

# DRIVING SUSTAINABILITY FORWARD

SUSTAINABILITY REPORT 2023

# ABOUT THIS REPORT

Pengurusan Air Selangor Sdn Bhd's (Air Selangor) Sustainability Report 2023 provides information regarding Air Selangor's approach on the management of its economic, environmental, and social impacts.

The Report is prepared in accordance with the Global Reporting Initiative (GRI) Standards and Sustainability Accounting Standard for Water Utilities and Services (SASB). The relevant GRI Indicators, Sustainability Disclosures and Accounting Metrics are listed in the GRI Content Index and SASB Standards table, respectively, on pages 85 to 88.

## Scope & Boundary

This Sustainability Report is an annual publication that tracks Air Selangor's sustainability strategy, activities and programmes implemented and performance recorded from 1 January 2023 to 31 December 2023. This Report includes all of Air Selangor's operations at its headquarters, 10 customer service offices and 12 regional offices, as well as all operational assets in Selangor, Kuala Lumpur, Putrajaya, and Pahang. Certain information from previous years has been restated, as indicated in the Footnotes of Performance Data sections of the report, where appropriate.

## Approach to Materiality

The organisation reports based on our material matters, which are assessed biennially to ensure that the matters continue to be applicable and relevant for our strategy, performance, and prospects. In developing this report further, we have included qualitative and quantitative performance measurements as well as other factors that may have affected business sustainability.

## Let us hear from you

In serving our stakeholders better, we welcome feedback to enhance our disclosures in this report. Please address any questions, comments, or suggestions to [sustainability@airselangor.com](mailto:sustainability@airselangor.com)



Scan here to view our Sustainability Report online



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## DRIVING SUSTAINABILITY FORWARD

### THEME RATIONALE

Our Sustainability Report 2023's theme, "Driving Sustainability Forward", underscores our commitment to advancing sustainability beyond water management. It reflects our proactive efforts in advocating for water security and broader environmental stewardship. This report highlights our continuous journey of progress and improvement in sustainability practices, including actions aimed at strengthening water security and resiliency at regional and local levels. Emphasising our dedication to advancing the United Nations' Sustainable Development Goals (UN SDGs), this report demonstrates our commitment to driving sustainable progress at Air Selangor.

# CHAIRMAN'S NOTE

## Assalamualaikum warahmatullahi wabarakatuh, Salam Kita Selangor.

**As we look back on 2023, I am proud of the path Air Selangor has taken towards sustainability which is in line with the State Government of Selangor's focus towards building a resilient state offering efficient services capable of withstanding global challenges.**

**Resiliency is paramount for Air Selangor to be on track in achieving its vision to Asia's leading water services provider by 2030.**

That is the backdrop and foundation of Air Selangor's Sustainability Report 2023.

As you flip through these pages, you will find in it Air Selangor's actions in strengthening the Selangor and Malaysia's water security in addition to solidifying our commitment as enablers of economic growth and advocates of climate resilience.

Furthermore, this Report reflects our dedication to upholding and advancing the United Nations' Sustainable Development Goals (UN SDGs), underscoring our efforts in creating a better world for future generations by prioritising Environmental, Social, and Governance (ESG) practices and simultaneously, driving Air Selangor forward sustainably.

Globally, we have seen the threats of climate change. The timeframe between one climate crisis and another is shortening, which in turn means we have to be prepared for more frequent grey clouds on the horizon.

This fear has been the driving force accelerating climate action across the globe and Malaysia is primed to play a leading role. When Prime Minister Datuk Seri Anwar Ibrahim launched the National Energy Transformation Roadmap (NETR) in 2023, that represented Malaysia walking the talk and exemplified its readiness to play a leading role in Southeast Asia.

That clarion call was gracefully accepted by Air Selangor which has collated its numerous sustainability efforts in through the Net Zero Energy Vision which I launched in 2023.



# CHAIRMAN'S NOTE

### Supporting the State's Net Zero Aspirations

For Air Selangor to accomplish this goal, the plan we have formulated will see us eventually producing up to 1,460 GWh of green electricity annually by 2040.

The shift to renewable energy is expected to significantly reduce operational costs for Air Selangor, particularly in the operation of water treatment plants. Currently, Air Selangor north of RM300 million annually on electricity to power its water treatment facilities. With the full implementation of the Net Zero Energy Vision, these costs stand to be vastly reduced, allowing savings to be redirected towards upgrading essential infrastructure like pipes and pumps, enhancing the sustainability and efficiency of water services.

The transformation will also have broader implications for approximately 9.3 million consumers in Selangor, Kuala Lumpur, and Putrajaya, who will benefit from a clean water supply generated through renewable energy. This initiative will also see Air Selangor leading the industry in adopting largescale renewable solutions through a phased approach that has started with the installation of solar PV systems at several water treatment plants and culminating in a comprehensive switch to renewables by 2040.

In Selangor, the state's sustainability objectives are embedded within the First Selangor Plan (RS-1) which I launched in August 2022 geared towards not only doubling down on Selangor as Malaysia's economic powerhouse, but building a smart and liveable state.

Besides committing to achieve net zero in urban areas and municipalities by 2050, RS-1 has also made the management of water resources a key focus area. It is in both these priorities that Air Selangor, as Malaysia's largest water services provider, will be at the forefront to ensure that the state's economic and sustainability goals and objectives are met.

### Financial Sustainability

Beyond the debate surrounding our business and ESG goals, it is vital for Air Selangor to possess the financial capacity to these plans. While the state's financial position remains strong, with three consecutive years of financial surpluses since 2021, I continue to emphasise that all state-owned enterprises must work towards being financially sustainable while implementing policies outlined by the state government. This means, corporations like Air Selangor must discover the financial dynamism to fund their own operations without relying on the state's coffers.

Here, it must be acknowledged that although Air Selangor obtained funding once from the state government when it was first incorporated, it has been able to stand on its own and is taking key steps towards financial independence. This was achieved through the issuance of a RM10 billion Sukuk Murabahah Programme in 2020 that garnered a strong AAA rating by RAM Rating Services Berhad (RAM Ratings) – a clear reflection of the state's own financial strength. The Sukuk Murabahah Programme has enabled Air Selangor to obtain funding at optimum rates to help it fund its capital expenditure needs, as well as exhibiting its competitiveness and resilience.



## CHAIRMAN'S NOTE

### Overcoming Water Scarcity

As seen in the developed world, climate change can throw a spanner in the works of water security. The National Water Services Commission (SPAN) Malaysia's water industry regulator, has indicated that Malaysia needs to invest over RM30 billion over the next three years to fortify the industry, increase its readiness and fortify resilience in addressing climate change. The focus of the investments, some of which Air Selangor has already embarked on, include rapid decarbonising of the industry, reducing the carbon footprint in the treatment of drinking water and wastewater utilities, and implementing energy efficiency measures.

I believe that the use of smart technology, like sensors to detect the use and misuse of water can play a pivotal role in conservation. The digitalisation of services and utilities is aimed at not just improving the state's operational efficiency, but to also strengthen capabilities in managing challenges associated with achieving sustainability goals.

For Air Selangor, smart technology has already helped with water resource management in the context of demand and supply planning, water quality monitoring and water distribution management. Air Selangor will continue to explore opportunities for the greater use of smart technology, in line with the state's stance to elevate the standard of public services and utilities through smart and digital technology.

### Strengthening Water Resiliency and Water Security

A key project that demonstrates how Air Selangor is supporting both the nation's and the state's efforts to strengthen water security is through the Rasau Water Supply Scheme, which is currently in its first stage of development. Besides assuring the sustainability of clean and safe water supply for future generations in Selangor, Kuala Lumpur and Putrajaya, the scheme is expected to boost the state's water reserve margin to 17.7% by 2030 from 15.34% in 2023. I am pleased to have inaugurated the groundbreaking ceremony earlier this year and I applaud the Federal Government's unstinting commitment to this project in the form of grants amounting to RM1.8 billion.

In addition, Air Selangor also supports the state government's efforts to ensure a clean and safe water supply without disruption through the Raw Water Guarantee Scheme (SJAM) initiative. The raw water pumping project, encompassing the HORAS 600 off-river storage in Sungai Selangor and the off-river storage in Sungai Semenyih is projected to be completed in 2024.

Collectively, these efforts are not only intended to meet the needs of the current population, but also to secure the future of a growing population and to support the economic growth of Selangor.



## CHAIRMAN'S NOTE

In 2023, the growth of the Golden State's Gross Domestic Product (GDP) of 25.5% outpaced the national GDP growth rate, with Selangor contributing one-quarter of the country's GDP in the same year.

As the nation's main engine of growth, Air Selangor must continue doing all it can to ensure a reliable and safe supply of water to the people and businesses in Selangor.

### Involving Our Stakeholders in Our Journey

While Air Selangor can continue finding ways to expand treated water supply and raw water sources, as well as mitigate the impact of pollution in tandem with high cost of investments to reduce NRW rates, we believe that consumers should also step up to reduce overall consumption. As articulated by SPAN, a majority of small and medium enterprises interviewed in a survey prioritise energy efficiency over addressing water scarcity. However, water holds a greater importance than energy in the baseline survival of any modern economy, especially in today's rapidly developing methods of production in the digital world requiring high amounts of water to cool production plants.

This is where we support our regulators call for water to be given greater importance in the ESG goals of businesses, and where water footprinting should become a norm as a way to reduce water consumption and preserve our water reserve margins.

We as consumers should also play our part in conserving water and reducing wastages in our daily lives. According to SPAN, the daily water consumption of Malaysians is 50% higher than what is recommended by the World Health Organization (WHO). Thus, I believe that more focus needs to be placed on promoting public awareness and education initiatives to foster a greater appreciation for water conservation.

### The Future of Water

The Federal Government's proactive approach to sustainable water management promises a positive future for the country's water security as outlined in the National Water Policy 2020-2030. In the recent 5th National Water Council Meeting (MAN 5), the federal government indicated that issues such as dam safety, water pollution, and effective water resource management need to be addressed, underscoring the need for collaboration between federal and state authorities to ensure the optimal utilisation of water resources while maintaining quality and sustainability.

Air Selangor will continue to be resolute in our efforts to advocate and educate the importance of water security. Looking ahead, Air Selangor aims to enhance its ongoing programmes including doubling pipe replacement efforts with a vision to achieve a further reduction in NRW rates to 27.5% by 2025 and 25% by 2030. We are confident that by working together as a collective unit, we can overcome challenges brought forward by climate change, preparing ourselves for a more resilient future.

As we move towards achieving our goals, I would like to thank each of our 9.3 million consumers in Selangor, Kuala Lumpur and Putrajaya for their continuous trust, patience, and unwavering support. I extend my appreciation to our Board of Directors for their guidance, the management team for their robust leadership and commitment, and employees for their dedication. Dynamic collaborations with our business partners, vendors, and suppliers are vital, and as we take on a new year, Air Selangor is dedicated to developing action plans that will enable us to protect our water ecosystem for the benefit of both people and the planet.

Yang Amat Berhormat  
**Dato' Seri Amirudin Bin Shari**  
Chairman



# MESSAGE FROM THE ACTING CHIEF EXECUTIVE OFFICER

## Dear Valued Stakeholders,

As we started our sustainability journey four years ago; from carving our goals, charting our milestones and projecting our plans towards the ideals, it is now time to act. 2023 was the year we turned our aspirations into actions, 2023 was the year Air Selangor starts delivering tangible outcomes. It is with great pride, that I present Air Selangor's 2023 Sustainability Report.

### Turning Aspirations into Actions

As Malaysia's largest water services provider, our mission is simple and clear; to deliver the best customer experience through water. Staying focused on our mission throughout the years, Air Selangor has evolved from just a water supply company to a dynamic organisation that incorporates the elements of sustainability, innovation, service excellence and community engagement into our every action.

The topics of Environmental, Social and Governance (ESG); Sustainability, Sustainable Development Goals (SDGs); Climate Change and Climate Action have become inevitable – fare with it or be left behind. These factors are crucial especially in paving our way to become the leading water services provider in Asia by 2030. In doing so, we have equipped ourselves with the Air Selangor Sustainability Strategic Framework to map out our plans towards sustainability against the global standards and guidelines of UN SDGs. This is to ensure that we play an active role in the sustainability of businesses, positively impacting the livelihoods of people and communities that we serve as well as the environment.

In 2023, Air Selangor achieved a revenue of RM2.82 billion, an increase of 15.10% from the previous financial year, largely contributed by tariff revenue from the non-domestic and special categories following the tariff increase in August 2022. Nonetheless, operating and capital costs remain high as Air Selangor continues to invest in the development, upgrading and maintenance of its water infrastructure. Notably, Air Selangor continues to work towards supporting the increasing water demand in the Klang and Petaling regions through its Rasau Water Supply Scheme, a new water supply scheme that is set to become among the largest in Malaysia and Southeast Asia.

As part of the scheme, Air Selangor is funding and constructing the Sungai Rasau Water Treatment Plant. This will ensure a sustainable supply and demand outlook for Selangor residents as the water source is capable of producing an estimated 1,400 million litres of treated water per day.





## MESSAGE FROM THE ACTING CHIEF EXECUTIVE OFFICER

We are also expecting a positive move on the domestic tariff adjustment announcement in early 2024, in which Air Selangor has been actively involved in discussions and meetings with our regulator, the Suruhanjaya Perkhidmatan Air Negara (SPAN) on a frequent basis. A tariff adjustment will help Air Selangor to plan and utilise its financial resources in rolling out sustainable water initiatives to meet the increasing demand for clean and safe treated water.

At Air Selangor, it is our primary focus to ensure that adequate mitigation and adaptation strategies and actions are implemented to safeguard our sustainable water system. In line with the Focus Area of Water Management mapped out by the Rancangan Selangor Pertama (RS-1) framework by the Selangor Government, we are committed to tackling water quality, availability and security. Air Selangor incorporates the elements of RS-1's three key strategies of improving water quality resources, reducing NRW and water consumption and adapting to climate risks for long-term water security into our strategic planning. This dedication bolsters our efforts to achieve the Air Selangor Sustainability Strategy 2030, in our journey to become the leading water services provider in Asia by 2030.

### Financial Independence

In echoing the thoughts of our Chairman, I would like to convey our thanks to the state government for their continued support in our endeavours to ensure sustainable water supply to the residents and businesses of Selangor, Putrajaya and Kuala Lumpur. We are thankful for the one-time financial support that was granted to us upon our incorporation. Since then, we have taken the initiative to pursue financial independence, despite being a state-owned entity, through the issuance of a RM10 billion Sukuk Murabahah Programme. This is an important initiative as it has enabled Air Selangor to fund its own capital expenditure, without relying on the state government for financing.

A prime example of this programme in action has been our ability to fully fund the construction of the Sungai Rasau Water Treatment Plant and its distribution network which is a key component of the Rasau Water Supply Scheme. This is alongside the Federal Government's contribution of grants amounting to RM1.8 billion for the overall scheme.

In addition, through this Sukuk Murabahah Programme, Air Selangor has issued its Sukuk Kelestarian under the Sustainable and Responsible Investment (SRI) Sukuk Framework, which has seen encouraging response from investors. The use of proceeds from this Sukuk Kelestarian will help to further boost the state's and Air Selangor's sustainability goals and objectives.



**RM2.82**  
billion

Recorded Revenue  
**15.10%**

**RM3.13**  
billion

Total raised through the issuance of Sustainable and Responsible Investment (SRI) Sukuk known as Sukuk Kelestarian Air Selangor (Sukuk Kelestarian) as of December 2023

**100%**

Compliance with Quality Assurance Programme (QAP)

**5,227**  
MLD

Average Production Volume  
**110 MLD**

## MESSAGE FROM THE ACTING CHIEF EXECUTIVE OFFICER



### Increasing Water Accessibility through Sustainable Financing

In maintaining our drive towards achieving our vision to be the leading water services provider in Asia by 2030, we must ensure that sustainable water supply is made available for our consumers as we continuously seek ways to improve our efficiency and service deliverables. This is executed through a long-term plan in upscaling infrastructures and asset replacement. Since October 2021, we have successfully issued five tranches of Sukuk Kelestarian amounting to a total of RM3.13 billion as of 31 December 2023, which forms an important part of Air Selangor's RM10 billion Sukuk Murabahah Programme. The proceeds from the Sukuk Kelestarian are being allocated towards projects related to sustainable water supply, sustainable water management and renewable energy initiatives, including the previously mentioned Rasau Water Supply Scheme and other projects for the maintenance of existing facilities, pipe replacement, and Renewable Energy for Water, amongst others. More detailed information on the Sukuk Kelestarian allocation and its outcomes are available on our website.

### Addressing Climate Change

Climate change has become one of the key business risks in Air Selangor, affecting the availability and quality of water resources, resulting in the uncertainty of fulfilling high water demand in the future. Despite the organisation's achievements and overcoming challenges, climate risks pose a significant threat to our community. Therefore, our commitment to sustainability goes beyond our corporate ethos; it is a fundamental responsibility we owe to the planet and future generations.

We have embedded our drought and flood framework in Air Selangor's business plan by implementing various key initiatives to address the environmental shifts. These efforts include strategically implementing sustainable practices to promote water conservation and minimise wastage, notably by embracing new emerging technologies such as the installation of pressure transient stations and smart meters. This partly contributes to the reduction of NRW rates, which recorded an achievement of 27.8% in 2023.

Air Selangor also focused on ensuring the resiliency of our infrastructures, recognising the needs for our assets to be resilient against the effects of climate change. In 2023, the organisation invested a total of RM105.7 million in pipe replacement programmes covering a range of 93.88 km.

### Enhancing Water Efficiency for Non-Revenue Water Reduction

Air Selangor will continue to invest in strategic plans to improve our infrastructure and facilities to ensure long-term resilience and operational excellence. For example, our NRW reduction programme involves active leak detection by leak specialists, establishment of district metering zones, technological intervention, meter replacement, and addressing illegal tapping. The effectiveness of our initiatives has led to achieving an average reduction of about 1% yearly. Despite what appears to be a small quantum, this reduction translates to significant daily water savings of approximately 33 million litres (MLD), benefiting around 125,000 consumers daily.

## MESSAGE FROM THE ACTING CHIEF EXECUTIVE OFFICER

In tandem with our efforts, Air Selangor met the SPAN-set NRW reduction targets for three consecutive years since 2019 with over RM558 million committed, notably reducing pipe burst cases to a level significantly below international benchmarks. With substantial investments in infrastructure and the adoption of global best practices, we have also moved beyond our operations to community engagement through initiatives like the Leak Reporting Campaign which was launched last year to encourage consumer and workforce participation. The campaign has yielded promising results, with over 16,000 leak reports repaired by November 2023. Looking ahead, Air Selangor aims to enhance its ongoing programmes including doubling pipe replacement efforts from 150km a year to 300km a year starting from 2024, and 400km from 2034 onwards, and extending the Leak Reporting Campaign, with a vision to achieve further NRW reduction rates to 27.5% by 2025 and 25% by 2030.

Since 2016, we have committed to NRW reduction efforts. Under the National NRW Reduction Programme, we have successfully received matching grants for our achievement of our annual NRW reduction targets for three years consecutively from 2019 to 2021. This grant is an incentive provided by the Malaysian Government to encourage effective and persistent NRW reduction based on targets set by SPAN. Air Selangor received a grant cheque amounting to RM110.98 million under the Approach Two Programme in 2023 as a result of achieving an NRW reduction rate of 28% in 2021, a decrease of 0.5% compared to the previous year. It is worth noting that our continuous achievement of the NRW targets from 2019 to 2021 has earned us a total grant amount of RM362.4 million under this programme.

### Achieving the Highest Standards of Customer Experience

Air Selangor will continuously drive our aspiration to produce clean and safe drinking water with more than 99% of the National Standard for Drinking Water Quality (NSDWQ) compliance and higher than 80% of the Drinking Water Quality Index (DWQI) score. While Air Selangor's initiative to improve its water quality is an ongoing journey, we have successfully achieved a record of 99.93% compliance with the Drinking Water Quality Standard (DWQS) and 100% compliance with the Quality Assurance Programme (QAP) in FY2023. This indicates that we are on the right track towards realising our Trust our Tap 2028 strategy.

In our Second Operating Period (OP2) from 2023 to 2026, our primary objective is to establish a robust risk mitigation strategy. This entails ensuring that both newly



constructed and reactivated reservoirs undergo thorough cleaning and sterilisation processes, and implementing timely adjustments to our distribution schemes and other operational procedures.

### Customer Excellence is Our Top Priority

As the largest water services provider in Malaysia, it is crucial for us to understand our consumers as it impacts our business performance in delivering the best water quality, continuous water supply, and timely and accurate billing. We will continuously strive for ongoing service enhancements and operational upscaling to deliver high efficiency and we recognise that it is important for us to embrace advanced technologies, digitalisation and artificial intelligence (AI) driven solutions. This readiness to adopt cutting-edge technology underscores our commitment to staying abreast of evolving industry trends and optimising our operations for greater effectiveness and sustainability.

During the year under review, we have launched our Hydrolytics MetLab, an innovation centre focusing on metrology, to ensure the accuracy and reliability of water meters for our 9.3 million consumers in Selangor, Kuala Lumpur, and Putrajaya. Accredited by the Department of Standards Malaysia (DSM) it is the only facility in Malaysia capable of testing water meters up to 200mm in size. This initiative aims to improve water usage records, reduce NRW, and make informed decisions to enhance efficiency and reduce costs, aligning with Air Selangor's goal of becoming a leading water services provider in Asia by 2030.

Air Selangor's business model will always revolve around our consumers, which brings our focus and objectives to continuously monitoring our consumer satisfaction to provide more robust action and solutions in addressing their needs. In 2023, our Customer Satisfaction (CSAT) Index Survey and Net Promoter Score (NPS) indicated a score of 83% and +4 respectively. The areas of focus were billing, payment methods, customer service and communication.

## MESSAGE FROM THE ACTING CHIEF EXECUTIVE OFFICER

Additionally, we also continue to be part of the Selangor Government's Skim Air Darul Ehsan (SADE) by participating in sharing sessions and providing open counters for e-Bil and SADE registrations. The scheme, which works towards giving equal access to clean water, especially to low-income households through a monthly entitlement of 20m<sup>3</sup> of water supply for free, continues to gain traction. During the year under review, 35,817 new registrations were made as compared to 23,142 applications in the previous year, making the total number of approved recipients since the inception of the scheme in 2019 at 285,673 people.

While addressing our consumer needs through our enhanced deliverables, we continue to strengthen our engagement and relationship with our communities through our Corporate Social Responsibility (CSR) programme, Sesama Mara. Under the umbrella of the Sesama Mara initiative, a total of RM437,737 was utilised to implement Box of Hope, a programme that aims to assist the B40 community in Selangor, Kuala Lumpur and Putrajaya with basic food necessities provision.

### Emphasising on Operational Excellence (OEx) for Optimum Performance

As we aspire to become the leading water services provider in Asia by 2030, it is crucial that Air Selangor works towards strengthening our approach on how to deliver the best experience not only to consumers in Selangor, Kuala Lumpur, and Putrajaya, but also to our workforce.

With that in mind, Air Selangor has also embarked on the OEx Transformation Programme to transform our approach, ensuring that our services are of the highest standard and effectiveness to sustainably benefit our consumers and workforce. It is a vital aspect under the Water Services Industry Act 2006 (WSIA 2006) and aligns with SPAN's directives to water operators to improvise their services for the benefit of consumers.

We have appointed PricewaterhouseCoopers (PwC) as our consultant to guide us on this organisation-wide operational excellence transformation programme to bring the organisation closer to meeting its strategy goals. It will be a two-year engagement with PwC where they are responsible for proposing changes to elevate our customer experience, operational and talent excellence.



### Appreciation

Sustainability is a shared journey. As we reflect upon the strides made in our sustainability efforts, I am profoundly grateful for the collaborative efforts that have shaped our mutual commitment towards a resilient water future. Firstly, I would like to extend my gratitude to Air Selangor's Board of Directors for guiding us throughout the years with their wisdom and acumen. Next, I would like to express my appreciation to Air Selangor's Management Team and employees, who are the heart of sustainability, demonstrating their unwavering passion, creativity, and determination to integrate sustainability into our organisational process and culture.

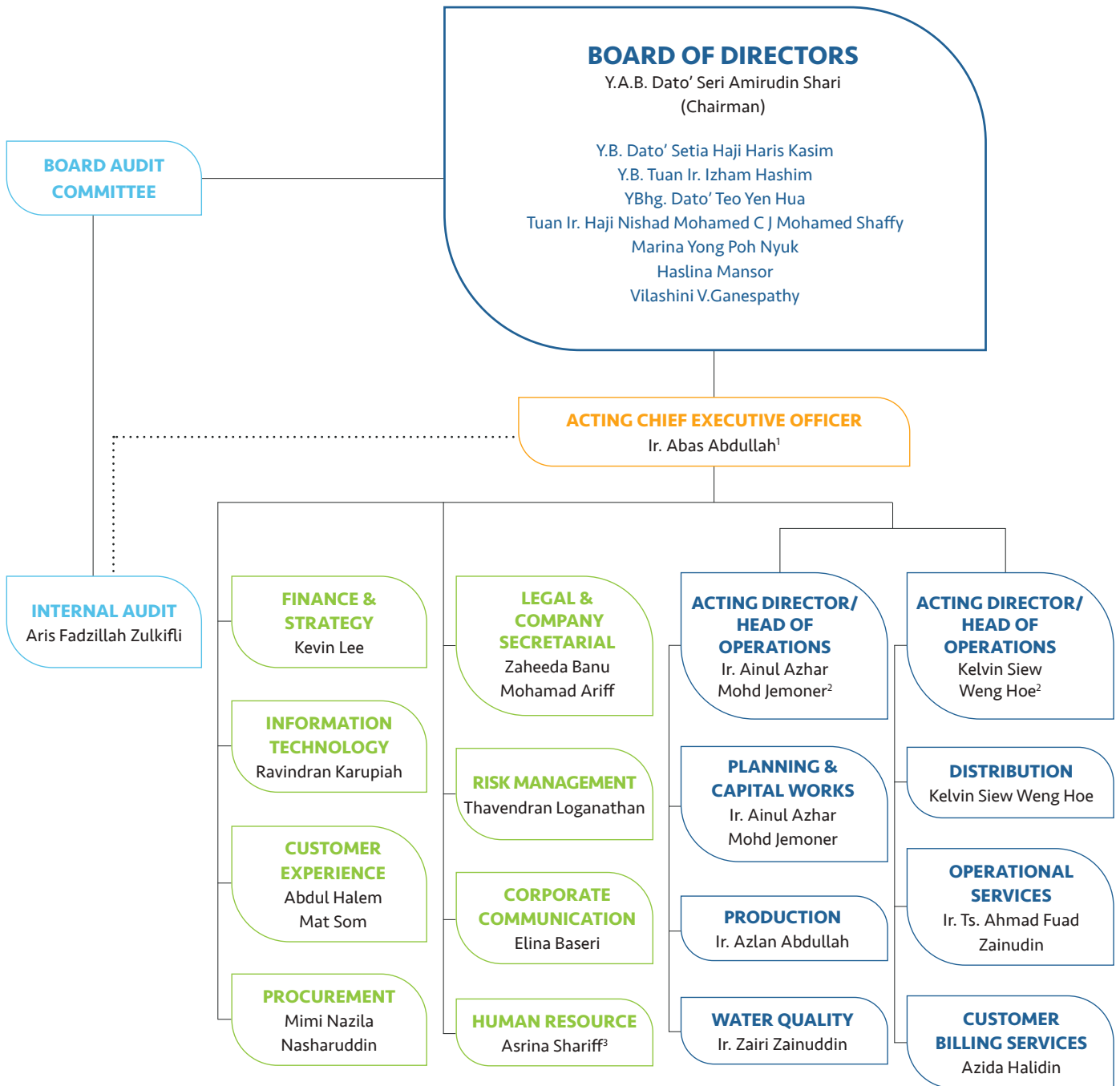
Not forgetting our consumers, who are our partners in sustainability- we would like to express our sincere appreciation for their trust in us, motivating us to continuously deliver high quality services by ensuring sustainable, clean and safe treated water supply. To our stakeholders, especially our valued business partners, we highly appreciate your commitment, support and collaborative efforts towards our vision and sustainability goals. Your contributions have been instrumental in our journey towards achieving excellence and fulfilling our commitment to meet the demands of our consumers.

Most importantly, Air Selangor would like to acknowledge the continuous support and commitment from the Selangor State Government, in particular Unit Perancang Ekonomi Negeri (UPEN) and Lembaga Urus Air Selangor (LUAS), the Federal Government through the Ministry of Energy Transition and Water Transformation (PETRA) and SPAN, all the local authorities, district offices and government agencies. Thank you for all your guidance and feedback to ensure that Air Selangor complies with the requirements, setting a benchmark and exceeding the sustainability standards.

