monthly audit schedules for materials, machines, and compliance.

Establish a feedback loop with customers to identify improvement areas.

### **Conclusion**

Tranquil Water will be one of the leading companies in the next five years in the field of manufacturing sustainable packaging and providing the best healthy water that meets the required standards that suit the American citizen and enhance his health and safety. It will be the distinctive and prominent brand because it truly cares about preserving the environment and human health.

## References

1. <https://shapiroe.com/blog/bottled-water-environmental-impact/>
2. <https://ar.mwdh2o.com/building-local-supplies/pure-water-southern-california/>
3. <https://www.mordorintelligence.com/ar/industry-reports/north-america-bottled-water-market>
4. <https://www.coherentmarketinsights.com/industry-reports/eco-friendly-water-bottle-market/market-challenges-and-opportunities>
5. <https://www.mdpi.com/2071-1050/16/8/3488>
6. <https://quench.culligan.com/blog/where-does-bottled-water-come-from/>
7. <https://water.ca.gov/Water-Basics/Agriculture>
8. <https://www.tetrapak.com/about-tetra-pak/news-and-events/newsarchive/just-water-best-packaging-award-tetra-top>
9. <https://sibottle.com/how-a-metal-water-bottle-manufacturer-operates/>
10. <https://www.scribd.com/doc/75932585/Marketing-Planning-of-drinking-water>