### IR. ABAS ABDULLAH

Acting Chief Executive Officer

# WHO WE ARE



The organisational chart is valid as of 31 December 2023

<sup>1</sup> Effective 1 January 2023  
<sup>2</sup> Effective 16 January 2023  
<sup>3</sup> Effective 1 June 2023

## WHO WE ARE

### BOARD OF DIRECTOR'S PROFILE



**Y.A.B. Dato' Seri Amirudin Shari**  
Chairman / Non-Independent  
Non-Executive Director

Board Meeting Attendance: **4/4**

Y.A.B. Dato' Seri Amirudin Shari (Y.A.B. Dato' Seri Amirudin) holds a Bachelor of Science in Human Development from Universiti Putra Malaysia.

Y.A.B. Dato' Seri Amirudin is Dato' Menteri Besar Selangor and holds directorship and positions in various organisations, including but not limited to Menteri Besar Selangor (Pemerbadanan), Perbadanan Kemajuan Negeri Selangor, Perbadanan Kemajuan Pertanian Selangor and Yayasan Selangor.



**Y.B. Tuan Ir. Izham Hashim**  
Non-Independent  
Non-Executive Director

Board Meeting Attendance: **3/4**

Y.B. Tuan Ir. Izham Hashim (Y.B. Tuan Ir. Izham) holds a Master of Business Administration from the University of Malaya and a Bachelor (Hons) of Civil Engineering from the University of Newcastle Upon Tyne, United Kingdom.

Y.B. Tuan Ir. Izham holds directorships and positions in various organisations, including but not limited to Lembaga Urus Air Selangor, Perbadanan Kemajuan Pertanian Selangor and Perbadanan Kemajuan Negeri Selangor.



**Y.B. Dato' Setia Hj. Haris Kasim**  
Non-Independent  
Non-Executive Director

Board Meeting Attendance: **3/4**

Y.B. Dato' Setia Hj. Haris Kasim (Y.B. Dato' Setia Hj. Haris) holds a Degree in Public Administration in Social Science from the University of Malaya.

Y.B. Dato' Setia Hj. Haris served as the Mayor of Shah Alam City Council from 2020 to 2021 and is currently the Selangor State Secretary. Prior to that, he also helmed positions as the Selangor State Financial Officer and Director of the Selangor Islamic Religious Department.



**YBhg. Dato' Teo Yen Hua**  
Independent  
Non-Executive Director

Board Meeting Attendance: **4/4**

YBhg. Dato' Teo Yen Hua (YBhg. Dato' Teo) holds a Master of Business Administration with Advanced Certificate in International Business from New Hampshire College, the United States of America and a Bachelor (Hons) of Arts (Economics) from the University of Malaya.

YBhg. Dato' Teo was the first Chief Executive Officer of Suruhanjaya Perkhidmatan Air Negara (SPAN), a position he held from March 2007 to August 2014.

# WHO WE ARE



**Marina Yong Poh Nyuk**  
Independent  
Non-Executive Director

Board Meeting Attendance: **4/4**

Marina Yong Poh Nyuk (Marina) holds a Master of Science, Biological Oceanography from the University of Washington, Seattle and a Bachelor of Science in Marine Science and Biology from the University of Miami, Florida, the United States of America.

Marina sits on the Board of Governors of Malaysian Institute of Corporate Governance (MICG) and holds directorships in Sustainability Momentum Sdn Bhd and Proforest Sdn Bhd.



**Haslina Mansor**  
Independent  
Non-Executive Director

Board Meeting Attendance: **4/4**

Haslina Mansor (Haslina) holds a Bachelor of Law (LLB) Honours from the University of Malaya.

Haslina was the Chairman of the Special Commissioners of Income Tax, Ministry of Finance, a position she held from 2020 before retiring in October 2021. She previously served as the Chairman of the Advisory Board in the Prime Minister’s Department from 2018 to 2020. Prior to that, she was appointed to various senior positions, among them as Director of Certificate of Legal Practice (CLP) Examination of the Legal Profession Qualifying Board from 2016 to 2018, as the Director-General of Insolvency from 2014 to 2016 and the Head of the Legal Division in the Economic Planning Unit and Public Private Partnership Unit of the Prime Minister’s Department from 2006 to 2010.

She began her legal career as a government legal advisor serving various Ministries involving the broadcasting sector, health sector, social security services, domestic trade and consumer affairs.



**Vilashini V.Ganespathy**  
Independent  
Non-Executive Director

Board Meeting Attendance: **4/4**

Vilashini V.Ganespathy (Vilashini) holds a Bachelor of Science (Hons), majoring in Accounting from the Queen’s University of Belfast, United Kingdom and is a Certified Internal Auditor (CIA).

Vilashini is a fellow member of the Association of Chartered Certified Accountants (ACCA), a member of the Malaysian Institute of Accountants (MIA) and an associate member of the Institute of Internal Auditors Malaysia (IIAM).

She is currently with ACCA responsible for the development and execution of wide range of technical and professional development initiatives for accountants in Malaysia and the region. In her role, Vilashini has represented ACCA on various industrial advisory panels, roundtables and regulator-led taskforce in the areas of Integrated Reporting, Sustainability & ESG, Governance and Malaysian Financial Reporting Standards.

Prior to joining ACCA, she was Head of Finance for various corporations in the business of automotive, healthcare and technology. She started her career with one of the Big Four accounting firms for six years doing audit and business advisory involving a wide range of Malaysian and multinational clients.



**Tuan Ir. Hj. Nishad Mohamed Hj. C J Mohamed Shaffy**  
Independent  
Non-Executive Director

Board Meeting Attendance: **4/4**

Tuan Ir. Hj. Nishad Mohamed Hj. C J Mohamed Shaffy (Tuan Ir. Hj. Nishad) holds a Master of Science in Civil Engineering from the University of Colorado Denver and a Bachelor of Science in Civil Engineering from South Dakota State University, the United States of America.

Tuan Ir. Hj. Nishad specialises in Water Resources and Hydrology and held various senior roles in the Department of Irrigation and Drainage then rose to the position of Deputy Director General (Specialist Sector) from February 2020 to May 2021, a post he held prior to his retirement from public service in 2021.

He received numerous accolades from the Department of Irrigation and Drainage in appreciation and acknowledgment of his many years of devotional service and had achieved both local and international recognition, most notable for his work in MyCDNET National Forum @ Research Management and Innovation Complex and the United Nations Framework Convention on Climate Change (UNFCCC) - 22<sup>nd</sup> Conference of the Parties (COP22) (Topic: Flood Mitigation Plan).

## WHO WE ARE

### SENIOR MANAGEMENT TEAM'S PROFILE



**Ir. Abas Abdullah**  
Acting Chief Executive Officer

Ir. Abas Abdullah (Ir. Abas) was appointed as Acting Chief Executive Officer on 1 January 2023. He has over 40 years of experience in the water industry. Ir. Abas graduated with a Bachelor of Science (Hons) in Civil Engineering from the University of Strathclyde, United Kingdom and he is also a registered Professional Engineer with the Board of Engineers Malaysia.

Ir. Abas served as a Water Engineer at the Selangor Water Supply Department (JBAS) from 1983 to 1998. Throughout his service, he held various positions in terms of water production, distribution, design and planning, consumer management and also as a District Water Engineer.

Ir. Abas has previously held the position of General Manager, Business Development and Projects of Premier Ayer Sdn Bhd from November 1998 to February 2000. From March 2000 to September 2015, he assumed responsibility as the Chief Operating Officer of Konsortium Abass Sdn Bhd, a subsidiary of Kumpulan Perangsang Selangor which is a publicly listed company owned by the Selangor State Government.

Ir. Abas sits on the board of Central Water Reclamation Sdn Bhd (2020). He was also a Water Advisory Member of the Selangor State Government from 2012 to 2015.



**Ir. Ainul Azhar Mohd Jemoner**  
Acting Director/Head of Operations and Head of Planning & Capital Works

Ir. Ainul Azhar Mohd Jemoner (Ir. Ainul) is appointed as the Acting Director/Head of Operations with effective from 16 January 2023, overseeing Planning and Capital Works, Production and Water Quality. He is still the Head of Planning and Capital Works from 1 January 2018. He has over 30 years of industry experience.

Ir. Ainul graduated with a Bachelor of Science in Civil Engineering from California State University, Fresno, California in 1990 and holds a Master in Business Administration from UiTM - Cardiff Business School.

He began his career with the California Department of Transportation (Caltrans) and later joined PLUS Berhad as a senior engineer upon his return to the country. Prior to joining Air Selangor, he was the Senior Engineer 1 in Technical Services for OPUS International Consultants from 2000 until 2001.



**Kelvin Siew Weng Hoe**  
Acting Director/Head of Operations and Head of Distribution

Kelvin Siew Weng Hoe (Kelvin) is currently holding the position of Acting Director/Head of Operations overseeing Distribution, Operational Services and Customer Billing Services with effective from 16 January 2023. He is also the Head of Distribution since 1 August 2016 since joining the organisation on 3 May 2005. He has 25 years of experience in the water industry; particularly in the fields of water distribution and non-revenue water (NRW).

Kelvin graduated with a Bachelor of Civil Engineering from Universiti Putra Malaysia in 1999 and has been actively involved in the water industry since then.

He has held various senior positions in the organisation over the last 19 years. He started his Air Selangor journey as the Technical Manager for Petaling Region in 2005. He was then seconded to the headquarters in 2008 as the NRW Manager, and was subsequently appointed as the Head of Operation and Maintenance Section in 2011. He then became the Head of Region for Kuala Lumpur in 2012 and the Head of Region for Petaling in 2014. Prior to his current appointment, Kelvin was the Executive Director for NRW Division in 2015.



**Kevin Lee**  
Head of Finance & Strategy

Kevin Lee (Kevin) was appointed as Head of Finance and Strategy on 15 February 2015 and has over 26 years of experience in finance and economics.

Kevin started his career in investment banking with Amanah Merchant Bank and subsequently joined Danaharta. During his 7-year stint with Danaharta, he was seconded to the Ministry of Finance where he advised and played a key role in the implementation of various projects, including the establishment of Pengurusan Aset Air Berhad (PAAB). He subsequently joined PAAB in 2007 assuming the position as Head of Finance and spearheaded efforts to restructure the water supply industry in Melaka, Negeri Sembilan and Johor.

Prior to joining Air Selangor, he served as the Head of Group Strategic Planning and Investment at Kumpulan Perangsang Selangor Berhad.

Kevin holds a Bachelor of Science in Economics from the London School of Economics and Political Science and is a Chartered Financial Analyst (CFA) charterholder.



# WHO WE ARE



**Ravindran Karupiah**  
Head of Information Technology

Ravindran Karupiah (Ravindran) was appointed as Head of Information Technology on 4 February 2015, bringing 32 years of experience in information technology to Air Selangor.

Ravindran graduated with a Bachelor of Engineering (Electrical, Electronics and System Engineering) from Universiti Kebangsaan Malaysia in 1988.

Prior to joining Air Selangor, Ravindran was the General Manager of Information Technology in Indah Water Konsortium Berhad from 1997 until 2015. He has held various senior positions in previous organisations, namely as Manager, Special Projects and Services in Digi Telecommunications Sdn Bhd from 1995 until 1997, and Manager of Technical Service in Bass Consulting Sdn Bhd from 1990 until 1995. Ravindran was also a Research Fellow of the Malaysian Institute of Microelectronics (MIMOS) from 1988 until 1990.



**Thavendran Loganathan**  
Head of Risk Management

Thavendran Loganathan (Thavendran) was appointed Head of Risk Management for Air Selangor on 1 January 2019 and has served the Company since 10 October 2016. He oversees and manages the Enterprise Risk, Sustainability, Business Continuity Management, ISO Governance, Enterprise Content Management and Water Conservation functions of Air Selangor. He has over 23 years of experience as a Governance, Audit & Risk professional within the Banking and Water Utility sectors.

Thavendran graduated with a Bachelor of Accountancy in 2000 from University Putra Malaysia and obtained a Masters in Business Administration in 2006 from University Utara Malaysia. He is also a Chartered Accountant (CA) in Malaysia and a Certified Integrity Officer (CeIO).

Prior to joining Air Selangor, Thavendran served as the Deputy Head, Risk Management of Royal Bank of Canada (Malaysia & Asia Pacific) from 2013 until 2016. He has also held several senior positions namely as the Vice President of Internal Audit with Bank J. Safra Sarasin in Singapore from 2011 until 2013, and as Senior Manager of Operational Risk in Hong Leong Bank, Malaysia from 2009 until 2011.



**Aris Fadzillah Zulkifli**  
Head of Internal Audit

Aris Fadzillah bin Zulkifli (Aris) was appointed Head of Internal Audit for Air Selangor on 7 August 2017. He has over 15 years of industry experience, particularly in internal audit.

Aris obtained a Bachelor of Accountancy in 2002 and a Diploma in Accountancy in 1996 from Universiti Teknologi Mara.

Prior to joining Air Selangor, Aris served as a Unit Head of AirAsia Berhad from 2015 until 2017 and Assistant General Manager of Kumpulan Perangsang Selangor Berhad from 2012 until 2015. He was also the Senior Manager of Securities Commission Malaysia from 2005 until 2012.



**Ir. Zairi Zainuddin**  
Head of Water Quality

Ir. Zairi Zainuddin (Ir. Zairi) was appointed as Head of Water Quality on 1 January 2018. He has over 24 years of experience in the water industry and he specialises in water management, process design, development of engineering solutions and water quality as well.

Ir. Zairi graduated with a Bachelor of Chemical Engineering from Universiti Teknologi Malaysia in 1996. He is an Asean Chartered Professional Engineer registered with the Board of Engineers Malaysia (BEM) and The Institution of Engineers Malaysia (IEM). He is also a Certified Environmental Professional with the Department of Environment Malaysia (DOE) as well as an accredited member of The Institution of Chemical Engineers United Kingdom (IChemE).

He started his career as the Process Engineer of Palm-Oleo Sdn Bhd from 1997 until 1999. Before joining Air Selangor, Ir. Zairi served as a Chemical Sales Engineer in Peka Perdana Sdn Bhd and thereafter, as a Process Engineer of Natural Oleochemicals Sdn Bhd in 2000.

Before Ir. Zairi leads the Water Quality Department, he has held various senior positions in Air Selangor. From 2006 to 2016 he was appointed as Head of Region which is responsible and accountable for the continuous operation of Northern and Southern Water Treatment Plant (WTPs) to meet authorities and government agencies requirements.

Prior to his current appointment, Ir. Zairi was the Head of Production for Air Selangor from August 2016 to December 2017.

## WHO WE ARE

### SENIOR MANAGEMENT TEAM'S PROFILE



**Elina Baseri**  
Head of Corporate  
Communication

Elina Baseri (Elina) joined Air Selangor on 3 February 2020 and was appointed as the Head of Corporate Communication on 1 May 2020. She has over 20 years of experience in corporate and strategic communication, branding, and corporate responsibility.

Elina graduated with a Bachelor of Science (Hons) from Michigan State University.

Prior to joining Air Selangor, Elina has held various senior positions in major corporations, including as the Deputy General Manager at Perbadanan Insurans Deposit Malaysia (PIDM) from 2018 until 2020 and General Manager, Strategic Communication at Perusahaan Otomobil Kedua Sdn Bhd (PERODUA) from 2016 until 2018. She was also the Head, Corporate Communications of Sapura Kencana Petroleum Berhad from 2011 until 2016. Elina also served as the Manager of Corporate Affairs at Maxis Berhad from 2009 until 2011, Brand Manager at Agensi Kaunseling dan Pengurusan Kredit (AKPK) from 2008 until 2009, and as Marketing Communication Manager at BERNAS from 2002 until 2008.



**Abdul Halem Mat Som**  
Head of Customer Experience

Abdul Halem Mat Som (Abdul Halem) was appointed as Head of Customer Experience on 1 September 2020. He has over 35 years of experience in various field namely Event Management, Film Production, Advertising & Promotions, Manufacturing, Human Resources & Management Consultancy, Human Development, Mass Communication and Capital Investment.

Abdul Halem graduated with a Diploma in Public Administration in 1988, followed by a Bachelor's Degree in Corporate Administration in 1998 from University Teknologi Mara. He obtained a Certificate in Manufacturing Management from Sanno Institute of Business Administration (SIBA), Tokyo in 1990. He also serves as the President of UiTM Pahang Alumni Association and a committee member of Yayasan Siswazah Malaysia.

Abdul Halem has served in various multinational organisations including Omron Malaysia Sdn Bhd, Comiteg Berhad and Jami Swilynn Sdn Bhd. He joined Syarikat Bekalan Air Selangor in 2004 where he held various senior positions. He served as the General Manager of the Corporate Communications dan Public Affairs Division and later as the Executive Director of the Corporate Affairs Division from January 2010 until 2015. In Air Selangor, prior to his current appointment, Abdul Halem was the Head of Learning and Development Section in the Human Resources and Administration Department.



**Ir. Azlan Abdullah**  
Head of Production

Ir. Azlan Abdullah (Ir. Azlan) was appointed as Head of Production for Air Selangor on 25 October 2021. With a Bachelor of Science in Civil Engineering from Brown University, he is a Professional engineer and a Chartered Engineer with over 25 years of experience in various environments and industries.

Ir. Azlan started his career with Tenaga Nasional Berhad and was responsible for managing various 500kV and 275kV transmission projects, the backbone of the nation's grid system. He then joined SapuraKencana Petroleum Berhad, where he successfully delivered numerous Offshore Transportation and Installation works for various regional and international clients.

Ir. Azlan then moved to UEM Group Berhad and became the operational point of contact in the Project Completion and Closing endeavours. During this time, he also ventured into Learning and Development projects where he developed a Technical Competency Framework for the organisation and spearheaded the development of a competency library.

Ir. Azlan was also a Master Trainer for Leadership Competencies and Talent Management in Malaysia Airlines Group. He also served as a technical advisor to the Human Capital Business Partners (HCBPs) and Head of Departments to ensure that the proper training was prioritised according to business needs.

In Air Selangor, he also leads the Productivity & Efficiency related projects while also acting as the advisor for big data analytics projects, one of the foundations of Air Selangor's strategic initiatives and digital drive.



**Ir. Ts. Ahmad Fuad Zainudin**  
Head of Operational Services

Ir. Ts. Ahmad Fuad Zainudin (Ir. Ts. Ahmad) was appointed as Head of Operational Services on 1 July 2022, bringing more than 18 years of experience in the water industry, particularly in water management and water distribution network.

Ir. Ts. Ahmad graduated with a Bachelor of Civil Engineering (Hons) from Universiti Putra Malaysia (UPM) in 2004. He also holds a Master in Water Engineering from UPM. He is a professional engineer registered with the Board of Engineers Malaysia (BEM) and the Institution of Engineers Malaysia (IEM), as well as a professional technologist registered with the Malaysia Board of Technologists (MBOT).

He started his career with Syarikat Bekalan Air Selangor Sdn Bhd (SYABAS) in 2005 and has held various senior positions. From 2010 to 2016, he was appointed as the Head of Region for three different regions namely Sabak Bernam, Hulu Selangor and Kuala Lumpur. Prior to his current appointment, Ir. Ts. Ahmad was the Vice President I of Strategic Operations for Air Selangor from 2016 to 2022.

# WHO WE ARE



**Mimi Nazila Nasharuddin**  
Head of Procurement

Mimi Nazila Nasharudin (Mimi) was appointed as Head of Procurement of Air Selangor on 1 September 2022. She has over 30 years of experience in procurement, mainly in the oil and gas industry.

Mimi graduated with a Bachelor of Science in Business Administration from Drexel University, Pennsylvania, USA. She is also a certified lead auditor for Integrated Management System for ISO 9001, 14001 and 45001.

She started her career progression in Esso Production Malaysia and Measat Broadcast Network. Prior to her current appointment, Mimi Nazila served as the Head of Supply Chain Management OMS at Bumi Armada Navigation Sdn Bhd, where she managed a team of personnel in Kuala Lumpur, Kemaman, Labuan, Singapore, Russia, and Turkmenistan. Previously, she was the Head of Corporate Supply Chain Management at Sapura Kencana Petroleum Bhd.



**Azida Halidin**  
Head of Customer Billing Services

Azida Halidin (Azida) was appointed as Head of Customer Billing Services of Air Selangor on 1 August 2022. She has over 19 years of experience in the field of accounting and auditing.

Azida graduated with a Bachelor of Accountancy (Hons) from Universiti Teknologi Mara (UiTM). She also holds a Master's Degree in Business Administration from Cardiff Metropolitan University. She is a Chartered Accountant from MIA and a Certified Chartered Accountant from ACCA of the United Kingdom.

She started her career progression in Deloitte Malaysia and Shell Malaysia. Prior to her current appointment, Azida served as the Senior Account Manager (Tower Lead) at Air Liquide Business Service Sdn Bhd, managing revenue and collection of APAC countries for their legal entities. Previously, she was the Chief Financial Officer/ Head of Procurement at Belait Shipping Co (B) Sdn Bhd in Brunei Darussalam.



**Asrina Shariff**  
Head of Human Resource

Asrina Shariff (Asrina) was appointed as Head of Human Resource on 1 June 2023, bringing more than 30 years of experience in the field of human resource.

Asrina graduated with a Bachelor of Economics with a double major in Economics and Political Science from Flinders University of South Australia.

Prior to joining Air Selangor, Asrina has held various senior positions in previous companies, namely as specialist, generalist and in leadership roles in various industries such as fast-moving consumer goods (FMCG), logistics, property development, insurance, workforce solutions, consulting, and retail foods. She has more than 24 years of experience in multinational corporations and more than eight years of experience serving in government-linked companies (GLCs), investment holding companies and private companies.



**Zaheeda Banu Mohamad Ariff**  
Head of Legal & Company Secretarial

Zaheeda Banu Mohamad Ariff was appointed as Head of Legal and Company Secretarial of Air Selangor on 4 February 2015.

Zaheeda graduated with a Bachelor of Law (LLB) Honours from College of Cardiff, University of Wales, the United Kingdom in 1993, and obtained a qualification in International Commercial Law (LLM) from University of Bristol, the United Kingdom in 1994. Thereafter, Zaheeda obtained the Certificate in Legal Practice (Hons.) from the Legal Qualifying Board of Malaysia in 1995.

Prior to joining Air Selangor, Zaheeda served as the General Manager of Legal in Indah Water Konsortium Sdn Bhd from 2008 until 2014. She is also a member of the Chartered Institute of Arbitrators.

*Note:*  
Zaheeda has resigned from Air Selangor effective 7<sup>th</sup> February 2024.



# ABOUT AIR SELANGOR

As the largest water services provider in Malaysia, Air Selangor (the organisation) is responsible for the abstraction, treatment and distribution of treated water to consumers in Selangor, Kuala Lumpur and Putrajaya (collectively known as the Distribution Area), serving more than 2.66 million accounts consisting of domestic, non-domestic, and others.

Air Selangor Holdings Berhad (AIS Holdings) is the immediate holding company, while Menteri Besar Selangor (Incorporated), a corporate body formed under Enactment No. 3 of the Menteri Besar Selangor, Enactment 1994, acts as the ultimate holding corporation of Air Selangor.

Utilising a variety of water treatment facilities and assets, Air Selangor provides its customers with clean and safe treated water, with an average daily production of 5,227 million litres per day.

Over 5,000 employees and 1,533 business partners assist Air Selangor in its operations. Air Selangor's operations are governed by the Water Services Industry Act 2006 and is regulated by SPAN.

## VISION

**We will be the leading water services provider in Asia by 2030.**

## MISSION

**We deliver the best experience to our customers.**

### Core Values



#### Teamwork

Providing support to one another, working collaboratively and respecting one's views.



#### Honesty

Being open and truthful in all dealings.



#### Integrity

Continually doing the right thing no matter what the consequences.

# ABOUT AIR SELANGOR



## CUSTOMERS



**Domestic**

**2,331,435**

accounts

Domestic accounts consisting of residential properties are the largest fraction registered with Air Selangor.



**Non-domestic**

**324,968**

accounts

Non-domestic accounts cover industries, commercial areas, government offices and ships.



**Others**

**5,340**

accounts

Customers under this category include religious and charitable institutions.



### Professionalism

Striving for excellence and quality in everything we do on top of being reliable and responsible.



### Highest Standard of Services

Respecting our customers and striving to deliver timely, responsive and proactive services.

# 2023 KEY HIGHLIGHTS



## Hydrolytics MetLab A Metrology Innovation Centre

As part of its effort to enhance operational efficiency and introduce digitalisation into its operational processes, Air Selangor launched the Hydrolytics MetLab on 26 June 2023. It serves as a metrology innovation centre that prioritises measurement science to ensure the reliability and accuracy of water meters.

Hydrolytics MetLab is Malaysia's first water meter testing laboratory accredited by the Department of Standards Malaysia (DSM). With a capacity to test water meters up to 200mm in size, it surpasses national laboratories, which can only test meters up to 80mm in size.

This facility offers testing services for all types and sizes of meters, adhering to standards set by the International Organization for Standardization (ISO) and the International Organization of Legal Metrology (OIML).

The objective of the Hydrolytics Metlab is to provide accurate records of water usage and mitigate degradation of water usage records, especially given the increasing number of customers. This initiative also aligns with Air Selangor's efforts to reduce Non-Revenue Water (NRW).

## NRW Reduction Becoming Mainstream

Air Selangor launched its NRW Reduction Becoming Mainstream, campaign in July 2023, inviting employees and customers to participate in reducing NRW. NRW is the loss of treated water before it reaches the customers due to reasons such as leaks, pipe bursts, illegal connection and unauthorised consumption.

Statistics reveal that only 40% of leaks are detected by Air Selangor through public reports. To address this, customers can now easily report pipe leaks, burst pipes, meter leaks, or illegal pipe installations through the Air Selangor mobile app. This initiative aids Air Selangor in its commitment to ensuring sustainable and efficient water distribution management for our customers.

The app can be easily downloaded to your mobile phone or you can visit [www.airselangor.com](http://www.airselangor.com) for more information.



## Net Zero Energy Vision 2040

The launch of the Net Zero Energy Vision 2040 by the Y.A.B. Menteri Besar of Selangor, Dato' Seri Amirudin Shari, at the Sg Selangor Phase 2 WTP (SSP2) in Bestari Jaya on 30 November 2023 demonstrates Air Selangor's commitment to achieving sustainable energy usage and reaching its zero-carbon emissions target by 2040.

The Net Zero Energy Vision initiative aims to generate an annual 1,460GWh of green electricity by 2040, resulting in a reduction of 1,106,680,000 kg of CO<sub>2</sub> emissions and achieving a 15% reduction in the Corporate Energy Index over a 15-year period.

A structured strategy and initiatives have been designed and integrated in Air Selangor's roadmap to achieve the Net Zero Energy Vision target. This will involve collaborative efforts between Air Selangor and other third-parties to implement the planned initiatives in phases.



## SWAN 13<sup>th</sup> Annual Conference 2023

Air Selangor's ACEO, Ir. Abas Abdullah was invited to speak at the SWAN 2023 Forum organised on 9 May to 12 May 2023 at Glasgow, Scotland, where he shared on Air Selangor's digitalisation journey.

The conference brings together top smart water industry leaders, offering innovative content and valuable networking opportunities.

# 2023 KEY HIGHLIGHTS

## Malaysia International Water Convention (MIWC) 2023

Air Selangor participated in the MIWC 2023 event from 5 to 6 December 2023 at the World Trade Centre, Kuala Lumpur, as part of its annual engagement to share best practices, learnings and insights about the water industry.

This year, the ACEO, Ir. Abas Abdullah presented at the Convention's plenary session on Building Water Resiliency Towards Sustainability. Other topics shared by experts during the Convention included water scarcity, water pollution, ageing infrastructure, growing demand and climate change.

## Customer Satisfaction (CSAT) Index Survey and Net Promoter Score (NPS) 2023

Air Selangor is a customer-centric organisation that continuously strives to enhance customer experience and satisfaction. The survey provides us with valuable insights to improve our quality and standards.

In 2023, our CSAT scored 83% and our NPS achieved +4, from 84% and +14 respectively.

Our Customer Experience Department (CXD) continues to engage with customers through various initiatives and programmes via our Regional Offices, aiming to foster communication, strengthen relationships and fulfil our commitment to our customers.

## Sustainable and Responsible Investment Sukuk Kelestarian Air Selangor (Sukuk Kelestarian) Issuance 2023

Air Selangor issued its first Sukuk Kelestarian on 29 October 2021 and has since issued five tranches of Sukuk Kelestarian, totalling RM3.13 billion as of 31 December 2023. These proceeds are allocated toward projects related to water supply, sustainable water management and renewable energy initiatives, including the development of new water treatment facilities, maintenance of existing facilities, pipe replacement programmes and the Renewable Energy for Water (RENEW) project. The latest Sukuk Kelestarian Impact Report for the period from 1 October 2022 to 30 September 2023 is available on our website.

## Participation in the Global Platform - Conference of the Parties 28 (COP 28)

In December 2023, Air Selangor had the privilege of participating as a "green participant" during the COP28 mega event in the United Arab Emirates (UAE).

As Air Selangor is implementing strategies to fulfil our sustainability commitments, our participation was timely as it provided an opportunity for Air Selangor to share, learn and exchange insights with other industry experts and sustainability activists on the global stage.

The highlight was a special interview by Reuters with Air Selangor's ACEO, Ir. Abas Abdullah which can be viewed on Air Selangor's Hydrohub website at <https://hydrohub.airselangor.com/>

## Sesama Mara

In 2023, Air Selangor continued its flagship CSR programme, Sesama Mara, comprising four initiatives: Box of Hope, Festive CSR (supporting underprivileged and welfare homes), and Empowering Online Learning. These initiatives were aimed to provide assistance to underprivileged communities in Selangor, Kuala Lumpur and Putrajaya.

A total of RM437,737 worth of goods and provisions were distributed through the Sesama Mara programme, benefitting a total of 5,075 families.



## Town Hall 2023

As part of its employee engagement activity, Air Selangor successfully conducted its Town Hall 3.0 on 18 July 2023 with the ACEO and Senior Management at the Dewan Jubli Perak, Sultan Salahuddin Abdul Aziz Shah Building, Shah Alam. The session was also broadcasted online via Microsoft Teams.

During the event, the ACEO and the Senior Management team shared latest updates and current developments of the organisation along with ongoing plans and initiatives towards Journey 2030 with its employees.



## Global Water Summit Annual Conference

ACEO, Ir. Abas Abdullah was invited as a roundtable host at the Global Water Summit, held on 8 May to 10 May 2023 at Berlin, Germany, where he led a significant discussion on the topic 'How will Air Selangor meet a water demand increase from 5 to 9 million m<sup>3</sup>/day in 30 years?'

The Global Water Summit is a premier event in the water sector, providing access to expert contributions, ideas, and valuable insights from leading speakers representing significant opportunities in the global water sector.

# KEY ASSETS

## 2023 DATA

### RAW WATER STORAGE

3

Off River Storage

8



Dams

1

Hybrid Off-River Augmentation System (HORAS)  
600

### WATER PRODUCTION

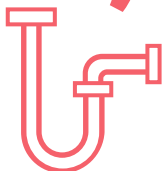
34

Water Treatment Plants (WTPs)



### WATER DISTRIBUTION

30,734 KM



Pipe Length

1,657

Service Reservoirs

746

Pump Houses



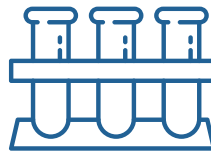
KEY ASSETS

WATER QUALITY

**1,155** Water Sampling Stations

**15** River Monitoring Stations

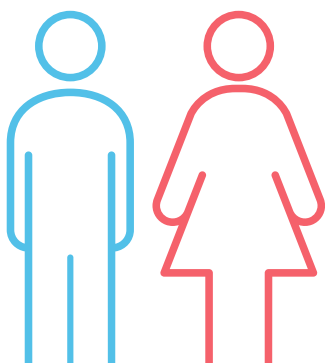
**4** Accredited Regional Laboratories  
(SSP2, Sg Labu, Sg Semenyih & Langat 2)



**39**  
Off-Plant Autonomous Chlorine Injection Systems (OACIS)

**190**  
Hybrid Distribution Water Quality

WORKFORCE



Gender Diversity

**80:20**

# AWARDS & RECOGNITION

## → Occupational Safety and Health Awards and Recognition



Air Selangor was the winner under the Water Utilities category in the National Council for Occupational Safety and Health (NCOSH) awards for the year 2022. This award showcases Air Selangor’s success in driving an effective Occupational Safety and Health Management System (OSHMS), ensuring continuous improvement in Health, Safety and Environment (HSE) practices at the workplace.

Air Selangor also won a total of 13 awards under the Malaysian Society for Occupational Safety and Health (MSOSH) 41st Award 2023, including one Gold Merit Award, nine Gold Class 1 Awards, and three Gold Class II Awards. 11 regional offices and two WTPs (one each from the Northern and Southern regions) participated in this award.



These achievements align with Air Selangor’s vision and aspirations in our strategy blueprint, reflecting our commitment to HSSE excellence.

## → Air Selangor Won Bronze at #Hashtag Asia Awards 2023

Air Selangor was recognised in the category of Best Use of Art/Culture/Brand/Entertainment/Partnerships through the Water Conservation campaign, Boboiboy x Air Selangor at the Hashtag Awards 2023, achieving a bronze award.

Air Selangor has collaborated with Boboiboy to engage with our community and customers in promoting our water conservation initiatives. Furthermore, Air Selangor has been shortlisted as a finalist in the category of Best Social Engagement Tools or Programmes; Cause Marketing, competing against other international brands such as Disney, SingTel, Singapore Airlines and Kenangan Coffee.

## → Air Selangor Wins Gold Award for Laboratory Excellence from the Malaysian Institute of Chemistry (IKM)



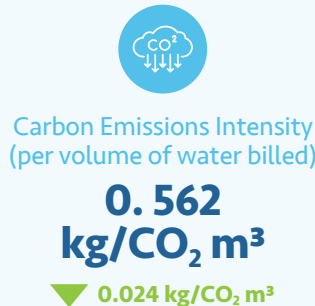
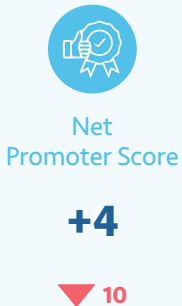
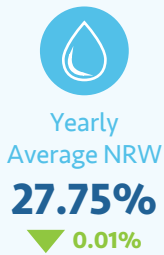
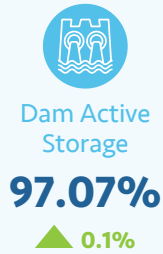
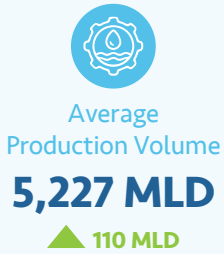
Air Selangor received the Gold Award for Laboratory Excellence from the Malaysian Institute of Chemistry (IKM) for the Sg Semenyih WTP Laboratory, for the fifteenth consecutive year since 2008.

Furthermore, the Sg Selangor Phase 2 WTP Laboratory has also received the IKM Laboratory Excellence Award for the twelfth time, while the Sg Labu WTP Laboratory has received it for nine years running to date. These awards demonstrate Air Selangor’s commitment to providing top-notch testing services in compliance with the law.

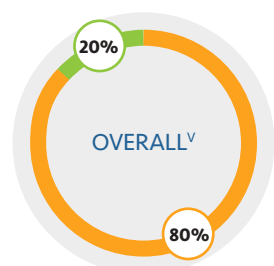
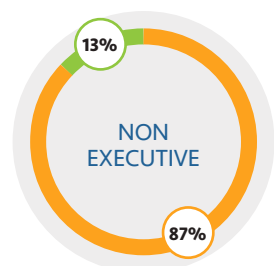
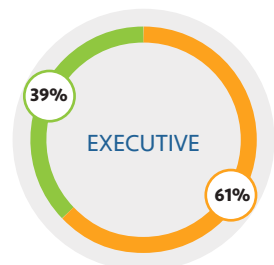
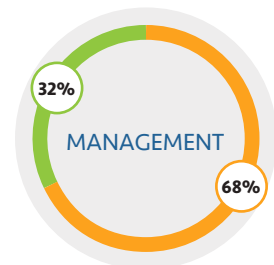
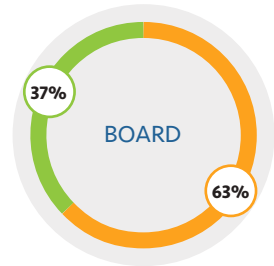
Air Selangor continues to expand and transform its laboratories from conventional water analysis to advanced water quality assessments, focusing on efforts to detect compounds that could affect raw water quality. This aligns with our aspiration to deliver the best customer experience through clean and safe treated water distribution.



# KEY PERFORMANCE DATA<sup>1</sup>



## Gender Diversity Breakdown



● Male ● Female

Notes:

<sup>I</sup> Data as of December 2023. Data presented next to arrows for increment or reduction are in comparison to 2022, except for Pipe Leak Complaints as it is a new addition to Sustainability Report 2023. Data in green font indicate improved performance whereas data in red font indicate reduced performance.

<sup>II</sup> The score is between 1 (Very Good) and 5 (Extremely Critical).

<sup>III</sup> Refers to damage on the communication pipe from the tapping point to the meter (including saddle, if any) or if it involves the transmission system (trunk mains), reticulation and distribution, the leak was not caused by the pipe structure failure or connection.

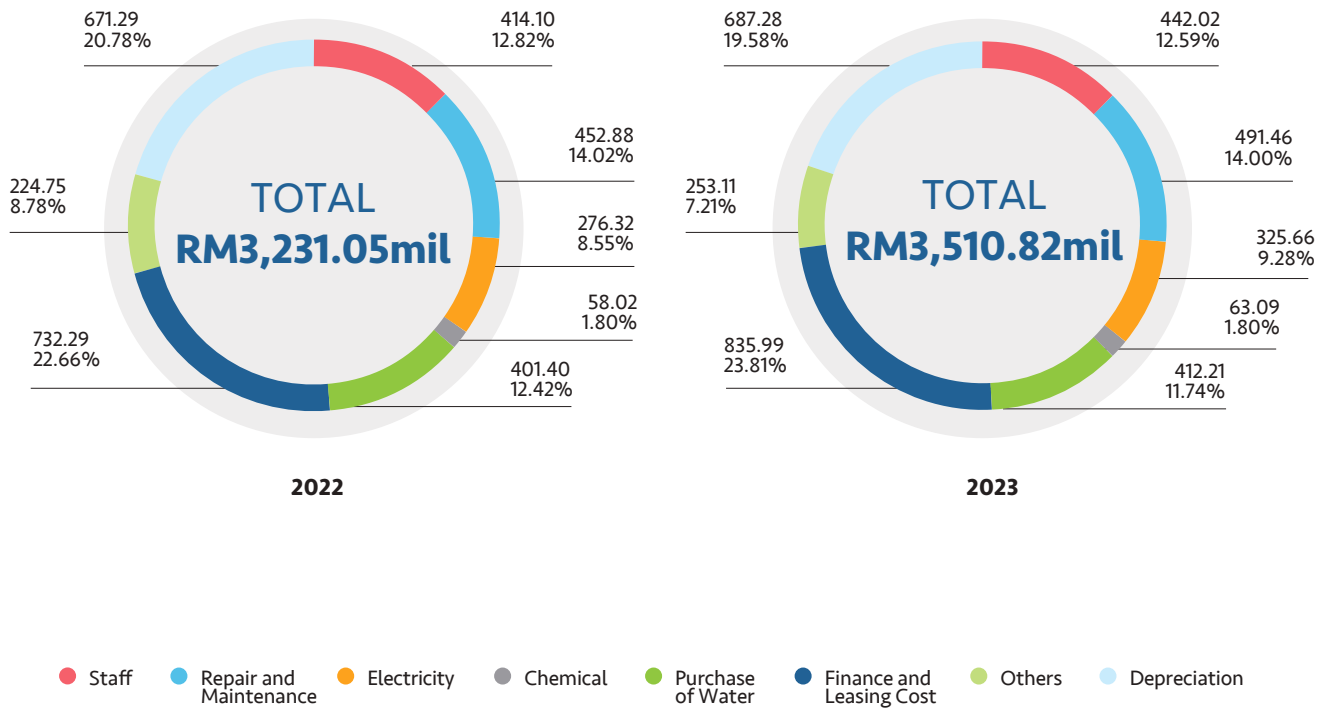
<sup>IV</sup> Data refers to pipe leak complaints received by Customer Experience Department (CXD) as of December 2023.

<sup>V</sup> Data excludes the Board.

# FINANCIAL PERFORMANCE

## Expenses in 2022 & 2023

### Company Level Operating & Financing Expenditure<sup>^</sup>



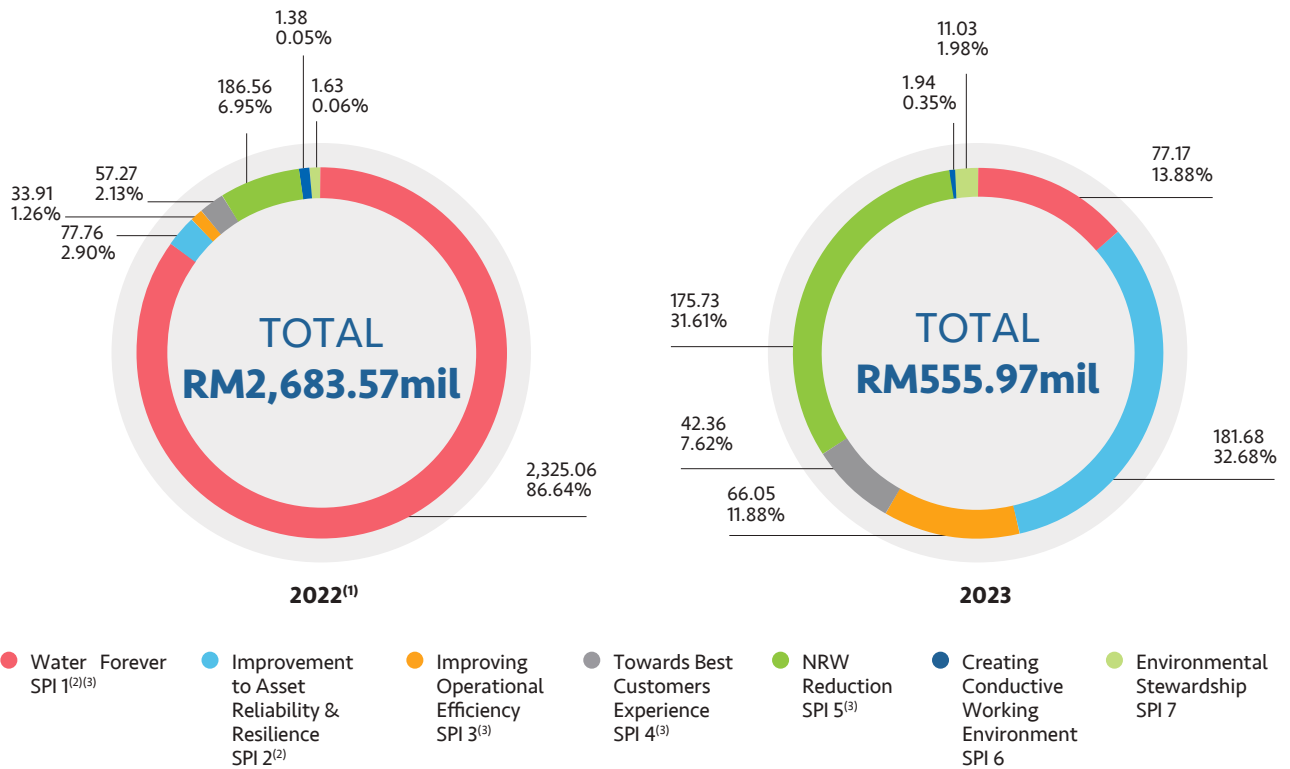
Note:  
<sup>^</sup> Excludes exceptional item - intercompany balance written off and other professional service (subsidiaries)



# FINANCIAL PERFORMANCE

## CAPEX Awarded in 2022 & 2023

### CAPEX Contracts Awarded



Notes:

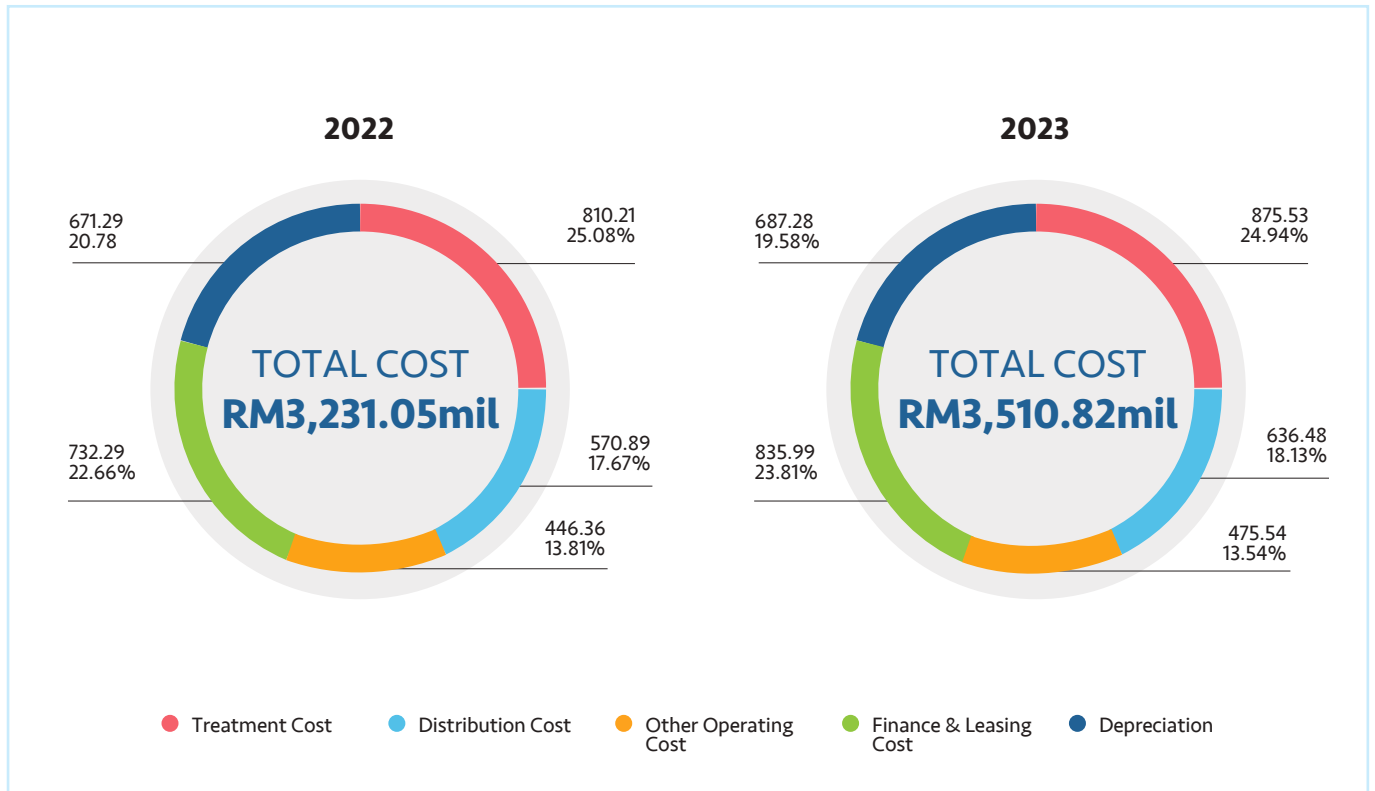
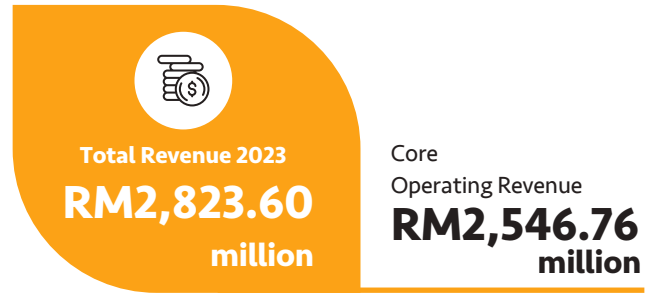
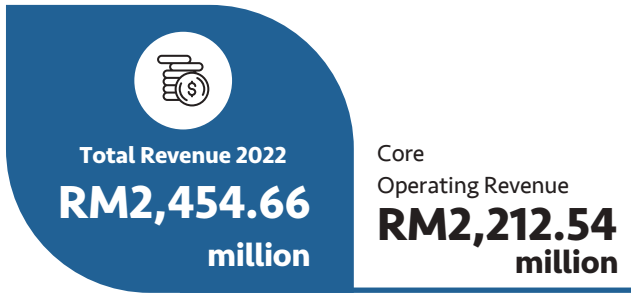
- <sup>1</sup> 2022 CAPEX has been updated to include new projects awarded in 2023 which falls under the 2022 CAPEX budget.
- <sup>2</sup> CAPEX for a pumphouse-related project has been recategorised from SPI 1 to SPI 2.
- <sup>3</sup> Includes CAPEX which are funded via NRW Matching Grant received from Suruhanjaya Perkhidmatan Air Negara (SPAN) for the achievement of NRW targets.
- <sup>4</sup> Represents projects awarded under the 2023 budget as of 31 December 2023. Additional projects are expected to be awarded in 2024.

### Sukuk Murabahah Programme & Sukuk Kelestarian

- In April 2023, Air Selangor completed its fifth issuance under its existing RM10.00 billion Sukuk Murabahah Programme. The RM700.00 million issuance with tenures across four series from 10 years to 25 years represents Air Selangor’s fourth Sukuk Kelestarian.
- In October 2023, Air Selangor had further completed its sixth issuance under its Sukuk Murabahah Programme. The RM1,000.00 million issuance with tenures across five series from seven years to 25 years represents Air Selangor’s fifth Sukuk Kelestarian.
- The proceeds from the Sukuk Kelestarian will be utilised to finance eligible projects that are in compliance with Air Selangor’s Sustainable Development Sukuk Kelestarian Framework. Eligible projects include, sustainable water supply, sustainable water management and renewable energy projects, amongst others all of which are in line with Air Selangor’s sustainability strategies. The details of the allocation of proceeds from the Sukuk Kelestarian and the impact of eligible initiatives funded can be found in the Sukuk Kelestarian Air Selangor Impact Report 2022 - 2023 which is available on Air Selangor’s website.
- Air Selangor’s Sukuk Murabahah Programme was reaffirmed the long and short-term ratings of AAA with stable outlook and P1 respectively by RAM Rating Services Berhad on 11 September 2023. The AAA rating indicates superior safety for payment of financial obligations while the P1 rating reflects high safety for payment of financial obligations in the short term.

# FINANCIAL PERFORMANCE

## Revenue and Cost Breakdown for FY2023 and FY2022



Notes:

- <sup>1</sup> Total revenue excludes intercompany waiver, fair value gain and other adjustments/modification of State loan/grant.
- <sup>2</sup> Total cost excludes exceptional items - Intercompany balance written off and other professional service (subsidiaries).
- <sup>3</sup> Shared costs for FY2023 (e.g., training, insurance, software) under Treatment, Distribution and Other Operating Cost are estimated using the allocation percentages for FY2022 as the details for FY2023 have not been finalised.

# FINANCIAL PERFORMANCE

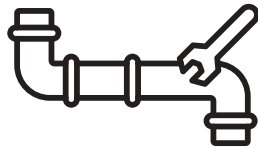
## Total CAPEX for the Rasau Water Supply Scheme

CAPEX for Rasau Stage 1:

**RM4.00 billion**

CAPEX for Rasau Stage 2:

**RM2.14 billion**



### Pipe Replacement

Beginning 2024 - target to launch **300 km** worth of contracts per year, completion will take from **18 to 24 months** for each contract awarded

Note:  
This is based on Air Selangor-funded planned pipe replacements in its latest business plan which is subject to SPAN's approval. The business plan is reviewed and updated annually based on prevailing business requirements.



### Replacement Cost

**RM13 billion** over 20-30 years



Target to maintain water reserve margins above 15% by 2025 and 17.70% by 2030 to align with the targets set by the Ministry of Energy Transition and Water Transformation



Enhancement of existing infrastructure to reduce NRW due to leak in ageing pipelines alongside investments to ensure the stability and consistency of water supply service levels

Recent tariff adjustments have bolstered Air Selangor's financial performance. Nonetheless, in order to continuously invest in the improvement and upgrading of waterservices to enable long-term water security, more frequent and consistent tariff reviews will be important to allow Air Selangor to become financially sustainable with full cost recovery.

In line with the Federal Government policy as part of the WSIA, sourceworks for states that have migrated to the licensing framework under WSIA is under the purview of the Federal Government and are to be funded via Federal Government grants.

# 30-YEAR BUSINESS PLANS



## SPI 1 WATER FOREVER

Towards a  
Sustainable Water  
Future

### Objectives

- Ensure a sustainable water supply for the future.
- Mitigate potential effects of climate change and pollution of raw water sources.
- Design interventions and initiatives that ensure water supply is in tandem with water demand. These actions include reducing system water loss, optimising customer water use and identifying and developing new sources of water.

### Achievement in 2023

- The average water reserve margin was at 12.26% against the targeted 14.08%.
- Packages 1, 2 and 3 of Rasau Stage 1 are in the construction stage, with overall progress at 11.15% as of December 2023.



## SPI 2 IMPROVEMENT IN ASSET RELIABILITY AND RESILIENCE

Towards a Resilient  
Water Future

### Objectives

- Optimise the management and maintenance of our assets.
- Ensure uninterrupted water supply to our customers.
- Rehabilitate, replace and upgrade our assets.
- Improve water storage capacity.

### Achievement in 2023

- Completed rehabilitation works on 37 unused reservoirs out of 144 identified. 24 reservoirs are under construction and design stage.
- Completed refurbishment works on 10 out of 54 identified pump houses. Eight pump houses are currently under construction and in the design stage.



## SPI 3 IMPROVING OPERATIONAL EFFICIENCY

Digital Utility of the  
Future

### Objectives

- Leverage the growth of digital connectivity and big data to become the Digital Utility of the Future.
- Ensure effective use of resources across our operations, in production, distribution, asset inventory and maintenance and customer management.

### Achievement in 2023

The Intelligent Command Centre (ICC) covers:

- 467 of 572 active pump houses.
- 1,090 of 1,476 active reservoirs.
- Tagging of 24,331 assets (21.20% of total assets).
- The Online Hydraulic Modelling Prediction has been utilised to cover a total of 3,054 km of pipeline and 402 reservoirs.



# 30-YEAR BUSINESS PLANS



## SPI 4 TOWARDS BEST CUSTOMER EXPERIENCE

Drinkable Water from Taps by 2028 and Best Customer Service



## SPI 5 NON-REVENUE WATER REDUCTION

NRW Reduction to 27.5% by 2025, 25% by 2030

### Objectives

- Continuously improve our service delivery to surpass customer expectations in terms of reliability, responsiveness and quality.

### Achievement in 2023

- 102,872 faulty meters were replaced, achieving 85% of the targeted quantity for 2023.
- 96,000 degraded meters were replaced with an achievement of 107%, against targeted quantity for 2023.
- Total MLD for the 2023 Meter Replacement Programme is 41 MLD (111%).
- 49,325 ultrasonic smart meters with leak detection were successfully installed.
- Achieved a Water Quality Complaint Index ratio of 0.47 complaints per 1,000 connections, below the targeted 0.5.
- 94.2% completion of works for three water courses under the Trust Our Tap initiative.
- Achieved the following water quality targets:

Parameter	MOH Target (%)	Achievement (%)
E. Coli	≥ 99.85	100
Free Residual Chlorine (FRC)	≥ 98.15%	99.99
E. Coli & FRC	≥ 99.95	100
Turbidity	≥ 98.00	99.98
Aluminium	≥ 90.00%	98.81

### Objectives

- Reduce water loss throughout our operations, aiming to achieve 27.5% by 2025 and 25% by 2030.
- Optimise operational costs and increase revenue.

### Achievement in 2023

- Achieved NRW reduction of 27.75%, an improvement of 0.01% compared to 27.76% in 2022. However, this achievement has surpassed SPAN's NRW Matching Grant target of 28.5% (revised target). Despite the many challenges faced, Air Selangor is able to sustain the NRW percentage in 2023.
- Achieved a Pipe Burst Index of 4.18 bursts per 100 km per year of pipeline. This was an improvement from 5.35 bursts per 100 km per year recorded in 2022.
- Completed pipe replacement works at 309 hotspots.

Parameter	SPAN Target	Achievement
Repair and resume water supply within 24 hours for communication pipe failure	83%	84%
Repair and resume supply within 24 hours for failure of mains of diameter less than 200mm	86%	91%
Repair and resume supply within 36 hours for failure of mains of diameter more than 200mm and less than 600mm	93%	97%
Repair and resume supply within 48 hours for failure of mains of diameter greater than 600mm	96%	99%

## 30-YEAR BUSINESS PLANS



### SPI 6 CREATING A CONDUCTIVE WORKING ENVIRONMENT

World-Class Water Services Provider

#### Objectives

- Position Air Selangor as an employer of choice by creating a safe and conducive work environment.
- Develop and grow talent within our organisation to ensure a sustainable pipeline of leaders and achievers.

#### Achievement in 2023

- Recorded Lost Time Injury Frequency Rate (LTIFR) of 0.19, an improvement from 0.39 as recorded in 2022.
- Achieved a 74% score in the Employee Engagement Survey.
- A total of 59 employees completed the Coaching and Mentoring Programme.
- A total of 924 employees have participated in the Leadership Development Programme since 2019.



### SPI 7 ENVIRONMENTAL STEWARDSHIP

Waste Zero Environment

#### Objectives

- Operate responsibly, minimising our impact on the environment and adhering to regulations.
- Towards a zero-waste environment, optimising resource use and reducing our carbon emissions.

#### Achievement in 2023

Achieved compliance with the Department of Environment's (DOE) Guided Self-Regulation (GSR):

Scope	Compliance (%)
Water Treatment Plants	94.27
Distribution Activities	96.37

Recorded carbon emissions and carbon emission intensity as follows:

Total Carbon Emissions <sup>1</sup> (tCO <sub>2</sub> )	Compliance (%)
Produced Volume Carbon Intensity <sup>2</sup> (kgCO <sub>2</sub> /m <sup>3</sup> )	0.404
Billed Volume Carbon Intensity <sup>3</sup> (kgCO <sub>2</sub> /m <sup>3</sup> )	0.562

Notes:

<sup>1</sup> Carbon emission factors based on Malaysia's 4<sup>th</sup> Biennial Update Report submitted to the UNFCCC in December 2022.

<sup>2</sup> Carbon emissions intensity for produced water volume post-treatment, prior to distribution.

<sup>3</sup> Carbon emissions intensity for billed water volume post-distribution and consumer billing.

# SUSTAINABILITY APPROACH

In addition to highlighting the commitments and management activities that support Air Selangor’s sustainability agenda, this Report also reflects on its performance and accomplishments as well as important plans ahead. This Report includes guidance from Bursa Securities’ Sustainability Reporting Guide and prepared with reference to the Global Reporting Initiative (GRI) Standards and the Sustainability Accounting Standard (SASB) for Water Utilities and Services and it covers the period from 1 January to 31 December 2023. The relevant GRI indicators and Sustainability Disclosures Topics and Accounting Metrics are listed in the Glossary and Indexes table, on pages 85 - 91.



## Our Materiality Matters

<p style="text-align: center;"><b>Environmental</b></p>  <p>Environmental Management (Energy, Emission, Waste &amp; Water)</p>	<p style="text-align: center;"><b>Social</b></p>  <ul style="list-style-type: none"> <li>• Health &amp; Safety</li> <li>• Talent Development &amp; Workplace Diversity</li> <li>• Employee Benefits &amp; Engagement</li> <li>• Water Quality</li> <li>• Customer Service Excellence</li> <li>• Engagement Programmes</li> <li>• Strategic Community Investment</li> </ul>	<p style="text-align: center;"><b>Governance</b></p>  <ul style="list-style-type: none"> <li>• Excellent Ethics, Governance, Risk &amp; Integrity</li> <li>• Tariff &amp; Pricing</li> <li>• Environmental Compliance</li> <li>• Transparency in Procurement &amp; Supply Chain</li> <li>• Optimising Business Operations</li> <li>• Business Innovation &amp; Digitalisation</li> </ul>
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## Our Impact on SDGs

We have assessed that 10 of the 17 SDGs are material to our business system and tasks.



# SUSTAINABILITY APPROACH

## 10-YEAR SUSTAINABILITY STRATEGY ACTION PLAN<sup>1</sup>

ACTION PLAN AND PROGRAMMES	STATUS
<b>TARIFF &amp; PRICING ST 1: Strengthening Governance and Increasing Transparency</b>	
1. <i>Inadequate tariff review as required for financial sustainability</i>	
a. Identify effective cost saving opportunities to improve financial sustainability	●
2. <i>Tariff as a measure to manage water demand</i>	
a. Identify multi-pronged approach to engage customers to optimise water demand	●
3. <i>Changing customer composition</i>	
a. Assess impact of changing customer composition on long term revenue and profitability	●
<b>CLIMATE CHANGE ST 2: Reducing the Impact of Climate Change</b>	
1. <i>Increasing cost of energy</i>	
a. Continue efforts in optimising energy use across Air Selangor's operations	●
2. <i>Carbon emissions from energy use</i>	
a. Expand GHG emissions assessment to include Scope 3 emissions and other GHGs where relevant	●
3. <i>Net-Zero aspiration</i>	
a. Develop "Net-Zero" pathway to decarbonise Air Selangor's operations	●
b. Utilise more renewable energy than non-renewable energy throughout the business	●
<b>PRIORITISING EMPLOYEE HEALTH, SAFETY, COMPETENCY, AND DIVERSITY ST 3: Employee Competency</b>	
3. <i>Employee learning and development</i>	
a. Establish a career pathway for technical and management roles across all levels	●
b. Improve learning opportunities for employees at all levels which may include:	●
• Implementing mandatory training modules for employees based on their position and job grade	
• Establishing internal certification programmes to support technical skills required for the water sector	
c. Expanding employee benefits scheme to cover opportunities for higher education and professional certifications	●
<b>WATER QUALITY ST 4: Delivering Customer Service Excellence</b>	
1. <i>Raw water pollution</i>	
a. Strengthen partnerships with key agencies to ensure raw water sources are monitored and protected effectively	●
b. Develop community engagement programmes to enhance citizen science partnerships on pollution reporting and water quality monitoring	●
<b>TECHNOLOGY ST 5: Leveraging on Digitalisation to Support Circular Economy</b>	
1. <i>Cybersecurity threat</i>	
a. Review and strengthen the awareness of IT governance and roles and responsibilities over the control of IT applications	●
b. Centralisation of system/application access control management via completion of Identity and Access Management (IAM) implementation	●
c. Periodic IT Security Control self-assessment to detect vulnerability and implement appropriate control measures	●
d. Complete Disaster Recovery Plan (DRP) review and conduct DRP test annually	●
e. Develop Cyber Incident Response Plan to cover key aspects/types of cyber threats	●
f. Establish and implement cybersecurity awareness	●

**Legend**


Not Started



On Target

Achieved<sup>2</sup>Completed<sup>3</sup>
**Notes:**






<sup>1</sup> The 10 years Sustainability Strategy Action Plan has a total of 94 action plans which are being monitored on a periodical basis with the relevant ODs. The highlights above are key action plans based on our SPIs and SDGs focus areas.

<sup>2</sup> Achieved - Action items that have been completed by the respective unit (but this action item is continuous in nature).





<sup>3</sup> Completed - Action items that have already been completed and does not require continuous monitoring.

# SUSTAINABILITY APPROACH

## STAKEHOLDER ENGAGEMENT






Stakeholders	Engagement Activities	Areas of Concern	Linkage to Material Sustainable Matters & SDGs
 <p><b>Customers</b></p>	<ul style="list-style-type: none"> <li>• Service counters</li> <li>• Open counters</li> <li>• Helpline</li> <li>• Social media</li> <li>• Mobile application</li> <li>• Air Selangor’s website</li> <li>• Media</li> <li>• Reports</li> <li>• Campaigns</li> <li>• Complaint investigation</li> </ul>	<ul style="list-style-type: none"> <li>• Customer service</li> <li>• Feedback on products or services</li> </ul>	<ul style="list-style-type: none"> <li>• Water Quality</li> <li>• Customer Service Excellence</li> </ul>
 <p><b>Directors</b></p>	<ul style="list-style-type: none"> <li>• Board and Board Committee Meetings</li> </ul>	<ul style="list-style-type: none"> <li>• Compliance</li> <li>• Company performance</li> <li>• Business Strategies</li> </ul>	<ul style="list-style-type: none"> <li>• Excellent Ethics, Governance, Risk &amp; Integrity</li> <li>• Business Innovation &amp; Digitalisation</li> <li>• Sustainability</li> </ul>
 <p><b>Regulators</b></p>	<ul style="list-style-type: none"> <li>• Meetings</li> <li>• Events</li> <li>• Workshops</li> <li>• Site visits</li> <li>• Enforcement activities</li> </ul>	<ul style="list-style-type: none"> <li>• Compliance</li> <li>• Contributing to economic recovery and strengthening resilience</li> </ul>	<ul style="list-style-type: none"> <li>• Excellent Ethics, Governance, Risk &amp; Integrity</li> <li>• Tariff &amp; Pricing</li> <li>• Environmental Compliance</li> </ul>
 <p><b>Employees</b></p>	<ul style="list-style-type: none"> <li>• Employee engagement survey</li> <li>• Training &amp; engagement events</li> <li>• Internal newsletters &amp; bulletins</li> <li>• Performance reviews</li> <li>• Total Asset Management System (TAMS)</li> <li>• Manuals and procedures</li> <li>• Management Walkabout &amp; Leadership Listening Tour</li> <li>• HSE Week</li> </ul>	<ul style="list-style-type: none"> <li>• Culture, diversity and inclusion</li> <li>• Health, safety and well-being</li> <li>• Employee grievances</li> <li>• Training, professional &amp; career development</li> <li>• Internal system capability, reliability and performance in conducting day-to-day tasks</li> </ul>	<ul style="list-style-type: none"> <li>• Health &amp; Safety</li> <li>• Talent Development &amp; Workplace Diversity</li> <li>• Employee Benefits &amp; Engagement</li> </ul>
 <p><b>Developers</b></p>	<ul style="list-style-type: none"> <li>• Meetings</li> <li>• Electronic Development Plan Approval System (eDPLAS)</li> </ul>	<ul style="list-style-type: none"> <li>• Transparency in procurement processes</li> <li>• Innovations and continuous improvement</li> </ul>	<ul style="list-style-type: none"> <li>• Transparency in Procurement &amp; Supply Chain</li> <li>• Business Innovation &amp; Digitalisation</li> </ul>

# SUSTAINABILITY APPROACH

Stakeholders	Engagement Activities	Areas of Concern	Linkage to Material Sustainable Matters & SDGs
 <p><b>Vendors/Suppliers/ Contractors</b></p>	<ul style="list-style-type: none"> <li>• Vendor engagement events and programmes</li> <li>• Vendors' performance reviews/ meetings</li> <li>• Vendors' survey</li> <li>• Air Selangor's website</li> <li>• TAMS' Supplier Portal</li> <li>• Tender Air Selangor Telegram channel</li> <li>• Code of Business Ethics for business associates</li> </ul>	<ul style="list-style-type: none"> <li>• Efficient and responsible procurement processes</li> <li>• Transparency in procurement processes</li> </ul>	<ul style="list-style-type: none"> <li>• Transparency in Procurement &amp; Supply Chain</li> <li>• Excellent Ethics, Governance, Risk &amp; Integrity</li> </ul>
 <p><b>Local Communities/ NGOs</b></p>	<ul style="list-style-type: none"> <li>• Meetings</li> <li>• Engagement sessions, community events and CSR campaigns</li> </ul>	<ul style="list-style-type: none"> <li>• Community support, aid &amp; assistance</li> <li>• Volunteering</li> <li>• Social welfare</li> <li>• Education</li> </ul>	<ul style="list-style-type: none"> <li>• Engagement programmes</li> <li>• Strategic community investments</li> </ul>
 <p><b>State Assemblemen, Government Agencies, Industry Groups, Academic Institutions and Others</b></p>	<ul style="list-style-type: none"> <li>• Community programmes/events</li> <li>• Sidang Dewan Undangan Negeri (DUN)</li> <li>• Briefings and engagement sessions</li> <li>• Town halls</li> <li>• Research collaborations</li> <li>• Sharing industry experience</li> </ul>	<ul style="list-style-type: none"> <li>• Business opportunity</li> <li>• Business strategy</li> <li>• Contributing to economic recovery and strengthening resilience</li> </ul>	<ul style="list-style-type: none"> <li>• Engagement programmes</li> <li>• Strategic community investments</li> <li>• Excellent Ethics, Governance, Risk &amp; Integrity</li> </ul>
 <p><b>Media</b></p>	<ul style="list-style-type: none"> <li>• Press conferences</li> <li>• Events</li> <li>• Air Selangor's website</li> <li>• Engagement sessions</li> </ul>	<ul style="list-style-type: none"> <li>• Business strategies</li> <li>• Financial performance</li> <li>• ESG performance</li> <li>• Conduct and culture</li> <li>• Community support</li> </ul>	<ul style="list-style-type: none"> <li>• Excellent Ethics, Governance, Risk &amp; Integrity</li> <li>• Strategic community investments</li> <li>• Business Innovation &amp; Digitalisation</li> </ul>

# SUSTAINABILITY APPROACH

## MAPPING OF SUSTAINABILITY PILLARS, MATERIALITY MATTERS, SDGs & SPIs

Sustainability Strategy Pillars	Material Sustainability Matters	Linkage to SDGs	Related SPIs
<b>Pillar 1</b>			
<b>Strengthening Governance and Increasing Transparency</b>	<ul style="list-style-type: none"> <li>Excellent Ethics, Governance, Risk &amp; Integrity</li> <li>Tariff &amp; Pricing</li> <li>Environmental Compliance</li> <li>Transparency in Procurement &amp; Supply Chain</li> </ul>	 	 SPI 6
<b>Pillar 2</b>			
<b>Reducing the Impact of Climate Change</b>	<ul style="list-style-type: none"> <li>Environmental Management (Energy, Emissions, Waste &amp; Water)</li> <li>Optimising Business Operations</li> </ul>	   	 SPI 1  SPI 5  SPI 7
<b>Pillar 3</b>			
<b>Prioritising Employee Health, Safety, Competency and Diversity</b>	<ul style="list-style-type: none"> <li>Health &amp; Safety</li> <li>Talent Development &amp; Workplace Diversity</li> <li>Employee Benefits &amp; Engagement</li> </ul>	  	 SPI 6
<b>Pillar 4</b>			
<b>Delivering Customer Service Excellence</b>	<ul style="list-style-type: none"> <li>Water Quality</li> <li>Customer Service Excellence</li> </ul>	  	 SPI 1  SPI 4
<b>Pillar 5</b>			
<b>Leveraging Digitalisation to Support a Circular Economy</b>	<ul style="list-style-type: none"> <li>Business Innovation &amp; Digitalisation</li> </ul>	 	 SPI 2  SPI 3
<b>Pillar 6</b>			
<b>Giving Back to Community</b>	<ul style="list-style-type: none"> <li>Engagement programmes</li> <li>Strategic Community Investments</li> </ul>		 SPI 1  SPI 3

## PILLAR 1

### STRENGTHENING GOVERNANCE AND INCREASING TRANSPARENCY

A consistent message on effective governance from the board and senior management of Air Selangor enhances the effectiveness, accountability and integrity of the organisational structure and processes that are in place while promoting transparency and clarity in decision-making and operations.

We have implemented a complete governance framework for the entire organisation, enhancing oversight mechanisms, promoting accountability through performance-driven culture, continuously engaging with stakeholders, while upholding ethical values and principles.



# PILLAR 1 STRENGTHENING GOVERNANCE AND INCREASING TRANSPARENCY

## EXCELLENT ETHICS, GOVERNANCE, RISK & INTEGRITY

### Corporate Governance

The Board of Directors at Air Selangor assumes comprehensive responsibility for fostering a robust corporate governance framework, ensuring adherence to the Company’s constitution, the Companies Act 2016 and relevant regulatory mandates. As a state-owned entity, Air Selangor is dedicated to upholding elevated governance standards as outlined in the Malaysian Code of Corporate Governance (MCCG) 2021.

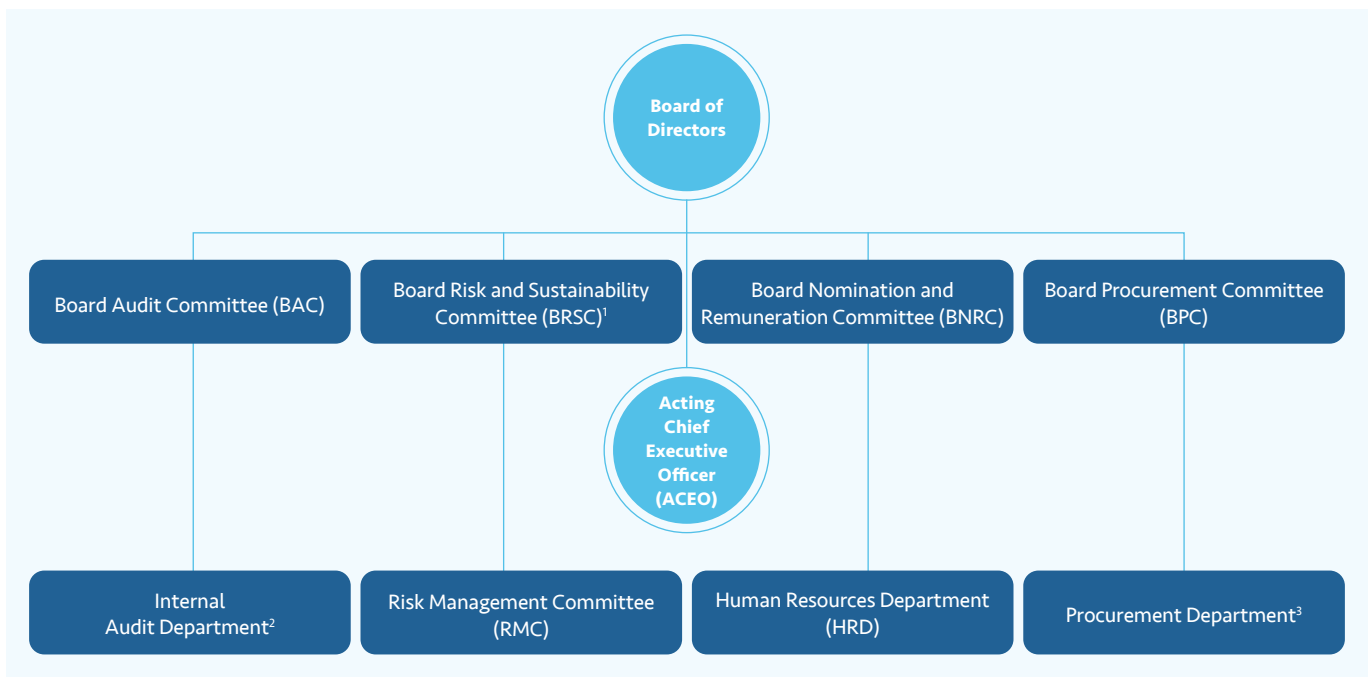
The Board has established four key board committees: the Board Audit Committee, Board Nomination and Remuneration Committee, Board Risk and Sustainability Committee and Board Procurement Committee. These Committees operate under their respective Terms of Reference (TOR), which are periodically reviewed and sanctioned by the Board.

The primary purpose of these committees is to provide specialised expertise and guidance on governance matters pertinent to audit, procurement, risk and sustainability. By facilitating deliberations and offering recommendations, they augment the Board’s decision making processes and ensure the integrity of internal controls.

The Board Committees, are supported by various departments within Air Selangor, including Human Resources, Finance and Strategy, Internal Audit, Procurement, Risk Management, as well as Legal and Company Secretarial. Their collective efforts focused on adaptive strategies, ensuring compliance and regular reporting and follow-up to meet challenges as they arise and to plan for the future.

Through this collaborative approach, Air Selangor is able to fortify its governance mechanisms, promote independence and achieve operational excellence in pursuit of its strategic objectives.

### Corporate Governance Structure



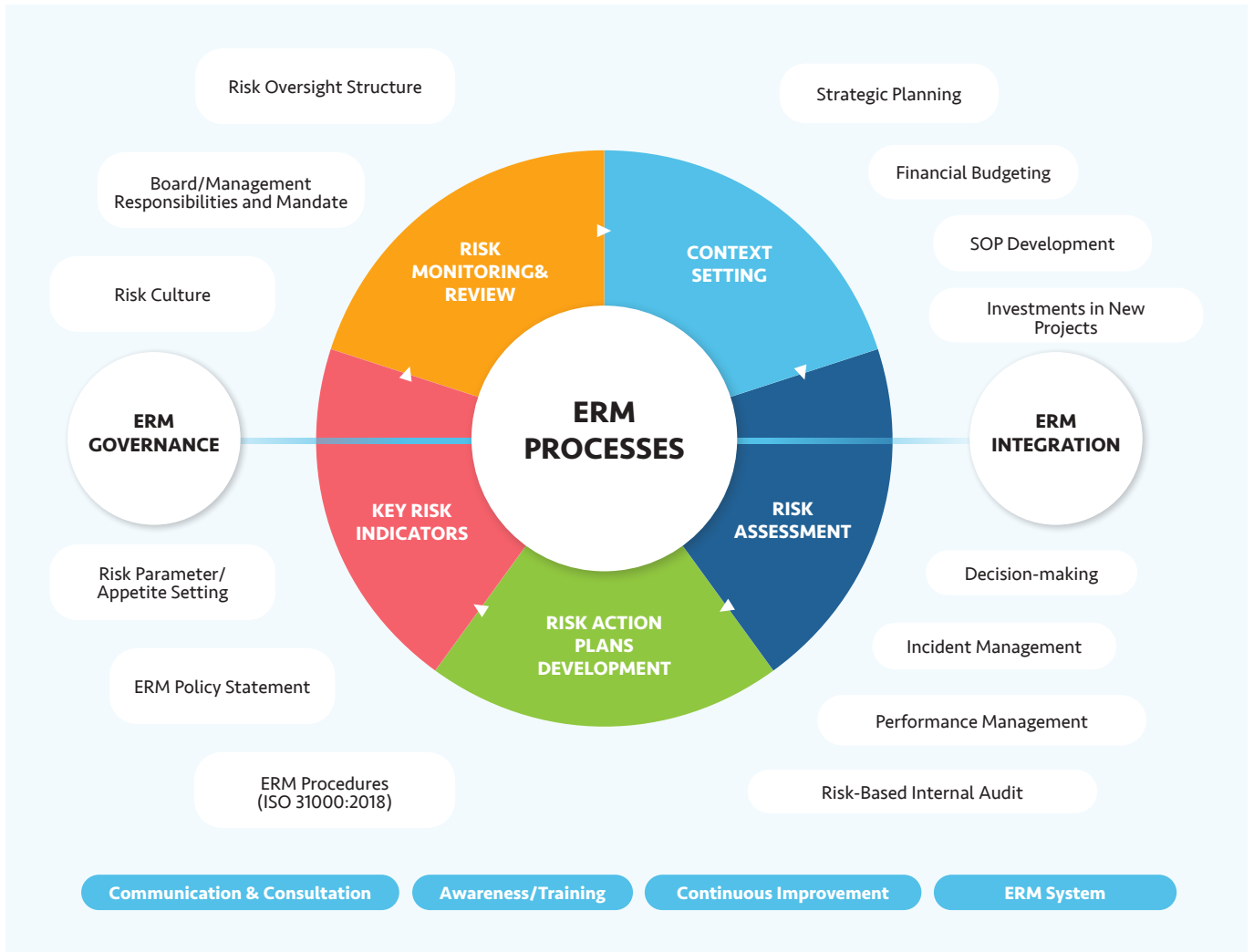
<sup>1</sup> Was established in 2022 and convened its inaugural meeting on 8 December 2022.  
<sup>2</sup> Reports directly and functionally to the Board Audit Committee and administratively to the ACEO.  
<sup>3</sup> Support the Board Committees functionally and report directly to the ACEO.

# PILLAR 1

## STRENGTHENING GOVERNANCE AND INCREASING TRANSPARENCY

### Enterprise Risk Management (ERM)

Risk Management is an essential aspect in Air Selangor’s strategic decision-making. To ensure that practices and processes are efficient and of high standards, Air Selangor’s ERM Framework is designed and guided by the ISO 31000:2018 and comprises of three key divisions, namely the ERM Governance, Processes and Integration.



### Key Initiatives of Enterprise Risk Management (ERM) in 2023 – Project Risk Assessment

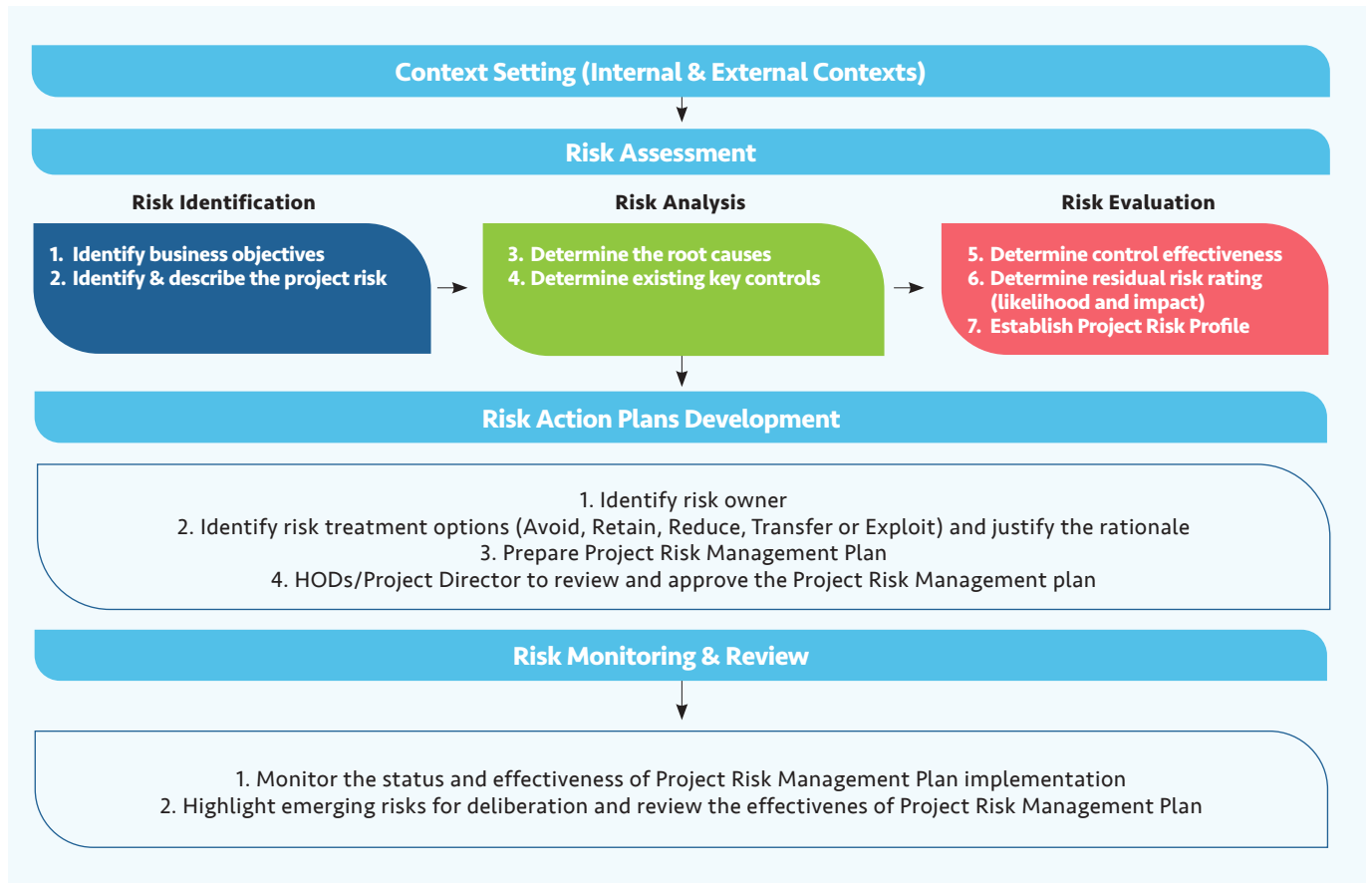
In 2023, one of the major initiatives was to develop the project risk assessment framework, define the objectives and action plans, monitor and tracking of progress to achieve the risk mitigation goals.

The purpose of the project risk assessment is to ensure that all the critical risks that impact the delivery, cost and quality of work are proactively managed and mitigated in a timely manner. Critical information derived from the risk assessment is used to manage the impact with our stakeholders by identifying adequate and timely contingency plans.

# PILLAR 1

## STRENGTHENING GOVERNANCE AND INCREASING TRANSPARENCY

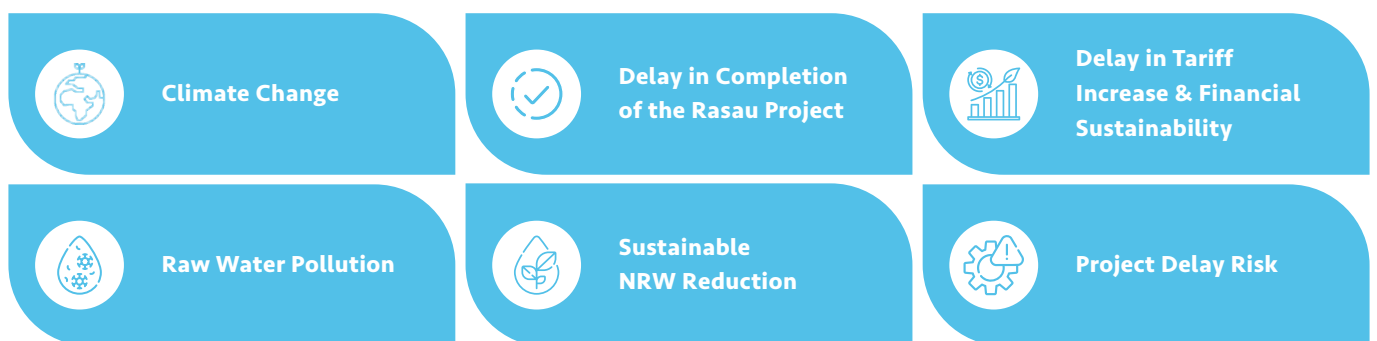
Below is the summary of the project risk management process to evaluate project risk assessment.



### Top Strategic and Business Risk of Air Selangor

An annual risk assessment exercise is performed to identify, analyse, prioritise, and evaluate the key business risks that impacts the organisation’s operational performance, financials and other significant indicators.

This process helps the organisation to determine the right mitigation strategies and action plans, allocation of resources and set the timeline of achievement to address the key business risks exposures. For 2023, the key business risks and their mitigation measures are outlined below:



## PILLAR 1

## STRENGTHENING GOVERNANCE AND INCREASING TRANSPARENCY

## KEY BUSINESS RISKS

## Climate Change

- Long-term shifts in temperatures and extreme weather patterns lead to severe droughts, storms and floods.
- Managing climate change risk is critical, as it can potentially impact water production and water supply sustainability in future.

## MITIGATION MEASURES

## 1 Enhancement of Climate Change Leadership and Governance

- Develop Climate Change Policy/Framework to govern the climate change risk management process.
- Establish partnership and collaboration strategy with relevant authorities, water operators and climate change experts in the market.

## 2 Climate Change Adaptation

- Formalise Internal Drought Management Framework/Strategic Plan
- Formalise and implement holistic Flood Management Plan.

## 3 Climate Change Mitigation Programme

- Conduct study on GHG Emission Inventory for 2023 and establish strategy for carbon neutral.

## Delay in Completion of the Rasau Project

- Construction of the Rasau Water Supply Scheme (Phase 1) is crucial to reduce the dependency on the Sg Selangor Water Supply Scheme and to increase the overall reserve margin for sustainable water supply.

## 1 Engagement Strategy

- Establish an engagement strategy between federal and state authorities (JKR / Majlis / Land Offices / PLAN Malaysia / JPS / LUAS / PETRA/ SPAN/ UPEN / KUSEL / etc.) to ensure the alignment of project requirements and timelines.

## 2 Funding Strategy for Sourcework and Land Acquisition

- Regular discussions between the Federal and the State Government to formalise the financing mechanism for land acquisition and source work.

## 3 Contingency Plan for Klang Region

- Identify and analyse a contingency plan to mitigate low reserve margin issues due to potential delays in Rasau project completion.

## Delay in Tariff Increase &amp; Financial Sustainability

- The increase of tariffs for non-domestic and special categories has contributed an estimated additional 18.5% to billing revenue in 2023.
- The non-domestic and special categories, which represent 12.2% of total registered accounts and 39.5% of total water consumption, contributes to 65.8% of total revenue.
- Tariff increase should continue to be prioritised to ensure Air Selangor's financial sustainability and its ability to continuously fund capital and operational expenditures that are required for the execution of its business plan.

## 1 Strengthening of Public Awareness

- Identify strategies to promote the importance of tariff increase towards the sustainability of water supply.

## 2 Cost Analysis &amp; Optimisation

- Review and rationalisation of internal cost structure i.e. production cost, distribution cost, administration cost, etc.
- Instill cost saving initiative and alignment of objectives.

Note: The key business risks outlined here are valid as of 31 December 2023.

# PILLAR 1

## STRENGTHENING GOVERNANCE AND INCREASING TRANSPARENCY

### KEY BUSINESS RISKS

### MITIGATION MEASURES

#### Raw Water Pollution

- Five water supply disruption incidents were reported in 2023 due to raw water pollution.
- Air Selangor’s primarily conventional WTPs have design and capacity limitations, rendering them incapable of treating odour pollution. Moreover, pH and turbidity levels during pollution events exceed treatable thresholds.
- Availability of alternative raw water source, high reserve margin and water grid interconnectivity is crucial for business continuity and minimise the impact of water disruption.
- The number of water accounts impacted will be significant if raw water pollution occurs at Sg Selangor or Sg Semenyih. The readiness of Skim Jaminan Air Mentah (SJAM) and timely detection remains crucial to reduce the impact of disruption during a pollution incident.

- 1 Strengthening of Inter-connectivity**
  - Water grid interconnectivity is being developed to ensure continuous water supply in the event of water disruption.
- 2 Partnership & Communication Strategy**
  - Strengthening of engagement activities and partnership with LUAS, DOE, SPAN, UPEN, PBT and the relevant authorities to improve the effectiveness of water resource and incident management.
  - Increasing public awareness through river care programmes and educational programmes to highlight the impact of river pollution and river pollution reporting channel.
- 3 Enhancement of Detection and Intervention**
  - Partnership between Air Selangor’s PAKAR team and LUAS in river surveillance and monitoring to ensure early detection of pollution incident and speed of intervention.
  - Online river monitoring system is installed to provide real time raw water quality for internal monitoring.

#### Sustainable NRW Reduction

- Physical loss and commercial loss contributed to approximately 72% and 28% respectively to NRW in 2023. On average, the natural rate of rise (NRR) in leakages is approximately 4% per annum, which is equivalent to 200 MLD of physical water loss per year, caused by deteriorating asset conditions. Therefore an increase in pipe replacement and leak detection continues to be crucial to reduce NRW.

- 1 NRW Programme Effectiveness**
  - NRW programme is being reviewed and prioritised taking into consideration of the natural rate of rise, pipe conditions, funding capacity, effectiveness of the activities and etc.
- 2 Physical Loss Reduction Strategy**
  - Formalisation of Leak Management Plan.
  - Strengthening the contractors’ capacity and performance related to pipe repairs.
  - Micro-monitoring at the mainline network for pressure management.
- 3 Commercial Loss Reduction**
  - Improvement of billing efficiency through close monitoring of billing activities and revenue analysis.
  - Enhancement of meter replacement policy and monitoring of degraded meter profile.
- 4 Enhancement of Pipe Replacement Strategy**
  - Review and enhance mid-term/long-term pipe replacement strategy, considering the pipe condition and funding strategy.

#### Project Delay

- Delay in pipe replacement project, construction and rehabilitation of infrastructure and assets may affect the ability of Air Selangor to sustain/ reduce NRW reduction and in maintaining operational efficiency.

- 1 Enhancement of Project Management Strategy**
  - Perform project risk assessment for selected projects and identify areas for improvement.
  - Consistent and structured feedback between Project team and ODs.
  - Periodic engagement with relevant stakeholders to review project status and address key challenges.
- 2 Strengthening Skillset & Competency**
  - Selected staff is sent for project management certification in order to improve capabilities and competency.
  - Conduct knowledge sharing sessions between Project Team and vendors.
- 3 Enhancement of Contractors’/Consultants’ Management**
  - Review and re-strategise the contractors’ appointment.
  - Review the existing criteria for contractors’/consultants’ performance evaluations.

## PILLAR 1

# STRENGTHENING GOVERNANCE AND INCREASING TRANSPARENCY

### Risk Management Advocate Development Programme (RMADP)

As part of the ERM Framework on the governance enhancement, building and embedding a risk culture is crucial for an organisation, as every individual in the organisation should incorporate a risk mindset and risk practices into their working methods, process development, implementation of action plans and decision-making.

The Risk Management Department has established the RMADP for Air Selangor in 2023 with the following objectives:

- Promote and integrate risk excellence culture in Air Selangor
- Empowerment to improve risk management capability and create homegrown risk management talent
- Enhancement of risk visibility to the Management and timely management of risk exposure
- Improve productivity and efficiency



A total of 35 Risk Management Advocates were identified in 2023 and adequate training has been provided to build their capacity and capability to become risk management advisors, leading the risk committee at the operational level. Their role is to promote and drive the risk management culture and practices, facilitate the execution of risk action plans, engage with other business functions, conduct a risk monitoring and to provide periodic risk reporting to the Risk Management Department (RMD) at the Headquarters.

### Business Ethics

Air Selangor is committed to the highest standards of ethical business conduct, which is of paramount importance due to the critical nature of our services and their impact to the public health and environment. The Integrity and Governance Unit (IGU) reports to the Board Audit Committee and is administratively overseen by the ACEO.

We continuously promote transparency and accountability in our daily business operations, guided by Air Selangor's Anti-Bribery and Anti-Corruption (ABAC) Framework, Policy and Procedures. The Policy and Procedures complement and shall be read together with other internal policies and procedures such as the Employee Code of Ethics, Employee Handbook, Code of Business Ethics (COBE) for business partners, Whistleblowing Policy, No Gift Policy, Corporate Social Responsibility and Conflict of Interest Policy.

As an ongoing effort to ensure compliance with the Corporate Liability provision under the Section 17A of the Malaysian Anti-Corruption Commission (MACC) Act 2009, Air Selangor implemented several activities and initiatives to protect the organisation and its employees from corruption practices.

### Corruption Risk Assessment (CRA)

The IGU has initiated a Corruption Risk Assessment (CRA) process, and by December 2023, Phase I of the CRA was fully completed with all departments providing their self-declared corruption risk assessments. These self declarations were subjected to a challenge process by IGU.

# PILLAR 1

## STRENGTHENING GOVERNANCE AND INCREASING TRANSPARENCY

Due to the prioritisation of key activities in 2023 in relation to the CRA of our WTPs, the IGU will revisit its timeline on the implementation of the CRA Phase 2 initiative. This phase involves reviewing the CRA submissions by departments to confirm the adequacy of the measures proposed during Phase I.

### Air Selangor Anti-Corruption Plan (AACP)

The organisation has also established Air Selangor’s AACP in 2023. The AACP is designed in line with the National Anti-Corruption Plan (NACP) outlining four key strategies and a total of 59 initiatives from the period of 2019 to 2025.

<p><b>Strategy 1</b></p> <p>Improving the effectiveness and the integrity of the organisation’s business</p> <div style="float: right; background-color: white; color: #00AEEF; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center;"> <span style="font-size: 24px; font-weight: bold;">22</span>  <small>initiatives</small> </div>	<p><b>Strategy 2</b></p> <p>Inculcating good ethical culture among stakeholders</p> <div style="float: right; background-color: white; color: #76C73A; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center;"> <span style="font-size: 24px; font-weight: bold;">13</span>  <small>initiatives</small> </div>
<p><b>Strategy 3</b></p> <p>Promoting transparency in conducting business for the organisation</p> <div style="float: right; background-color: white; color: #FFA500; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center;"> <span style="font-size: 24px; font-weight: bold;">6</span>  <small>initiatives</small> </div>	<p><b>Strategy 4</b></p> <p>Strengthening the governance structure of the organisation</p> <div style="float: right; background-color: white; color: #004A87; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center;"> <span style="font-size: 24px; font-weight: bold;">18</span>  <small>initiatives</small> </div>

A total of 11 initiatives have been completed and presented to the Board Audit Committee (BAC) as of December 2023.

A governance structure is established to oversee the implementation of the AACP programme. This is to ensure all parties involved in delivering this plan have a good understanding of their roles and remain on track to deliver the committed action plans.

<p><b>BOARD OF DIRECTORS (BOD)</b></p>	<p><b>BOARD AUDIT COMMITTEE (BAC)</b></p>	<p><b>RISK MANAGEMENT COMMITTEE (RMC)</b></p>	<p><b>INTEGRITY SECTION (AACP SECRETARIAT)</b></p>	<p><b>AACP INITIATIVE OWNERS</b></p>
<ul style="list-style-type: none"> <li>Approve The AACP</li> </ul>	<ul style="list-style-type: none"> <li>Review and endorse the AACP</li> <li>Receive updates on the implementation of the AACP</li> <li>Evaluate the delivery and performance of the initiatives implemented</li> </ul>	<ul style="list-style-type: none"> <li>Provide direction to AACP Secretariat on the initiatives to be implemented</li> <li>Evaluate the delivery of the initiatives</li> <li>Authorise the progress report of the initiatives’ implementation prior to providing updates to BAC</li> </ul>	<ul style="list-style-type: none"> <li>Plan and coordinate the design of the AACP</li> <li>Implement respective initiatives</li> <li>Monitor the implementation of the initiatives and ensure its timeliness of delivery</li> <li>Provide quarterly updates on the progress of the initiatives to the RMC and BAC</li> </ul>	<ul style="list-style-type: none"> <li>Implement the initiatives respective to their departments</li> <li>Ensure all initiatives are implemented within the timeline agreed</li> <li>Provide quarterly to ‘as and when’ updates on the progress of the initiatives implementation to the Integrity Section</li> </ul>

## PILLAR 1

# STRENGTHENING GOVERNANCE AND INCREASING TRANSPARENCY

### External Engagement

In 2023, as part of IGU's continuous engagement and awareness session, in collaboration with Air Selangor's Procurement Department, IGU conducted an Integrity Awareness Session with Air Selangor's vendors during the Vendor engagement event. The event was attended by over 2,000 representatives, consisting of Air Selangor's consultants, contractors, suppliers and vendors, Air Selangor senior management, representatives from the Malaysian Anti-Corruption Commission (MACC) and members of the media. The participants also participated in the Corporate Integrity Pledge (CIP) to uphold and comply with ethical business practices.

### ISO 37001 Anti-Bribery Management System (ABMS)

To further elevate the organisation's strong commitment and drive to ensure that our business and people are free of corruption, Air Selangor successfully obtained the ISO 37001 Anti-Bribery Management System (ABMS) certification from SIRIM.

In 2023, IGU together with organisation-wide ISO Auditors carried out ISO internal audits at all of Air Selangor's WTPs. A total of 10 issues were recorded under the Observation/Opportunity for Improvement (OFI) and one issue of Potential Non-Conformance (PNC).

Nevertheless, the declarations of "conflict of interest" for the new employees and vendors are ongoing. For new employees of Air Selangor, it has been integrated into our ABAC mandatory e-learning module during their onboarding learning journey, whilst all vendors of Air Selangor are required to sign an integrity pact as part of their contract agreement. IGU conducts classroom sessions for all new employees of Air Selangor during the onboarding programme and this is followed by an interactive workshop as a refresher training upon the completion of their onboarding journey. As of 31 December 2023, a total of 28 onboarding sessions were completed for the new employees of Air Selangor.

### Air Selangor Whistleblowing Policy

The Whistleblowing Policy serves as a guide for a genuine reporting of any unethical conduct by employees or business partners. It can be accessed on Air Selangor's website at <https://www.airselangor.com/about-us/sustainability/operating-with-integrity/whistleblowing-policy/whistleblowing-form/>.

### Business Continuity Management (BCM)

As the sole water services provider in Selangor, Putrajaya and Kuala Lumpur, Air Selangor is committed to ensure continuous water supply to all its customers, to support the region's business growth and resiliency.

Air Selangor's BCM Framework is a guidance tool to ensure compliance with BCM policies, practices, procedures, planning, activities and reporting.

With the achievement of the ISO 22301 Business Continuity Management System (BCMS) certification, Air Selangor's BCM approach and methodology are continuously being reviewed and necessary changes are made from time to time to the Business Impact Analysis (BIA), Business Continuity Plans (BCP), Crisis Communication Plan and Crisis Management Plan. Training, awareness sessions and engagements are ongoing with BCM Coordinators and other representatives to ensure updated communication and information are shared adequately.



### BCM CORE ACTIVITIES IN 2023

#### BCM Desktop Walkthrough Exercise (DWE)

The objective of a BCM desktop walkthrough exercise is to simulate and evaluate an organisation's response to a hypothetical business disruption scenario. Participants typically engage in discussions and decision-making processes to assess their understanding of the organisation's business continuity plans and procedures. The exercise aims to identify strengths, weaknesses, and areas for improvement in the organisation's BCM strategy, including communication protocols, resource allocation, and contingency measures, ultimately enhancing the organisation's resilience to potential disruptions.

A total of 10 regions have completed the DWE exercise, which was scheduled from August 2023 to January 2024. The scenarios planned for the emergency response plan and business continuity include bomb threat, picket/riot, flood and critical system disruption.



## PILLAR 1

# STRENGTHENING GOVERNANCE AND INCREASING TRANSPARENCY

As of December 2023, the BCM team has successfully tested the emergency response plans and business continuity strategies. Participants actively participated and provided new inputs, such as to improve manual workarounds in the event of critical IT system failure and to identify critical units that require alternate locations and enhance operational resilience.

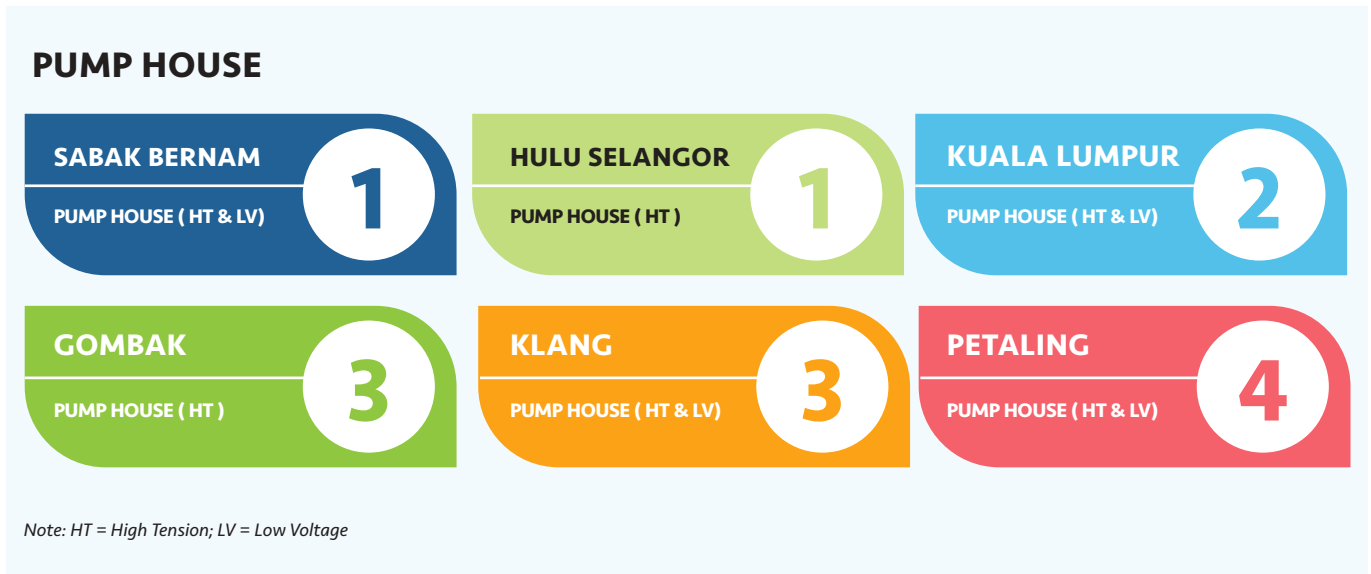
### BCM Flood Desktop Walkthrough Exercise (FDWE)

The *Jawatankuasa Bilik Operasi Bencana* (JKBOS) provided a recommendation for Air Selangor to carry out an assessment of its readiness to mitigate the north-east monsoon flood situation. In view of that, the BCM team conducted a FDWE exercise from November 2023 to January 2024, whereby a few Distribution Regional Offices and the Production Southern Region were successfully tested.

The purpose of this FDWE is to test the flood emergency or crisis response plan, to assess the business continuity strategy of the department or section and to be aware of the activities post crisis. Upon completion of the test, the response plans were successfully documented. Gaps identified were assigned with improvement plans and continue to be subjected to the BCM team’s continuous monitoring.

### Pump House Testing

A live crisis simulation exercise was conducted across 15 sites to evaluate the redundancy of water pumps at treated water pump houses.



The scope of the test focuses on assessing the contingency plan specifically, activation of standby pumps when the primary pump fails. The overall results were satisfactory and the tested standby pumps were operational. However, some backup pumps were not tested as they were under maintenance/repair. These pumps were rectified and will be re-tested by the BCM team in 2024. The BCM team also reviewed the contingency plans in place when maintenance works are on-going and concluded the overall readiness as also satisfactory.

Further discussions were carried out with Planning & Capital Works (PCW) and Operational Services Department (OSD) to deliberate on the alternative strategies in the event that the 15 pump houses are non-operational. Some of the recommendations proposed are to develop a comprehensive operating manual i.e. to create a detailed and easy-to-understand operating manual for each pump houses, outlining the step-by-step procedures for starting, stopping, monitoring and maintaining the pumps. Other proposed recommendations include incorporating safety guidelines, emergency procedures and troubleshooting instructions. In addition, periodic reviews and updates are to be carried out on the operating manual to reflect any changes in the pumping system or to improve procedures’ efficiency.

## PILLAR 1

# STRENGTHENING GOVERNANCE AND INCREASING TRANSPARENCY

### Cross Training Initiative

As of December 2023, 57 WTP staff participated in the Phase 2 of WTP cross-training programme held at Rantau Panjang and Sg Langat WTPs. These cross trainings are designed to ensure we have a pool of well-trained WTP Operators capable of managing and operating WTPs with different operating models and designs.



### Cybersecurity

As Air Selangor's day-to-day business operations rely upon the use of technology, the risk of cybersecurity has been listed among the top ten risks for the organisation in 2023.

Cybersecurity has been included as a mandatory e-learning module for all new employees of Air Selangor. The two-hour module of Computer Security Awareness Parts 1 and 2 (in dual language) equip learners with the knowledge and skills to protect their computer operating systems, network and data from cyber-attacks.

Air Selangor has an IT Policy in place, setting out the rules and guidelines to govern the use, management and security of its information technology resources. These policies are designed to ensure that technology is used in a way that aligns with the organisation's objectives, protects its assets, and complies with relevant laws and regulations.

Some of the key initiatives implemented by the IT Department (ITD) in 2023 were the completion of cybersecurity maturity assessments, pilot implementation for endpoint security (Microsoft Intune), renewal of ISO 27001:2013 certification and Information Security Management System (ISMS) and cybersecurity awareness roadshow.

For the Cybersecurity Maturity Assessment (CMA), ITD completed the exercise in August 2023 and presented it to the BRSC in November 2023. The CMA covers five critical processes, namely billing, distribution, production, procurement and complaint management. The deliverables are risk assessments, strategy, roadmap 2024 - 2026, and cyber security maturity assessment itself. There are a total of 75 initiatives recommended by the appointed consultant, Ernst & Young (EY), which Air Selangor committed to implement between 2024 and 2026.

The pilot implementation of Microsoft Intune was conducted within the IT department. The implementation is focused on security for both notebook and mobile phones which enables segregation for office and personal use.

The ISO 27001:2013 certification which is a mandatory requirement under the Suruhanjaya Perkhidmatan Air Negara (SPAN) licensing regime has been successfully renewed in November 2023 with one minor non-conformity being found.

The ISMS and cybersecurity awareness roadshow is a critical and essential programme conducted throughout the organisation. As at December 2023 a two-hour comprehensive awareness programme was conducted for one department, 31 WTPs, three dams, and 10 regional offices.

## PILLAR 1

## STRENGTHENING GOVERNANCE AND INCREASING TRANSPARENCY

This programme will be conducted periodically as refresher and updated with latest information. The next roadshow is expected to commence in June 2024.

**TARIFF & PRICING**

In 2023, Air Selangor recorded RM2.82 billion in total revenue, compared to RM2.45 billion in 2022 following the adjustment in tariff for the non-domestic and special categories in August 2022. The non-domestic and special categories, representing 12.2% of total registered accounts, account for 39.5% of water consumption and makes up 65.8% of total billing revenue. The tariff adjustments for these categories contributed to an additional 18.5% in billing revenue in 2023.

Tariff adjustment is a significant topic to be prioritised to ensure the sustainability of Air Selangor's business in delivering high operational and services excellence, and to help the organisation achieve its SPIs. In 2023, Air Selangor's total costs amounted to RM3.51 billion, which translates to a cost per cubic metre of RM2.55. Total CAPEX projects awarded amounted to RM0.56 billion.

Continuous tariff adjustment will ensure that adequate infrastructure investment will be made to upgrade and maintain our water facilities, manage our rising costs in energy, labour, and other maintenance expenses, promote greater water conservation efforts for consumers to use water more efficiently and responsibly, enhance water quality through new technologies and processes and ensure the long-term viability and resilience of the business.

**TRANSPARENCY IN PROCUREMENT & SUPPLY CHAIN**

Air Selangor is strongly supported by its business partners consisting of contractors, suppliers, vendors and/or consultants. Our Procurement Department is responsible to ensure strong governance policies, procedures and practices within the supply chain and procurement ecosystem to promote and ensure transparency, objectivity, clarity, and accountability throughout the procurement process in acquiring supplies, services and works.

It ensures that all our stakeholders have access to the necessary information about procurement activities to safeguard the integrity of the procurement process, prevent corruption and maximise value for money. Air Selangor has a robust governance structure including the establishment of Management Procurement Committee at management level to review and endorse tender award recommendations before any approval decision by Approving Authorities. It is guided by the Procurement Manual based on financial authorities as approved by the Board. This manual is also reviewed on a periodical basis (once every two to three years).

Air Selangor has used Oracle's enterprise resource planning (ERP) system since 2019, which integrates and manages the business processes across all departments within the organisation.

The ERP system, named as "Total Asset Management System" (TAMS), provides real-time visibility and streamlines the end-to-end business operations, hence improving efficiency. The Procurement Department fully leverages on TAMS' Procurement module in carrying out e-sourcing by providing Air Selangor's registered business partners access to our Supplier Portal.

As of December 2023, the procurement valued total of RM1.19 billion, with 99.51% of the procurement spending focused on local business partners. There are a total of 1,533 active vendors registered in the procurement system as of December 2023.

There are several activities and engagements carried out by the Procurement Department to achieve their stakeholders' engagement target. Some of the initiatives implemented are anti-corruption briefing for contractors/vendors/business partners during launch of new project in collaboration with the IGU as well as contract management training for the contract administrators and contract administrator representatives.

Other initiatives include competency building i.e. "Category Management Training" for procurement and key user personnels to equip them with the necessary knowledge to develop optimal strategies and maximise value delivery for procurement categories of strategic importance such as pipe replacement, chemical and water meter supplies.

Through relentless digitalisation efforts, the Procurement Department converted its sourcing and record archiving into paperless processes. In 2023, we have also successfully implemented "Vendor Performance Management System" (VPMS) where vendors performance reports are submitted, reviewed and analysed electronically. The Procurement Department is also currently working with Finance & Strategy Department on an e-invoice project as well as working closely with other user departments to incorporate more ESG elements into Air Selangor's contractual requirements including sustainable environment and occupational health and safety, as well as the safety of contractors' workers welfare.

Other digitalisation efforts include the e-invoice integration towards promoting e-procurement services in the future.

## PILLAR 1

## STRENGTHENING GOVERNANCE AND INCREASING TRANSPARENCY

## ENVIRONMENTAL COMPLIANCE



Air Selangor supplies an essential commodity and therefore, has high ownership and obligation to ensure environmental compliance is achieved which is crucial to the long-term sustainability of the organisation's operation. Air Selangor must comply with three environmental regulations namely Environmental Quality (Scheduled Wastes) Regulations 2005, Environmental Quality (Industrial Effluent) Regulations 2009 and Environmental Quality (Clean Air) Regulations 2014.

The organisation applies the Department of Environment Guided Self-Regulation (DOE GSR) a set of environmental mainstreaming tools that consist of environmental policy, budgeting, monitoring committee, pollution control facility, competency, reporting, communication, and transparency perimeters to achieve self-regulation and full compliance with the environmental regulations. Aligning with the GSR requirements, the organisation has implemented the Environmental Regulatory Compliance Monitoring Committee (ERCMC) at the strategic level and the Environmental Performance Monitoring Committee (EPMC) at the regionals level in ensuring compliance with applicable environmental regulations requirement. The ERCMC meeting is conducted together with the HSSE Corporate Committee meeting on a quarterly basis.

As of 2023, Air Selangor has constructed a total of 43 scheduled waste storage facilities and we are continuously improving procedures whilst increasing the number of Environmental Competent Person (ECP). As of December 2023, Air Selangor has a total of 119 Certified Environmental Professionals across four categories of competencies which are Bag Filler Operation

(CePBFO), Industrial Effluent Treatment Systems Operations (CePIETSO-PCP), Scrubber Operation (CePSO) and Scheduled Waste Management (CePSWaM). These initiatives have contributed to the increment of the DOE GSR completion rate of 94.3% for Production activities compared to 87.15%, and for Distribution activities of 96.4% compared to 84.32% against last year.

A total of 122 violations were recorded against the Industrial Effluent Regulations, detected through in-house effluent samplings. The cause of these violations is due to insufficient capacity for residual treatment which is already being addressed through the ongoing upgrading and rehabilitation of existing Residual Treatment Facility (RTF) and the process components, and the construction of new RTF to meet the future required capacity. The upgrading and rehabilitation of RTF are part of DOE – Air Selangor resolutions, in which progress is updated and reported to DOE on a regular basis.

There are also ongoing efforts and collaborations with external parties on studies carried out on our residual waste composition, volume, and characteristics to develop some effective residual waste management strategies focusing on recycling, composting, and other waste diversion efforts in the future. This includes a study and nursery trial on reuse of the residual as topsoil in agriculture industry.

As of December 2023, Air Selangor recorded no significant spills and received zero notices of non-compliance and zero fines from DOE under all regulations.

## PILLAR 2

### REDUCING THE IMPACT OF CLIMATE CHANGE

The global cost of climate change damage is estimated to be between \$1.7 trillion to \$3.1 trillion per year by 2050<sup>1</sup>. Its impact continues to worsen and inflict devastation throughout the world. The Northern hemisphere is engulfed in summer wildfires while the Southern hemisphere is inundated by monsoon floods.

Climate change threatens the livelihoods of the people and poses risks to businesses, including water services providers. It can disrupt the business operations and the ability to foster sustained value for our invested stakeholders. Nonetheless, Air Selangor continues to respond through adaptation and innovation for the long-term sustainability of the organisation and the water ecosystem in general.

<sup>1</sup> Bennett, P. (2023, October 12). Climate change is costing the world \$16 million per hour: study. World Economic Forum. <https://www.weforum.org/agenda/2023/10/climate-loss-and-damage-cost-16-million-per-hour/>

## PILLAR 2

# REDUCING THE IMPACT OF CLIMATE CHANGE

### ENVIRONMENTAL MANAGEMENT

#### Our Approach

Air Selangor understands the importance of responding to the climate change crisis. Air Selangor is also determined in addressing these impacts to ensure continuous and undisrupted water supply to our customers. Through SPI 1: Water Forever, and SPI 7: Environmental Stewardship, Air Selangor has identified action plans to mitigate the impacts of climate change to our operations. Our approach to the mitigation plans is holistic and covers various aspects. This includes the commissioning of the Climate Change Taskforce, controlling, reducing, and monitoring our emissions, formalising water conservation plans, improving our zero waste environment initiatives, as well as striving for full compliance with the Environmental Quality Regulations.



#### Climate Change Taskforce

Air Selangor has established a Climate Change Taskforce that will address the physical impacts of flood and drought events. The Drought Strategic Framework will allow the organisation to build resilience, introduce interventions, and improve communication through four key pillars, namely Water Resources Management, Water Supply Management, Demand Management and Communication Strategy. The Flood Risk Mitigation Framework focuses on two mitigation measures, namely Structured Measures and Non-Structured Measures. The former will explore a systematic and organised approach to address the risks and impacts of flooding, while the latter will allow for creativity and exploration in addressing flood risks.

#### Carbon Emissions

Air Selangor continuously monitors the impact of carbon emissions from our operations through carbon management initiatives. As of December 2023, Air Selangor recorded and disclosed its Scope 1 emissions, which consists of fuel

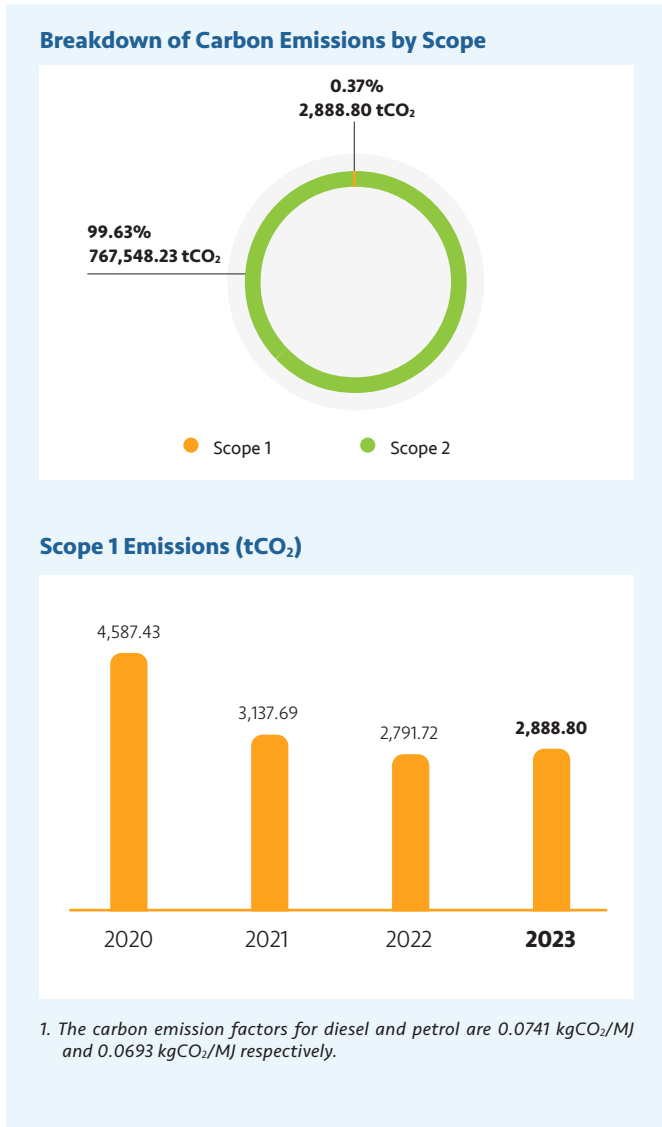
consumption from petrol and diesel to power the fleet vehicles, backup generators and various machineries. Scope 2 emissions, which solely consists of the electricity purchased to operate WTPs, pumphouses, office buildings and all associated facilities.

There has been a slight increase in Scope 1 emissions due to the increase in fuel consumption in 2023. The fuel consumption is not contingent on the volume of treated water produced, rather, it is influenced by the unpredictability of maintenance and cleaning activities at the treatment plant.

Scope 2 has also seen an increase in emissions due to the organisation's reliance on purchased electricity. Despite this, Air Selangor has managed to maintain the carbon intensity relatively low, amidst increasing production to meet the water demand. This is achieved through various operational efficiency programmes and reduction of NRW.

## PILLAR 2 REDUCING THE IMPACT OF CLIMATE CHANGE

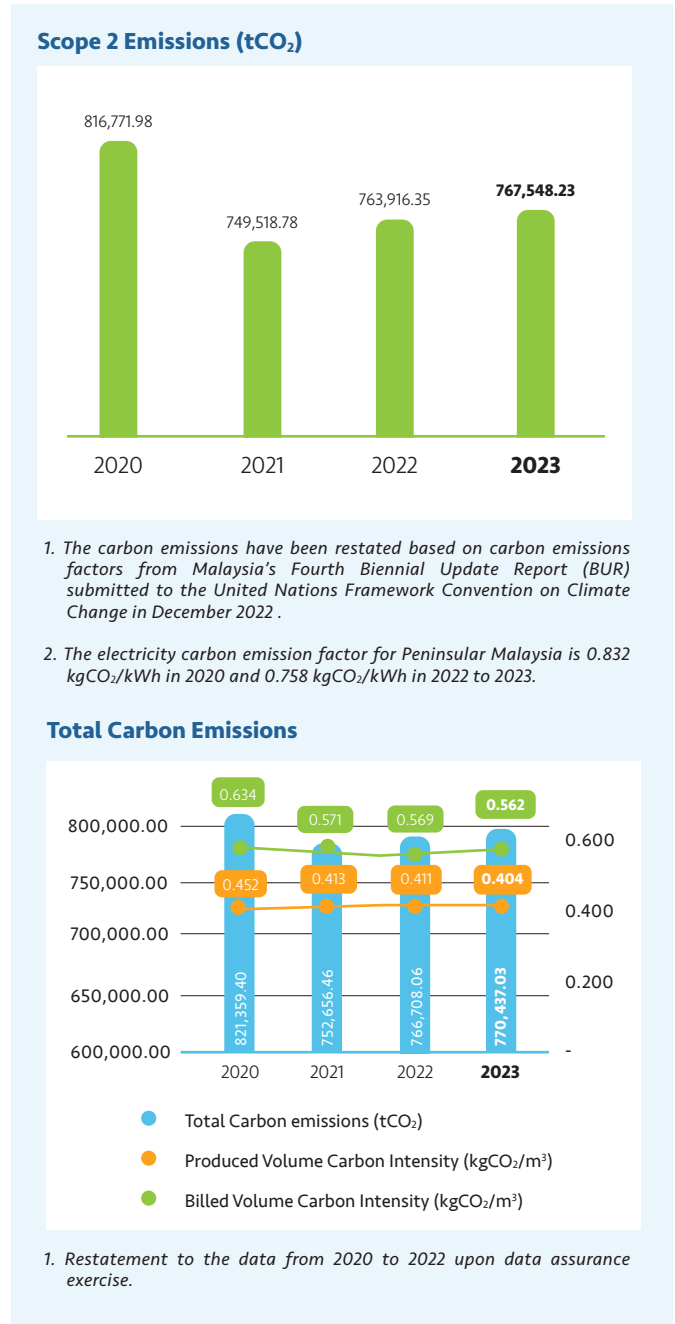
### Breakdown of Scope 1 and Scope 2



### Net Zero 2040 Vision

The Menteri Besar of Selangor, Y.A.B. Dato’ Seri Amirudin Shari launched Air Selangor’s Net Zero Energy Vision 2040 at the Sg Selangor Phase 2 (SSP2) WTP at Bestari Jaya, marking our commitment towards sustainable energy use to achieve the goal of net zero carbon emission by 2040.

The Net Zero Energy Vision initiative aims to generate 1,460 GWh of green electricity annually by 2040. This involves the reduction of 1,106,680,000 kg of CO<sub>2</sub> emission (carbon avoidance) and reducing Air Selangor’s Corporate Energy Index by 15% over 15 years.



Net Zero Energy Vision 2040 is Air Selangor’s commitment to contribute to a significant reduction in greenhouse gas (GHG) emissions, aligning with and fully supporting the sustainability initiatives of the state government of Selangor and Malaysia. This commitment aligns with the SDG 13 - Climate Action, emphasising the importance of addressing climate-related challenges.

## PILLAR 2

# REDUCING THE IMPACT OF CLIMATE CHANGE

### Managing Energy Consumption

Air Selangor understands that energy consumption from Scope 2 is the largest contributor to the organisation's carbon footprint. In accordance with the National Energy Transition Roadmap (NETR) launched by the Government of Malaysia to drive the nation towards carbon neutrality by 2050, Air Selangor has devised strategies to contribute and support the agenda through various decarbonisation and carbon management initiatives.

#### RENEW

RENEW is a landmark collaborative initiative to drive the organisation's net zero ambition. The implementation of RENEW has been distributed across three Phases for the incremental adoption of renewable energy. As of December 2023, Air Selangor has commenced energy generation at 10 solar facilities with a total capacity of 9,476 kWac and has generated 5,779,516 kWh. Air Selangor will continue to install solar PVs on other treatment plants, pumphouses and offices.

#### Energy Efficiency (EE) Programme:

In 2023, the EE programme successfully contributed to significant energy savings. The implemented initiatives include:

1. Operational Optimisation of Energy Index Phase 1 – 5 involving active treatment plants and pumphouses.
2. Operational Optimisation of Building Energy Index involving offices.
3. Replacement and refurbishment programme for inefficient pumps, motors and building asset with higher efficiency.
4. Green Electricity Tariff (GET) subscription for five locations.

#### Fleet Energy Management

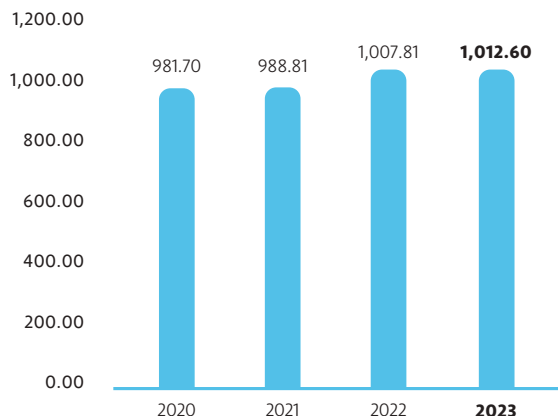
The Vehicles Management and Usage Policy was established for Air Selangor's Fleet Management. The Company's operations and management vehicles are provided with a fuel card and automated fuel usage report. GPS trackers are also installed to enable real-time monitoring of their location, drivers' behaviour, reduce the risk of theft and allow for optimisation of routing and dispatching processes, especially for water tankers.

#### Overall Energy Consumption

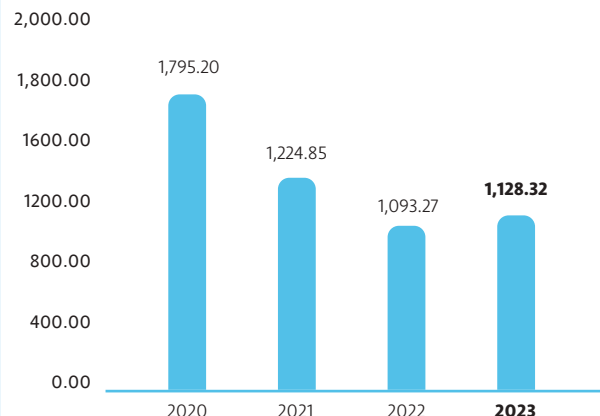
Air Selangor has seen significant changes in the Company's overall energy consumption. Through effective fleet and machinery management, fuel consumption has seen a reduction and has been relatively low since 2020. Electricity consumption, however, has seen an increase every year as it is proportional to the development growth of surrounding regions.

However, it is important to highlight that through Air Selangor's efforts to achieve operational effectiveness, the energy intensity has seen a reduction trend from the previous years. In 2023, Air Selangor subscribed to the Green Energy Tariff (GET) between February to July with the total consumption at 29,288,594 kWh.

#### Total Electricity Consumption (GWh)



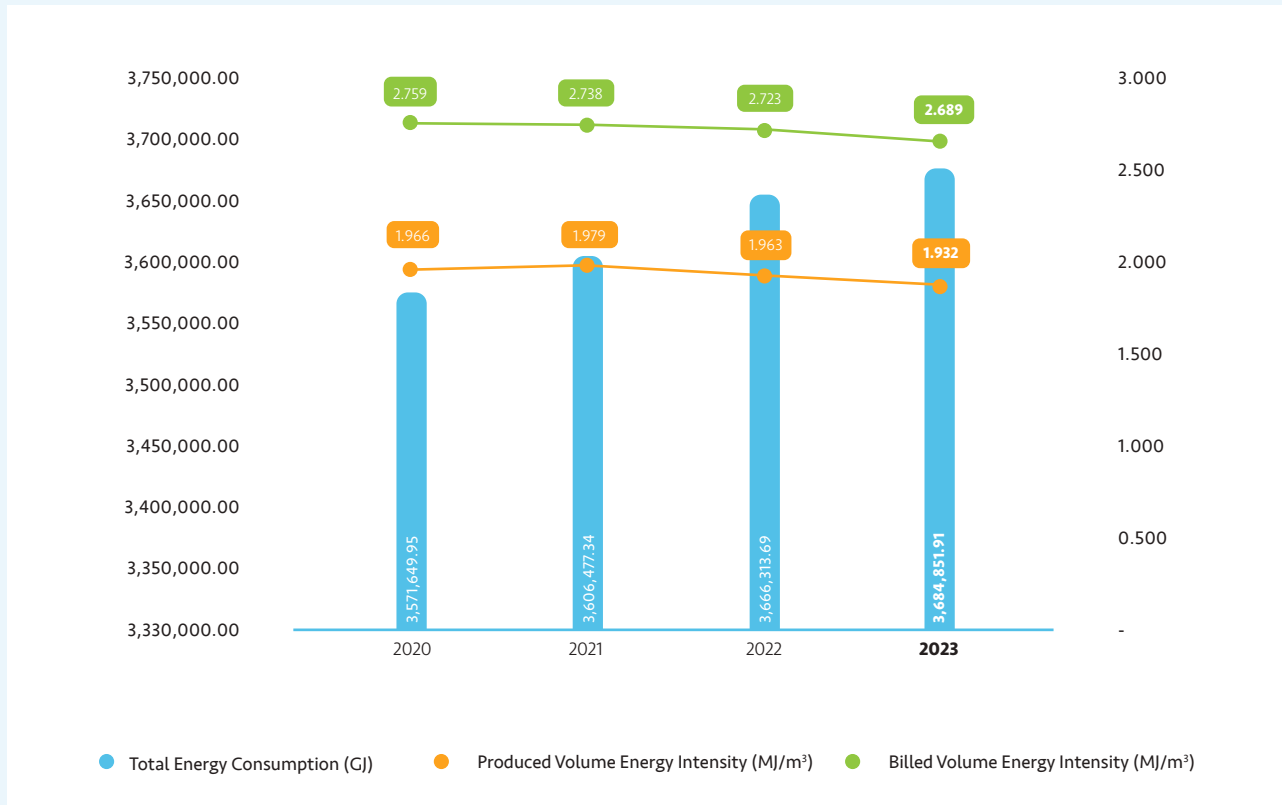
#### Total Fuel Consumption (m<sup>3</sup>)





## PILLAR 2 REDUCING THE IMPACT OF CLIMATE CHANGE

**Total Energy Consumption and Energy Intensity**



### Water Conservation

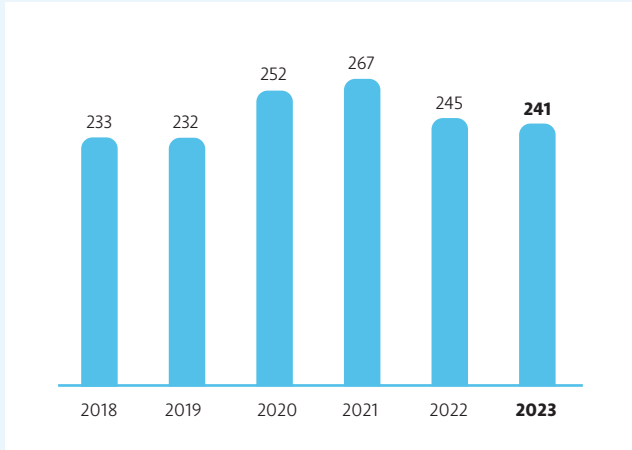
Water demand management is a critical issue for Air Selangor, as it plays a pivotal role in ensuring the sustainable management and availability of our precious water resources. As the custodian of water supply services for the region, Air Selangor recognises the imperative of promoting water conservation practices to mitigate the impacts of limited water reserves, foster resilience in the face of climate variability and uphold our commitment to delivering reliable and equitable water services to all stakeholders.

The water consumption trend has seen significant change since 2022. The movement restriction order during the pandemic contributed to the rise of consumption between 2019 to 2021. The consumption dipped significantly in 2022 after the public had been eased back to normalisation with the recorded average consumption at 245 litres per capita per day (LCD). 2023 recorded a reduction to 241 LCD which is still 50.6% higher than the target set in the Water Sector Transformation 2040 recommendation of 160 LCD.

Accordingly, Air Selangor has established a Water Conservation Roadmap 2022-2025 to streamline its engagement programmes and reach greater audiences to encourage more efficient water consumption habits.

## PILLAR 2 REDUCING THE IMPACT OF CLIMATE CHANGE

Average Domestic Water Consumption per Capita (LCD)



### Water Conservation Framework and Policy

Under the Water Services Industry Act 2006 (WSIA), Air Selangor as the sole water services provider in Selangor, Kuala Lumpur, and Putrajaya is responsible to develop and implement a water conservation programme. There are five approaches to the framework that will address the key issue of water conservation:

- Education & Awareness
- Interventions & Incentives
- Partnerships & Advocacy
- Utilising Technology
- Research

### Engagement Programmes

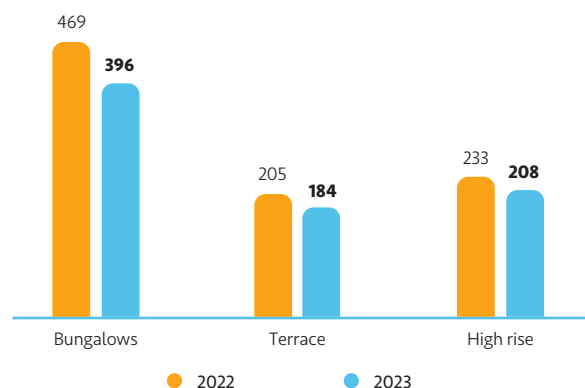
Engagement programmes are at the core of water conservation advocacy. Air Selangor continuously collaborates with various government agencies, regulators, local authorities, schools, universities and NGOs to educate the public on the importance of conserving water. Throughout 2023, Air Selangor conducted multiple water conservation talks and distributed water thimbles. These activities have been the staple of water conservation efforts.



### Water Conservation Pilot Project

Air Selangor rolled out a pilot project involving 101 consumer households in Subang Jaya in installing water efficiency tools to their taps, bidets, and showers, and monitoring the trends of water consumption. The project successfully reduced the average LCD for bungalows from 469 LCD to 396 LCD, for terrace from 205 LCD to 184 LCD and for high rise buildings from 233 LCD to 208 LCD.

Reduction in Average LCD



## PILLAR 2 REDUCING THE IMPACT OF CLIMATE CHANGE

### Water Conservation Hero Programme

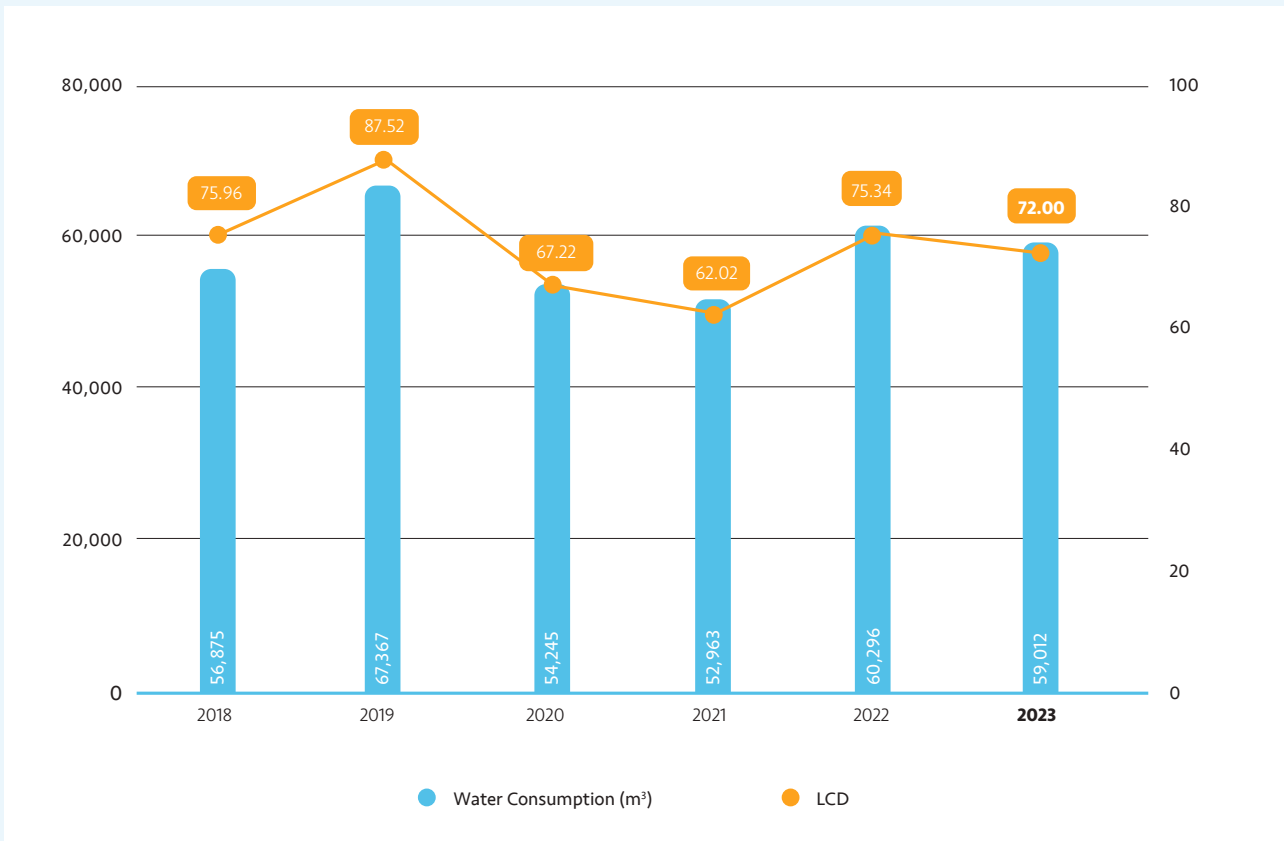
In 2023, Air Selangor launched the Water Conservation Hero programme, a flagship collaborative effort with Sri Bestari Private School to further enhance advocacy and engagement activities with school children. The programme involves more than 400 students and teachers, featuring on-site exhibitions and demonstrations, inter-school awareness programme, as well as a competition to educate and generate more creative ideas in water conservation efforts. Students from Sri Bestari Private School aged between 13 to 17 years old were trained to become the representatives to promote water conservation among their peers. Air Selangor is looking to reach out to other educational institutions in the future.



### Internal Water Use

It is imperative that Air Selangor also actively monitors the internal water consumption of our premises, as consumption has increased since employees returned to the office.

Total Internal Water Consumption and Average Water Consumption per Employee per Day



## PILLAR 2

# REDUCING THE IMPACT OF CLIMATE CHANGE

### Rainwater Harvesting System

Rainwater Harvesting System is an initiative by the organisation to reduce dependency on treated water by utilising alternative sources. As a continuation from 2022, in 2023 Air Selangor installed another two rainwater harvesting systems at both Klang and Petaling region offices. The collected rainwater is used for watering and cleaning purposes. It is hoped that this effort can be replicated by our customers for their premises.

### Internal Water Audit

Air Selangor conducted a series of internal water audits beginning in 2023. The project focuses on assessing and evaluating water usage patterns and identifying inefficient water outlets within the identified region offices including assessment of existing infrastructure, plumbing fixtures, storage, filtration as well as operations and standard procedures. As of December 2023, the audit has been conducted at Gombak and Kuala Langkat regional offices and will continue to other offices.

### Tap Replacement Programme

The Water-Efficient Tap Installation Programme organised by Air Selangor was inaugurated by the Selangor State EXCO of Islamic Affairs & Innovation, Y.B. Dr. Mohammad Fahmi Bin Ngah with the aim of improving water conservation in mosques around Selangor.

This programme targets widespread water conservation involving the public, particularly the mosque community in improving the efficiency of water consumption in various activities especially those that involve water consumption. Alongside fostering sustainable water consumption practices, the programme also aims to promote water-efficient products that can reduce the water bill for each customer.

A total of 556 water-efficient taps have been installed to replace existing taps across all eight participating mosques. The average water savings per mosque recorded per month was 141 cubic metres (m<sup>3</sup>), equivalent to 141,000 one-liter water bottles. These savings allow each mosque to record an estimated average annual cost savings of RM981.36.



## PILLAR 2 REDUCING THE IMPACT OF CLIMATE CHANGE

### Waste Management

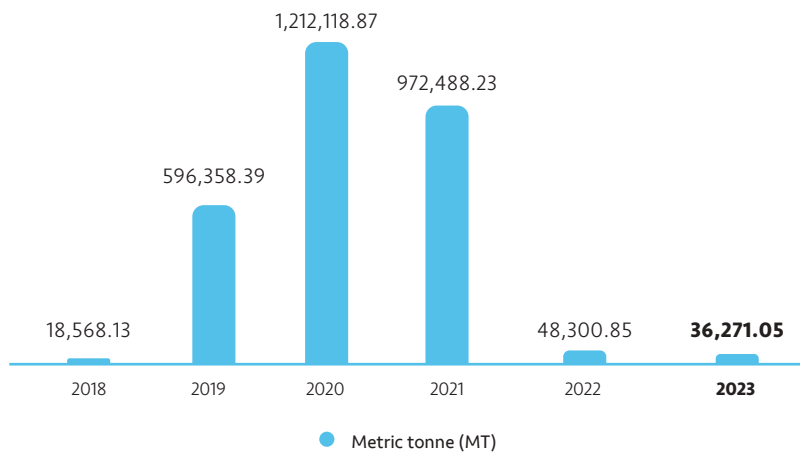
In ensuring compliance with the Environmental Quality Act, Air Selangor’s waste management is managed in accordance with the organisation’s Health, Safety and Environment Policy, and ISO 14001 Environmental Management System.

#### Scheduled Waste

Residual waste from the water treatment process is listed under the Environmental Quality (Scheduled Wastes) Regulations 2005. In 2023, Air Selangor generated 36,271.05 metric tonne (MT) of residuals from all WTPs. As the desilting of lagoons at SSP2 WTP was completed in 2021, the quantity of residuals have reduced significantly in the subsequent years. Currently, SPP2 WTP is operating filter press as their temporary dewatering system to replace the lagoons.

Air Selangor has also collaborated with Forest Research Institute Malaysia (FRIM) in carrying out research and pilot project in converting WTP’s residual as top soil for landscape plants. This initiative aims to encourage the reuse of residual waste and decrease the quantity of residual disposed at the landfill.

#### Total Residuals (SW204) Generated



#### Recycle for Life

In 2023, Recycle for Life generated 10,041 kg of recyclable materials which consists of paper, plastic, aluminium, e-waste, cooking oil and fabric. The organisation collaborated with Cenviro, SW Corp and Lifeline Clothing to collect the materials. Air Selangor will continue to promote recycling activities among employees to educate employees on domestic waste management.

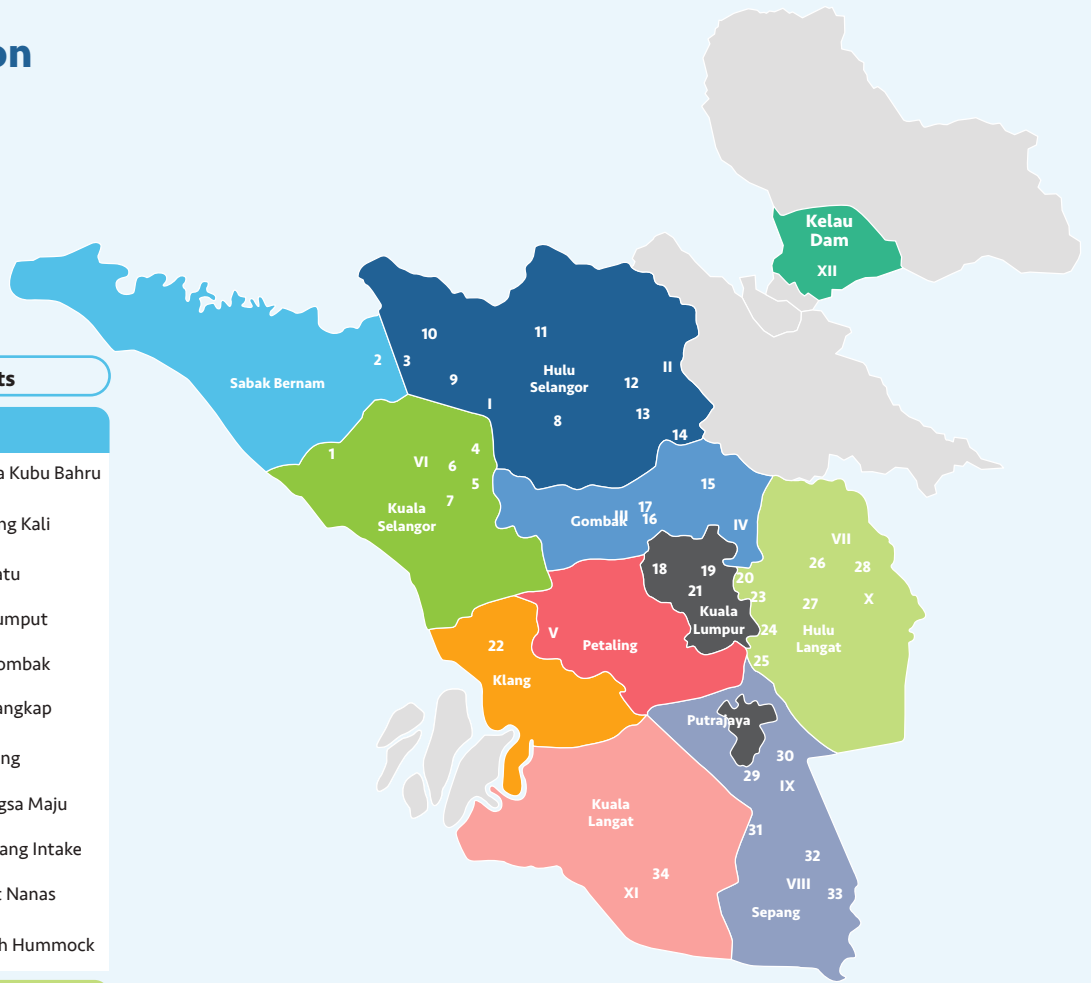
There are other codes of scheduled waste generated from Air Selangor’s operations other than SW204 i.e. disposed container/bag (SW 409), mixed chemical (SW 421), lead acid batteries (SW 102) and spent caustic soda (SW 402). A total of 18.43 MT of SW was disposed at the approved prescribed premise in 2023 as compared to 26.25 MT of SW disposed in 2022. Reduction of SW disposed in 2023 was due to recycling initiative for SW 102 and SW 402. A total of 36.12 MT of SW 102 and SW 402 is successfully recycled.

#### Monitoring Air Quality

Air Selangor continuously conducts annual air quality monitoring to all standby diesel generator sets and air pollution control systems at all Air Selangor’s premises in compliances with the Environmental Quality (Clean Air) Regulations 2014.

# PILLAR 2 REDUCING THE IMPACT OF CLIMATE CHANGE

## Water Production



### Water Treatment Plants

#### Northern Region

- |                         |                    |
|-------------------------|--------------------|
| 1 Sg Sireh              | 12 Kuala Kubu Bahr |
| 2 Bernam RiverHeadworks | 13 Batang Kali     |
| 3 Sg Dusun              | 14 Sg Batu         |
| 4 Rantau Panjang        | 15 Sg Rumpit       |
| 5 Sg Selangor Phase 1   | 16 Sg Gombak       |
| 6 Sg Selangor Phase 2   | 17 Sg Rangkap      |
| 7 Sg Selangor Phase 3   | 18 Kepong          |
| 8 Rasa                  | 19 Wangsa Maju     |
| 9 Sg Tenggi             | 20 Ampang Intake   |
| 10 Sg Selisek           | 21 Bukit Nanas     |
| 11 Kalumpang            | 22 North Hummock   |

#### Southern Region

- |                    |                   |
|--------------------|-------------------|
| 23 Langat 2        | 29 Sg Semenyih    |
| 24 Sg Langat       | 30 Semenyih 2     |
| 25 Cheras Mille 11 | 31 Bukit Tampoi   |
| 26 Sg Lolo         | 32 Salak Tinggi   |
| 27 Sg Serai        | 33 Sg Labu        |
| 28 Sg Pangsoon     | 34 Labohan Dagang |

### Dams/ORS/HORAS

#### Northern Region

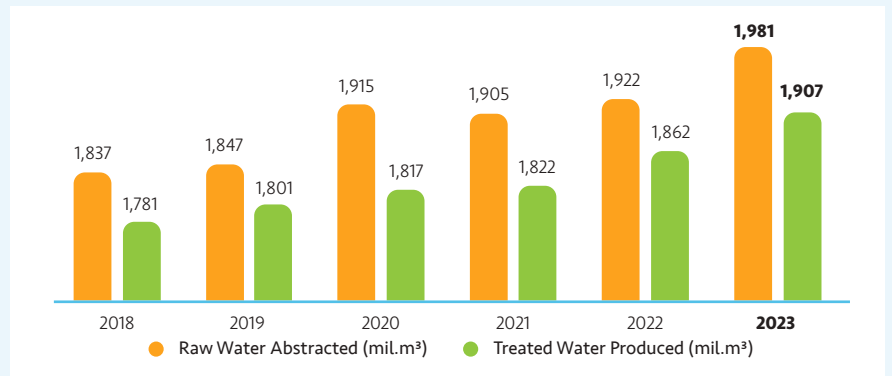
- I Sg Tinggi
- II Sg Selangor
- III Batu<sup>1</sup>
- IV Klang Gates
- V Tasik Subang
- VI HORAS 600

#### Southern Region

- VII Sg Langat
- VIII ORS Sg Labu
- IX ORS Semenyih 2
- X Semenyih
- XI ORS Labohan Dagang
- XII Kelau<sup>2</sup>

<sup>1</sup> Batu Dam is under the supervision of the Department of Irrigation and Drainage  
<sup>2</sup> Kelau Dam is located in Pahang.

### Volume of Water Abstracted and Produced



### Water Production

Air Selangor as the sole water services provider for Selangor, Kuala Lumpur and Putrajaya abstracts raw water from the intakes at dams and rivers in Selangor and Pahang. In 2023, the average production has increased to 5,227 MLD as compared to 5,117 MLD in 2022.

## PILLAR 2 REDUCING THE IMPACT OF CLIMATE CHANGE

### OPTIMISING BUSINESS OPERATIONS

Air Selangor has set targets for the organisation to optimise its business operations. These targets are SPIs Water Forever, Improving Asset Reliability and Resilience, Improving Operational Efficiency and NRW Reduction. Through these strategic targets, the organisation will be able to meet increasing water demand, improve water quality, reduce non-revenue water, optimise asset management and implement good business practices within the supply chain.

#### Water Supply

Selangor, Kuala Lumpur and Putrajaya are some of the most populated states in Malaysia. The population growth has been exponential in tandem with development growth. This has caused a rise in water demand among consumers and puts Air Selangor in a challenging position in managing supply while meeting demand. As the largest treated water services provider in Malaysia, Air Selangor acknowledges the responsibility to continuously secure a sustainable water supply for our customers through comprehensive measures under the strategies of SPI 1: Water Forever.

#### Reserve Margin

The water reserve margin is the extra amount of water available beyond what is normally needed. It acts as a buffer to ensure that there's enough water even if demand is higher than expected or if there are disruptions in the water supply. It is determined by the difference between the distributable capacity of the water treatment system and the current demand. By 2030, Air Selangor aims to achieve 17.70% of water reserve margin.

2023 has seen a significant increase in reserve margin at 15.34% as compared to 12.02% in 2022. This is primarily attributed to the additional supply of 275 MLD from the Langat 2 Western Corridor which commenced operations on 27 August 2023, as well as the increase in distributable capacity for the Sg Rasa WTP from 211 MLD to 250 MLD from November 2023 onwards.

Currently in development, the new Rasau Water Supply Scheme Stage 1 will add another 700 MLD in which is expected to be completed in December 2025. Additionally, Rasau Water Supply Scheme Stage 2 will add another 700 MLD and is expected to be completed in 2028. It is estimated that these projects will benefit 1.4 million customer accounts in the future.

#### Water Supply Disruption

Air Selangor continues to mitigate water supply disruptions through frequent maintenance works and early detection systems. However, unscheduled disruptions may still occur due to pipe burst caused by ageing pipes, pump house breakdowns and reservoir issues. Disruptions may also be caused by third-party pollution which can lead to WTP shutdowns. In the event of a major disruption, Emergency Response Plan (ERP) will be activated to mitigate the impact and support customers with alternative water supply.

Incidents	Number of Disruptions		Durations (hours)		Average Number of Affected Accounts	
	2022	2023	2022	2023	2022	2023
Water Outages Pipe Size > 600mm	67	49	1,366	1,209	9,449	3,827
Unscheduled Pump House Breakdown	61	34	557	333	1,906	794
Reservoir Issue	94	87	1,145	1,207	1,726	1,605
Unscheduled WTP Shutdown	6	3	169	139	219,379	830,890
Scheduled Disruption Due to Maintenance and Upgrading Work	1	1	55	72	126,142	291,870

## PILLAR 2

# REDUCING THE IMPACT OF CLIMATE CHANGE

### Pasukan Khas Lembangan dan Alur Air

Pasukan Khas Lembangan dan Alur Air (PAKAR) was established to assist the Local District Authority and LUAS to safeguard raw water sources from pollution.

PAKAR conducts river water quality assessment and surveillance at 230 sampling points across six catchment areas. River Monitoring Station (RMS) are installed along selected rivers to monitor water quality trends and serve as an early warning system for detecting potential pollution incidents. Unmanned Aerial Vehicles (UAV) are used to conduct catchment and industrial area profiling to identify sources of discharge and land use that may lead to water pollution. A watershed management study was initiated in 2022 to evaluate the current implementation of watershed management programme at Air Selangor. In 2023, odour detection trail was conducted from April to July 2023 at the Intake Sg Semenyih WTP. The proposal to use odour detection instruments aims to further enhance the results of the study.

### Non-Revenue Water

Reducing Non-Revenue Water (NRW) remains a top priority for Air Selangor. This is to ensure that all produced water reaches customers and is billed accurately. NRW, the amount of water lost before reaching customers' meters, has negative impacts on the customers and the businesses. These losses can result from by various factors such as leaks, pipe bursts, reservoir overflows, meter inaccuracies and water theft.

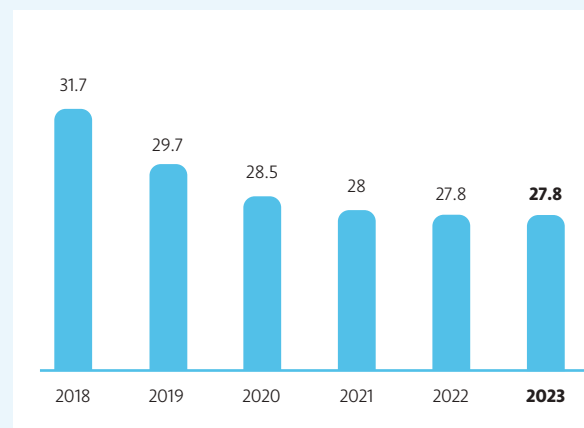
It is targeted for Air Selangor to achieve 27.5% of NRW reduction by 2025, and 25% by 2030. In 2023, Air Selangor achieved an NRW rate of 27.75%, a slight reduction from 2022 at 27.76%. This achievement managed to meet the matching grant target set by SPAN at 28.5%.

Air Selangor continues to implement two categories of NRW reduction programmes: Physical Loss Reduction Programme and the Commercial Loss Reduction Programme.

### Asset Management

Efficiently managing assets, ensuring regular and timely maintenance and upgrading assets are crucial to avoid disruptions in water treatment and distribution operations. SPI 2: Improvement to Asset Reliability and Resilience serves as a guide for Air Selangor emphasising operational efficiency through key indicators such as asset inventory, assessments of asset criticality, achievements in preventive and corrective maintenance and the rehabilitation of unused assets. Upon attaining the certification under the ISO 55001 Asset Management System, in 2023, the organisation completed two audits for the ISO 55001 Surveillance and is recommended to continue the certification. As of December 2023, Air Selangor completed the tagging of another 24,331 assets from previous years, which covers 21.20% of total assets.

**Average NRW Rate (%)**



\*Data is presented to one decimal point, as per submission to SPAN



## PILLAR 2

# REDUCING THE IMPACT OF CLIMATE CHANGE

### Performance Data

DESCRIPTION	2018	2019	2020	2021	2022	2023
<b>Environmental</b>						
Average daily domestic water consumption per capita (LCD)	233 <sup>1</sup>	232	252	267 <sup>2</sup>	245 <sup>5</sup>	<b>241</b>
Total internal water consumption (m <sup>3</sup> )	56,875	67,367	54,245	52,963	60,296	<b>59,012</b>
Average daily water consumption per employee (LCD)	75.96	87.52	67.22	66.02	75.34	<b>72.00</b>
<b>Energy Intensity (MJ/m<sup>3</sup>)</b>						
Produced	1.719	1.944	1.980	1.977	1.963	<b>1.932</b>
Billed	2.507	2.794	2.778	2.735	2.723	<b>2.689</b>
Total energy consumption (GJ)	3,448,066.98	3,504,050.43	3,571,646.95	3,606,477.34	3,666,313.69	<b>3,684,851.91</b>
Total electricity consumption (GWh)	839.17	960.02	981.70	988.81	1,007.81	<b>1,012.60</b>
Total fuel consumption (m <sup>3</sup> )	1,126.40	1,333.63	1,795.20	1,224.85	1,093.27	<b>1,128.50</b>
Total carbon emissions (tCO <sub>2</sub> )	680,037.85	731,082.70	748,713.82	752,656.46	766,708.06	<b>770,437.03</b>
<b>Carbon emissions intensity (kgCO<sub>2</sub>/m<sup>3</sup>)</b>						
Produced	0.382	0.406	0.412	0.413	0.411	<b>0.404</b>
Billed	0.557	0.583	0.578	0.571	0.569	<b>0.562</b>
Total Scope 1 carbon emissions (tCO <sub>2</sub> ) <sup>3</sup>	2,825.71	3,390.05	4,587.43	3,137.69	2,791.72	<b>2,888.80</b>
Total Scope 2 carbon emissions (tCO <sub>2</sub> ) <sup>3</sup>	677,212.14	727,692.65	744,126.39	749,518.78	763,916.35	<b>767,548.23</b>
Total SW204 scheduled waste generated (MT) <sup>4</sup>	18,568.13	596,358.39	1,212,118.87	972,488.23	48,300.85	<b>36,271.05</b>

<sup>1</sup> Data obtained from Malaysia Water Industry Guide 2019.

<sup>2</sup> Data is restated based on updated population data from the Department of Statistics Malaysia that was released in 2022.

<sup>3</sup> The carbon emissions have been restated based on carbon emissions factors from Malaysia's Fourth Biennial Update Report (BUR) submitted to the United Nations Framework Convention on Climate Change in December 2022.

<sup>4</sup> Data excludes SSPI, SSP3 and Rasa WTPs.

<sup>5</sup> Data for the year 2022-2023 has been restated according to SPAN calculation.



### PILLAR 3

## PRIORITISING EMPLOYEE HEALTH, SAFETY, COMPETENCY AND DIVERSITY

Air Selangor prides itself of the unwavering commitment to build a strong, skillful, and efficient workforce. Through SPI 6: Creating Conducive Working Environment, the organisation has managed to cultivate a culture of astute professionalism, accountability, safety and security, as well as high integrity.

Air Selangor's devotion in prioritising the well-being of its employees is manifested through the various in-house upskilling trainings, commitment to health and safety regulations, upholding diversity, and ensuring fair compensation for all.

## PILLAR 3

# PRIORITISING EMPLOYEE HEALTH, SAFETY, COMPETENCY AND DIVERSITY

### HEALTH & SAFETY



#### Health and Safety Management

Air Selangor aims to maintain complete adherence to the Occupational Safety and Health Act (OSHA) 1994, along with all its laws that are relevant to our operations. The organisation formalised its Health, Safety, and Environment Policy and established strong health and safety standards based on the ISO 45001:2018 Occupational Health and Safety Management System because it places a high importance on the health and safety of its employees. The contractors and employees of Air Selangor that carry out tasks on the organisation's behalf are also covered by this policy.

#### Health and Safety Governance

Our commitment to ensure a safe and conducive work environment for all employees as well as protecting other stakeholders from potential risks resulting from our operations is reaffirmed in our Health and Safety Policy.

In addition, Air Selangor continuously offers a secure and comfortable working environment for all business partners. In order to ascertain what has to be improved in the Occupational Health and Safety Management System in terms of remedial measures, hazards identification, and risk assessment related to accidents, the organisation undertakes audits as and when required.

#### Health and Safety Initiatives

##### HSE Related Training and Competencies:

Air Selangor conducts occupational health and safety training for our employees including generic training, training on specific work-related hazards, hazardous activities, and hazardous situations. In 2023, we engaged and collaborated with National Institute of Occupational Safety and Health (NIOSH) by providing training to all contractor workers under the Air Selangor NIOSH Safety Passport (ASNP) programme before starting work. The training programme will be reviewed from time to time by NIOSH and Air Selangor. In addition, a committee was established to evaluate and continually improve the training programme. A training programme related to the Permit To Work & Operational Safety Improvement (PTOS) was also introduced. This programme aimed to provide exposure to permit issuers to understand the correct methods of filling out a permit before commencing work. The programme involved staff and contractor's work leaders. Only individuals who have attended this training will be allowed to fill out the Permit To Work (PTW).

Three sessions of Hazard Identification, Risk Assessment and Determining Control (HIRADC) & Aspect Impact Workshop were conducted on 20 & 21 September, 25 & 26 September 2023, and 3 & 4 October 2023 with a total of 115 participants and an average of 95% scored on the post-assessment test. The objective of the workshop was to verify the existing Hazard Identification, Risk Assessment and Risk Control (HIRARC) & Aspect Impact Register ensuring that the HSE risk information is up to date and to ensure our employees have sufficient knowledge in identifying and managing risk to all stakeholders' safety and health, and managing impact of their work activities on the environment.

## PILLAR 3

PRIORITISING EMPLOYEE HEALTH,  
SAFETY, COMPETENCY AND DIVERSITY

Emergency preparedness and safety briefings are mandatory for new joiners, and they are conducted concurrently during the on-boarding programme. All appointed in-house first aiders are given training in basic occupational first aid, while the emergency response team undergoes fire marshal training periodically. The following HSSE-related training were conducted in FY2023:

## HSE Related Training Programmes for FY2023

1	Emergency Response & Preparedness and Incident Management Workshop	15	Tatacara Selamat Dalam Pengendalian Bahan Kimia Merbahaya
2	Latihan Persediaan Menghadapi Banjir - Pengendalian Bot & Keselamatan Air	16	Work Related Road Safety OSH Coordinator
3	Training & Practical on Pipe Cleaning 2023	17	Program Kursus Latihan Penunggang Berhemah Pekerja 2023
4	Awareness on Environmental, Social & Governance (ESG)	18	Malaysia Occupational Safety And Health Conference 2023
5	Latihan Keperluan Klausur dan Internal Auditor ISO 14001 & ISO 45001	19	Higien Industri & Kesihatan Pekerja 2023
6	Latihan Bertauliah PTW & OSI Warga Kerja Air Selangor (PTOS Dalaman)	20	Forklift Truck Safety & Competency Workshop
7	Energy Isolation - Lock Out Tag Out	21	Authorised Entrant And Standby Person For Confined Space (AESP)
8	Latihan Meningkatkan Keberkesanan dan Kesedaran Undang-Undang Keselamatan, Kesihatan dan Persekitaran	22	Kursus Pertolongan Cemas Kesihatan Mental (MHFA) Di Kalangan Warga Kerja Air Selangor
9	Program Latihan Higen Industri & Kesihatan Pekerja	23	Permit to Work (PTW)
10	Certified Incident Investigator	24	Operational Safety Improvement (OSI)
11	Kursus Kesedaran HSE   HSE Awareness Module	25	Environmental Management at Construction Site
12	Tatacara Selamat dalam Pengendalian Bahan Kimia Merbahaya	26	Bengkel Memastikan Kecemerlangan Dan Keberkesanan Penilaian Dan Pengurusan Risiko [Hazard Identification, Risk Assessment, & Risk Control (HIRARC) & Environmental Aspect Impact] Berkaitan Kesihatan, Keselamatan & Alam Sekitar
13	Onboarding Programme	27	Latihan Bersama Institut Keselamatan Jalanraya Malaysia (MIROS)
14	Program Latihan Orang Berwibawa di Bawah Keperluan Akta Kualiti Alam Sekeliling 1974	28	37 <sup>th</sup> Asia Pacific Occupational Safety And Health (APOSHO) Conference

## PILLAR 3

# PRIORITISING EMPLOYEE HEALTH, SAFETY, COMPETENCY AND DIVERSITY

### Health and Safety Awareness

The HSE Awareness Online Module, which highlights important HSE rules and regulations, risk assessment techniques, and incident reporting, among other topics is a mandatory requirement for all Air Selangor employees to complete. Focus groups were held in addition to this module to further the HSE Consequence Management Procedure and improve operational departments’ comprehension of HSE Legal Requirements. Furthermore, HSE Flash and HSE Advisory emails are sent out to all employees on a regular basis. These communication materials contain practical safety advice as well as seasonal reminders about important information like holidays, monsoons, and viral infections, which help to ensure that employees take the appropriate safety precautions outside of the office.

Air Selangor also coordinated the Leadership Listening Tour (LLT) 2023 at selected locations:

 <b>Kuala Lumpur</b> 27 January 2023	<b>HOD Representative from:</b>	<b>Water Quality Department (WQD)</b>
 <b>Sepang</b> 13 February 2023		<b>RMD &amp; PCW</b>
 <b>HQ (Tower E)</b> 6 April 2023		<b>ACEO</b>
 <b>Sg Labu WTP</b> 24 May 2024		<b>HRD</b>
 <b>Wangsa Maju WTP</b> 28 July 2024		<b>Acting Director &amp; Customer Billing Services (CBS)</b>

The main objectives of this tour were as follows:

- 1 To offer a platform for staff and management to enhance communication on HSSE to the next level of engagement
- 2 To strengthen the relationship between staff and management as an opportunity for continuous improvement of HSE in the organisation
- 3 To exhibit HSE excellence culture as an opportunity for continuous improvement of HSE in Air Selangor

### Employee Well-being and Wellness

Air Selangor, in collaboration with AIA Berhad, worked together to conduct voluntary programmes such as health fitness programmes. Certain regions also launched their own individual programmes such as the Quit Smoking programme along with others listed below:

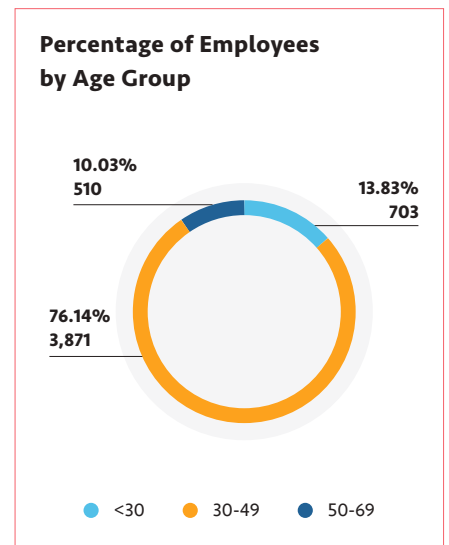
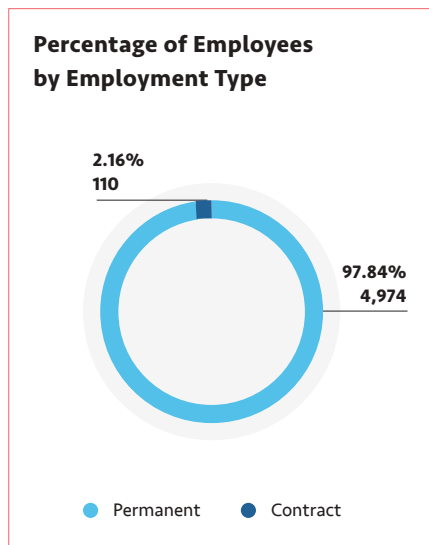
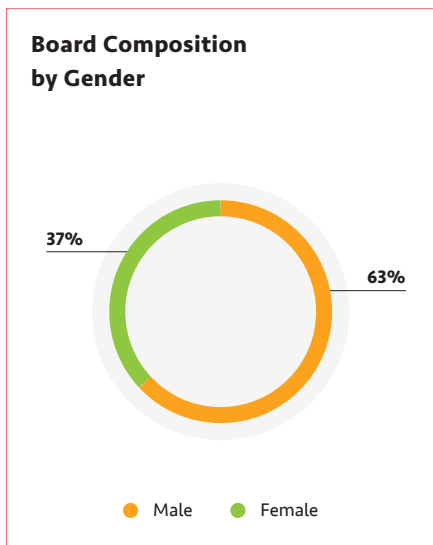
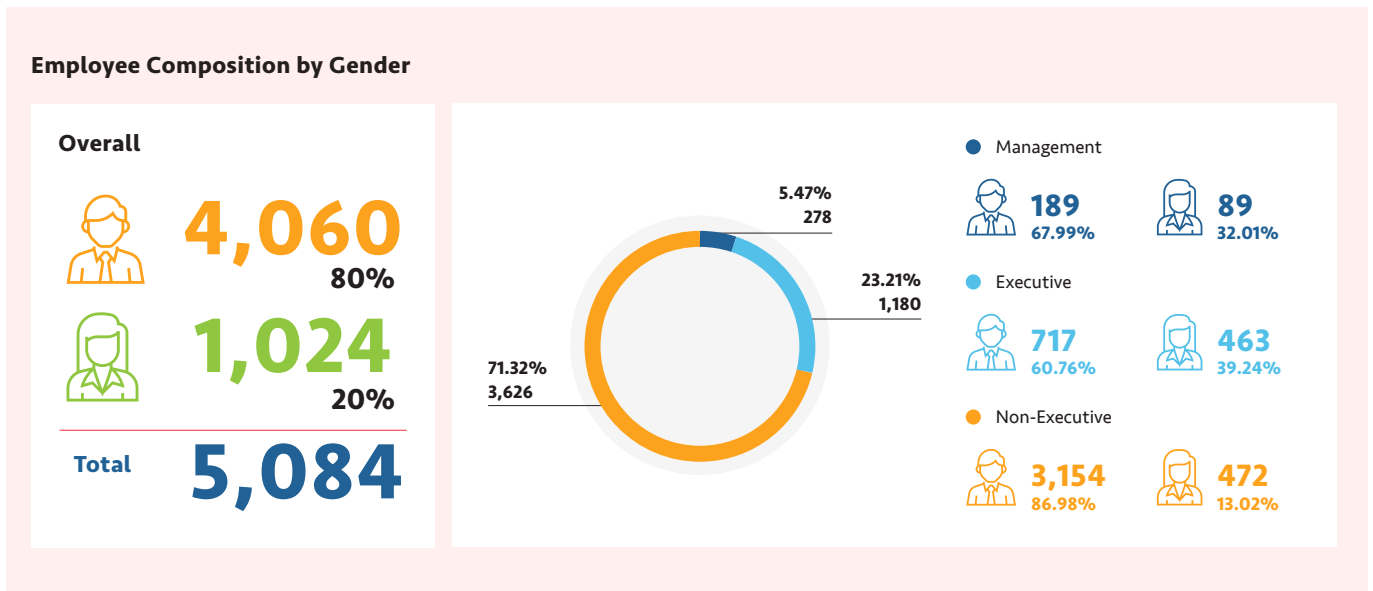
- 1 Zumba on 27 February 2023
- 2 Health Checkup & Weight Loss Challenge
- 3 Hiking Denai 3 Puteri on 18 March 2023
- 4 700 Points & Silver Ramadan Challenge
- 5 Zumba on 10 May 2023
- 6 Briefing on TB and Mantoux Test
- 7 HSSE Advisory and HSSE Flash
- 8 Rakan Prihatin Initiative
- 9 General Health Screening during HSSE Week 2023
- 10 Depression Anxiety Stress Scale (DASS) Screening
- 11 Typhoid vaccination for selected staff (WQD and Production)
- 12 Medical checkup for confined space
- 13 Fit-to-Work for prolonged MC staff
- 14 On-site Speech & Drama Class
- 15 Master Chef: Salad Challenges

PILLAR 3

PRIORITISING EMPLOYEE HEALTH, SAFETY, COMPETENCY AND DIVERSITY

TALENT DEVELOPMENT & WORKFORCE DIVERSITY

Talent Recruitment and Onboarding Programme



PILLAR 3

# PRIORITISING EMPLOYEE HEALTH, SAFETY, COMPETENCY AND DIVERSITY

## Employee Benefit



### Leave

- Other than the statutory annual, sick and parental leave, provision of compassionate leave, examination leave, prolonged medical leave, and 60 days paid leave prior to the date of compulsory retirement, a Muslim employee who has served a minimum of five consecutive years with Air Selangor shall be granted 40 consecutive days paid leave for performing the Haj



### Medical and Insurance

- Accident, medical and death insurance, optical and dental for employees and immediate family members
- Maternity expense coverage for female employees and spouses of male employees



### Allowance

- Various allowances based on the nature of work such as call back allowance, stay back allowance, and special roles allowance



### Self-Development

- Professional association memberships



### Financial Assistance

- Provision of affordable housing (staff quarters) for essential employees
- Housing loan interest subsidy
- Computer loan
- Children's education loan

## Parental Leave

Total number of employees entitled to parental leave

3,269

765

Total number of employees that took parental leave

316

55

Total number of employees that returned to work in the reporting period after parental leave ended

168

55

Total number of employees that returned to work after parental leave ended that were still employed 12 months after their return to work

316

55

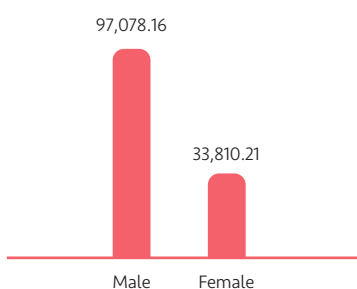
Return-to-work and retention rates of employees that took parental leave

100%

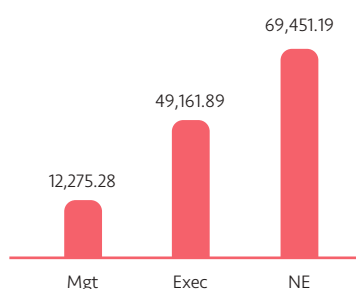
100%

## Training and Development

Average Training Hours per Employee by Gender



Average Training Hours per Employee by Employment Category



Air Selangor remains committed to fostering continuous learning and developing competent employees. Our diverse training programmes are designed to ensure to meet the evolving learning needs of the workforce.

PILLAR 3

PRIORITISING EMPLOYEE HEALTH, SAFETY, COMPETENCY AND DIVERSITY

EMPLOYEE BENEFIT AND ENGAGEMENT

2023 Programmes Highlights



**Best Outsourced Inbound Contact Centre**  
(Large : Above 100 seats) - 2nd Place (Silver)



**Best Digital Innovation Programme**  
(Best Use of Digital Workforce) - 2nd Place (Silver)



**Rasau Water Supply Scheme Groundbreaking Ceremony**



**NRW Matching Grant Reimbursement Ceremony**



#### PILLAR 4

### DELIVERING CUSTOMER SERVICE EXCELLENCE

Air Selangor strives to provide the best customer experience by minimising water supply disruptions, ensuring effective and timely communication about services, and building strong relationships with customers.

In maintaining a strong relationship with our customers, Air Selangor interacts through several channels including our customer service centres, customers service counters and mobile application, as well as disseminates news and information via social media platforms, Air Selangor's official website and Hydro Hub, a one-stop content platform, among others.

With a diverse variety of customer touchpoints, the organisation believes that these channels can cater to all our customers who should be able to access the necessary information about our services with ease and utmost convenience.

## PILLAR 4

# DELIVERING CUSTOMER SERVICE EXCELLENCE

### WATER QUALITY



#### Highest Standards of Water Quality

Delivering Customer Service Excellence is one of the central tenets that Air Selangor strives to uphold. With 2,661,743 water supply accounts and approximately 9.3 million consumers throughout Selangor, Kuala Lumpur and Putrajaya, the quality of the water that is distributed by Air Selangor is of paramount importance.

Air Selangor abstracts surface water from dams and selected rivers and treats it to the highest quality drinkable water in line with the standards that have been set by the Ministry of Health's Drinking Water Quality Standard. As of December 2023, Drinking Water Quality Index (DWQI) for the State of Selangor, Federal Territories of Kuala Lumpur and Putrajaya has marked more than 80% DWQI Score and categorised as "Good" and "Excellent" by the Ministry of Health Malaysia (MOH).

#### Water Quality Monitoring and Compliance

Throughout the year 2023, Air Selangor performed more than 2.4 million water quality analyses across the entire organisation's operations. Water quality testing is performed at two-hour intervals at each WTP. In addition, Air Selangor performed 299,952 water quality analyses throughout 1,155 sampling stations. Out of the 1,155 sampling stations, 692 (59.9%) are under the mandatory monitoring of the MOH, 395 (34.2%) are being monitored by Air Selangor and 68 (5.9%) are under joint monitoring by Air Selangor and MOH.

All sampling stations are reviewed on a bi-annual basis, where the numbers are dependent upon changes in water supply patterns due to the expansion of supply resulting from

new developments within the distribution networks. As of December 2023, these sampling stations indicated a 99.93% compliance with the National Standard for Drinking Water Quality issued by the MOH.

Air Selangor's regional laboratories, located at SSP2 and Sg Labu WTPs, are accredited for both chemical and microbiology parameters. Additionally, the Sg Semenyih and Langat 2 regional laboratories also hold accreditations for chemical parameters under MS ISO/IEC 17025 Testing of Laboratories. These accreditations ensure that Air Selangor's operations concerning water quality are conducted to the highest standards. Furthermore, site accreditations for chemical parameters at SSP2 and Sg Labu regional laboratories have been secured for 11 sampling teams, which are responsible for water sampling across 10 distribution regions.

Equipped with the latest technologies such as Inductively Coupled Plasma Mass Spectrometry (ICP-MS) for heavy metal analysis, Gas Chromatography Mass Spectrometry (GC-MS) for volatile and semi-volatile organic compounds detection, Ion Chromatography (IC) for anion analysis, and Liquid Chromatography Mass Spectrometry Quadrupole Time-of-Flight (LCMS Q-TOF) for non-volatile organic compound (NVOC) detection, our laboratories offer comprehensive analysis capabilities. A total of 77 parameters can be analysed by our regional laboratories, consisting of physical, chemical, heavy metals, volatile organic compound, pesticides, pharmaceuticals, and microbiological parameters.

## PILLAR 4

# DELIVERING CUSTOMER SERVICE EXCELLENCE



As urbanisation and industrialisation continue to shape Selangor, Kuala Lumpur, and Putrajaya, Air Selangor remains vigilant of the potential risks posed by evolving or emerging contaminants in our raw water sources. Notably, these categories of contaminants are presently not included in the mandatory parameters monitored by the MOH.

In response, Air Selangor is dedicated to continually enhancing its monitoring of chemicals and contaminants, leveraging the latest advancements in technology and the expertise of our laboratory professionals. Furthermore, we have recently upgraded our regional laboratories, elevating them to diagnostic facilities to meet the evolving demands of water quality assessment.

In 2023, Air Selangor's regional laboratories have initiated monitoring of additional water quality parameters within the emerging contaminants category, including industrial solvents and microbials. Moreover, these laboratories have successfully developed testing methodologies to analyse a range of parameters, including Heterotrophic plate count, yeast and mold, seven volatile organic compounds, five semi-volatile organic compounds, pharmaceuticals, and drugs.

In line with our commitment to excellence, Air Selangor aims to enhance its capabilities in water quality testing and monitoring by expanding to encompass a total of 160 compounds by 2030. This expansion will include the existing 47 parameters outlined by the Ministry of Health in the National Drinking Water Quality Standard. Among the additional compounds to be included are Persistent Organic Pollutants (POPs), Persistent Bio-accumulative Toxic substances (PBTs), industrial solvents, pesticides, pharmaceuticals, and drugs.

These substances encompass chemicals identified from previous water pollution incidents, newly discovered compounds, microbials regulated by Malaysian Acts or international standards, and chemicals from the Ministry of Health's secondary list of parameters, which are presently not mandatory for monitoring.

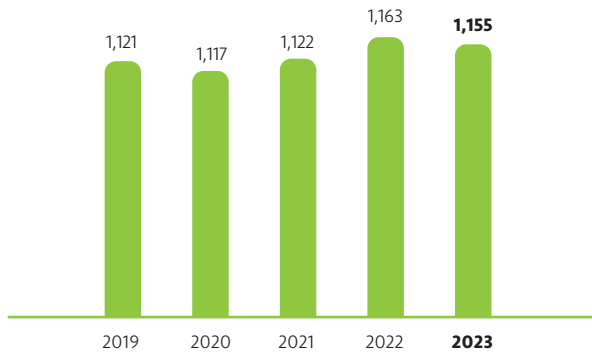
To safeguard the quality of drinking water supply produced and distributed to consumers, post-production water quality management is conducted strategically at the distribution networks which includes optimising technological solutions to continue monitoring and improving water quality. The Hybrid Distribution Water Quality Realtime Analyser (HYDRA) has been developed and is operated and maintained by Air Selangor. HYDRA is an on-line water quality monitoring system for treated water distribution system, positioned at the treatment plant outlets, balancing reservoirs, and strategic service reservoirs. Currently, 190 HYDRA stations are operating around the clock, scattered within the distribution system.

Off-plant Autonomous Chlorine Injection System (OACIS) is a secondary chlorination system that autonomously doses chlorine into the distribution pipeline to overcome low free residual chlorine (FRC). The system is specifically installed at distribution networks that are facing FRC deficiency. FRC is crucial in treated water supply as it functions to eliminate pathogens that cause water-borne diseases. As of December 2023, a total of 39 OACIS stations were constructed at low FRC reservoirs outlet and have recorded zero FRC non-compliance within the supply areas.

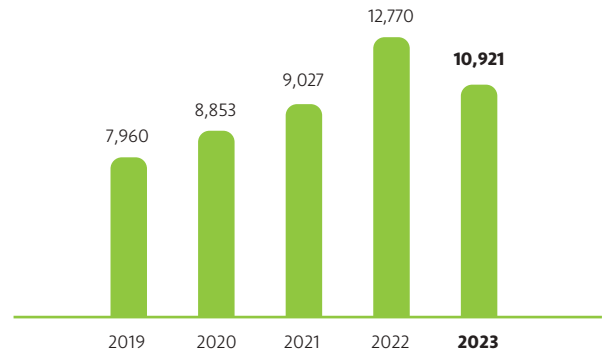
## PILLAR 4

## DELIVERING CUSTOMER SERVICE EXCELLENCE

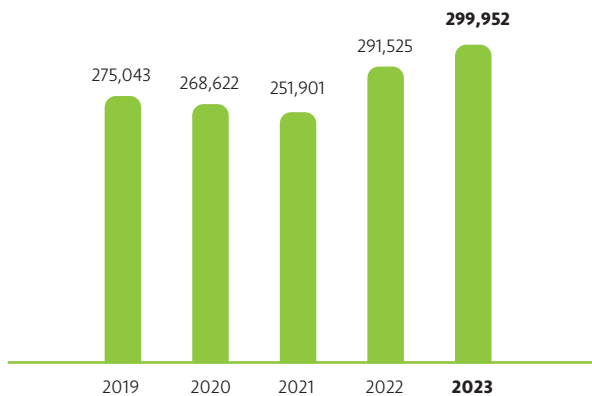
Total Number of Active Water Quality Sampling Stations



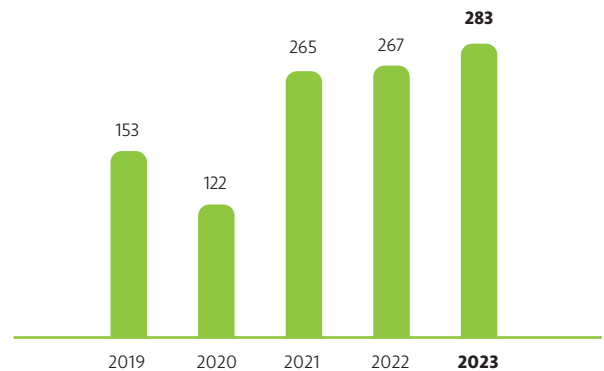
Total Number of Pipe Cleaning Works



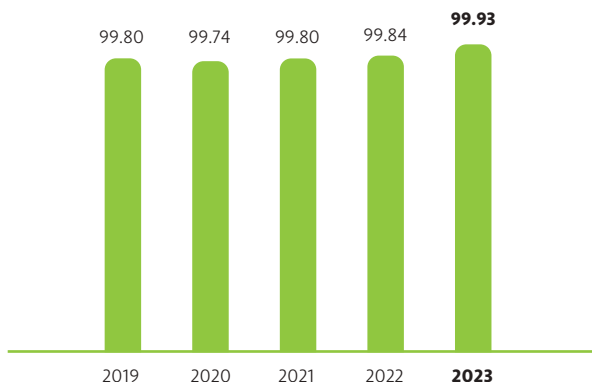
Total Number of Analyses



Total Number of Reservoir Cleaning Works



Average Water Quality Compliance (%)



## Pipe Cleaning and Reservoir Cleaning

Throughout 2023, 12,751 km or 10,921 pipe cleaning works were carried out to ensure the safe and clean distribution of treated water to Air Selangor's consumers. Pipe cleaning exercises are carried out via pressurised and non-pressurised cleaning methods depending on availability and workability of the pipe cleaning zones (POLIGON) for the areas. On top of the timely cleaning of our distribution pipes, we also conduct water reservoir cleaning in six-year cycles.

Since the year 2019, a total of 847 reservoir compartments have been cleaned, with 283 compartments cleaned in 2023 alone. There are two types of reservoir cleaning methods initiated by Air Selangor; conventional cleaning and commercial diver cleaning method. The cleaning approach adopted are dependent on the complexity of the water distribution operations.

## PILLAR 4 DELIVERING CUSTOMER SERVICE EXCELLENCE

### CUSTOMER EXPERIENCE DEPARTMENT

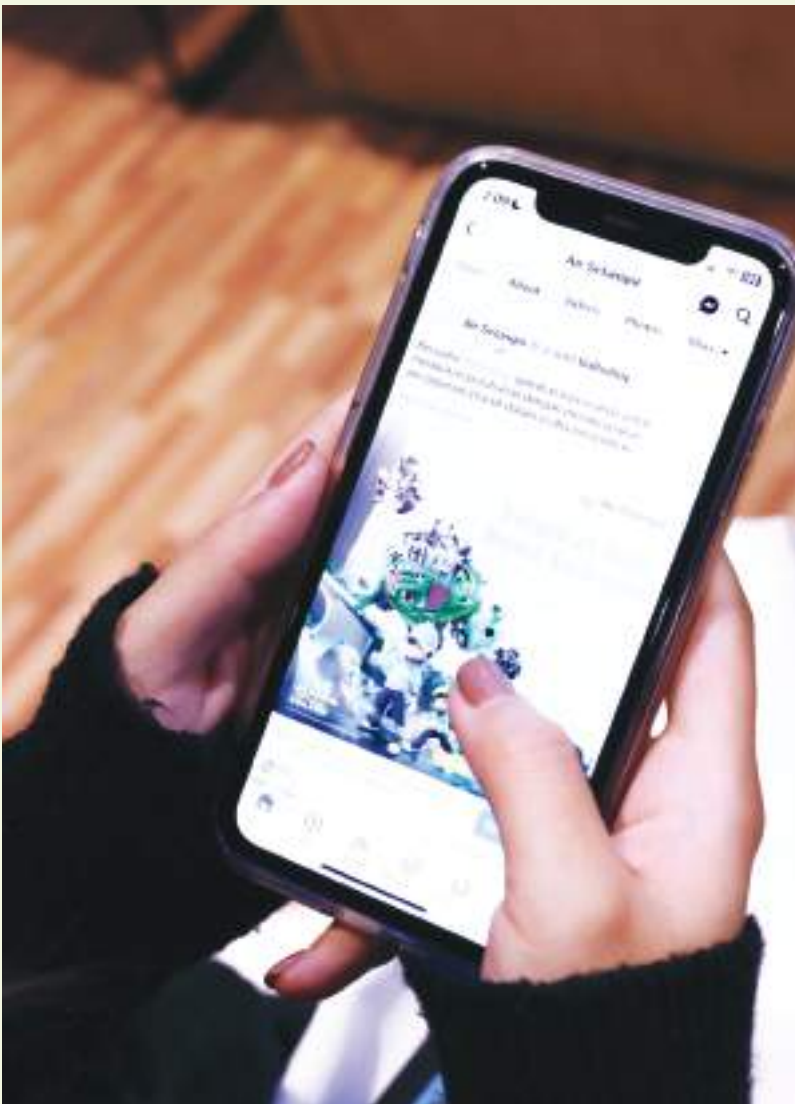
#### Delivering Customer Service Excellence

Providing the Highest Standard of Services is one of the Core Values Air Selangor subscribes to. At Air Selangor, the organisation’s priority is to provide the best customer experience by minimising water supply disruptions, ensuring effective and timely communication about Air Selangor’s services, and building a solid and trustworthy relationship with our customers.

In giving the best experience to its 9.3 million consumers, Air Selangor has a list of communication channels for customers. This includes service counters, social media platforms, mobile application, website, and all other digital and traditional media platforms.

#### Communication Platform

Reliable and trustworthy communication is central to Air Selangor’s interests. In ensuring that customers are well supplied with the necessary information, Air Selangor focused on improving and maintaining its communication touchpoints.



Facebook (followers)

**400,217**



Twitter/X (followers)

**89,961**



Instagram (followers)

**38,806**



Mobile App Downloads

**5,027,000**



AIRRA Chatbot (interactions)

**85,539**



Help Centre (interactions)

**141,089**



Calls Received

**965,001**



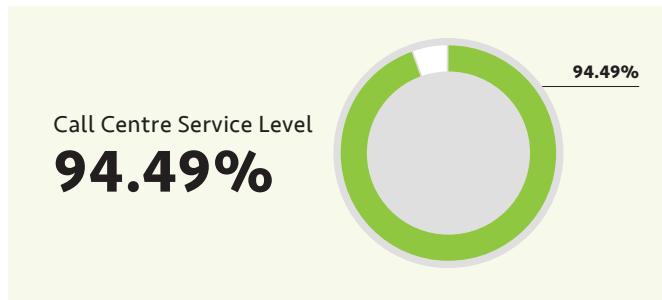
Total Walk-in Customers

**321,118**

## PILLAR 4

# DELIVERING CUSTOMER SERVICE EXCELLENCE

### Call Centre SLA Achievement



### Stakeholder Engagement Programmes

In 2023, Air Selangor involved stakeholders in several programmes and sessions designed to gather feedback on the organisation's top-priority initiatives. The programmes include:



#### 1 Let's Get Candid!

An annual, moderated interactive focus group platform, designed for organic conversations with key influencers to yield reliable information, feedback, opinion and data. Participants include consumer groups, commercial groups, environmental groups, and professionals/academicians.



#### 2 Know Your Water Series

An engagement series to educate customers about Air Selangor's value chain, emphasising visits to WTPs. This initiative aims to create informed customers, strengthen relationships, and highlight the importance of protecting water resources.



#### 3 Stakeholder Empowerment Programme

An interactive programme designed to foster stakeholder understanding of the value chain, turning them into advocates. Selected from previous initiatives like 'Let's Get Candid!', stakeholders participate in a one-day programme, which include a visit to the dam, WTP, laboratory and pipe replacement sites. This reinforces Air Selangor's commitment to deliver reliable and clean water.



#### 4 Iftar & Power Lunch

Series of personalised and informal engagement initiative by Air Selangor, connecting with key stakeholder groups, particularly NGOs and associations.



#### 5 Bowl Down Barriers!

An annual sports/leisure activity with local authorities from all regions.

## PILLAR 4 DELIVERING CUSTOMER SERVICE EXCELLENCE

### Customer Outreach Programmes:

There were 68 customer outreach programmes initiated throughout 2023 to build rapport with customers and resident associations, strengthen relationships, educate, and create awareness on water-related matters, whilst addressing issues experienced by customers. These outreach programmes include:



**1 Customer Literacy Programme with Bangsar Residential Association (RA)**

Aimed to educate and raise awareness about Air Selangor’s operations, enhancing knowledge and fostering responsible communities through site visits and briefings at SSP2 WTP.



**3 Customer Literacy Programme with Klang Resident Association (RA) and Ketua Kampung**  
Site visit to Labohan Dagang WTP with a briefing on operations, along with a sharing session on Air Selangor’s initiatives.



**2 Customer Literacy Programme with PDRM Taman Desa Permai & Keramat Permai PDRM Resident Quarters**

Sharing session on Air Selangor’s initiatives and providing open counters for e-Bil & SADE registration for 120 participants.



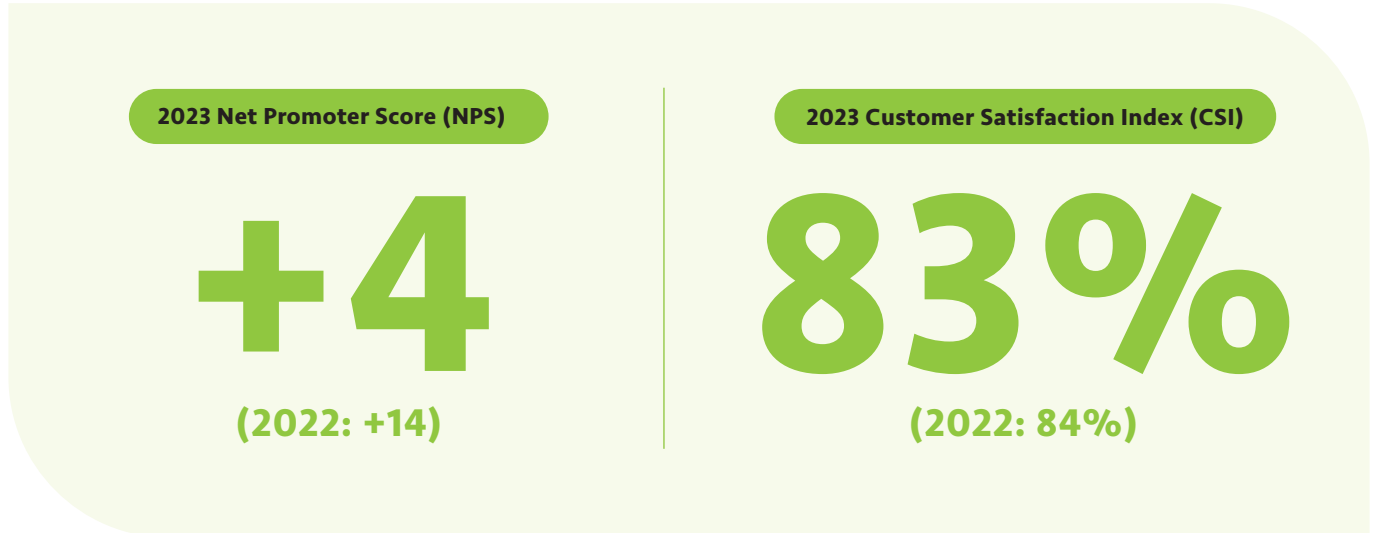
**4 Customer Appreciation Day**

An appreciation event that was attended by over 60 customers who have constantly been providing positive and constructive feedback to improve Air Selangor’s service delivery. The event is an annual gathering.

## PILLAR 4

# DELIVERING CUSTOMER SERVICE EXCELLENCE

### Air Selangor Net Promoter Score (NPS) and Customer Satisfaction Index (CSI)



### Customer Complaint Management

Air Selangor integrated its complaint management processes to improve efficiency. The Help Centre is found both on the website and mobile application, allowing customers to post enquiries, connection requests, report a leak, check on the status of queries submitted and submit complaints on billing and meter as well as other water services.

Throughout 2023, Air Selangor identified three categories of cases that received the most complaints from customers. They are namely pipe leak, meter leak and high water bill. There were 466,171 complaints recorded in 2023 for these issues whereby 215,466 and 207,543 complaints were recorded for pipe leak and meter leak, respectively. Meanwhile, for high water bill complaints, 43,162 complaints were recorded. We have implemented a systematic and proactive complaint management strategy to effectively address customer complaints. This includes identifying root causes, taking corrective actions, and ensuring timely monitoring and intervention in accordance with ISO 9001:2015 - Clause 10.2 on Non-Conformity and Corrective Action (NCCA).

On the matter of faulty meters and meter leaks, Air Selangor created a new case type, "Meter Leak" which is available on the Help Centre platform, which targets to resolve such complaints within 24 hours. On the issue of pipe leaks and high water bills, Air Selangor has improved the handling of complaints via the Closed-Loop Customer Management system, which provides information on open and resolved cases. Additionally, effective 1st January 2023, Air Selangor no longer accepts cheques for payment of water bills and other business transactions, aligning with Bank Negara Malaysia's push for increased e-payment adoption.

DESCRIPTION	2019	2020	2021	2022	2023
<b>CUSTOMERS</b>					
Number of calls received	1,693,689	1,591,819	1,478,514	1,209,333	<b>965,001</b>
Number of walk-in customers	486,584	341,575	302,627	363,103	<b>321,118</b>
Number of Facebook followers	168,502	313,885	368,341	382,590	<b>400,217</b>
Number of Twitter followers	17,880	49,400	64,291	75,019	<b>89,961</b>
Number of Instagram followers	7,138	23,500	31,464	34,316	<b>38,806</b>
Number of downloads of mobile application	316,584	1,786,736	2,574,915	3,901,737	<b>5,027,000</b>
Number of AIRRA interactions	-	167,072	134,057	52,342	<b>85,539</b>
Number of Help Centre interactions	-	-	120,107	188,081	<b>141,089</b>
e-Bil sign-up rate (%)	18.90	23.70	51.48	65.00	<b>73.00</b>





**PILLAR 5**

**LEVERAGING DIGITALISATION TO SUPPORT A CIRCULAR ECONOMY**

Leveraging on digitalisation and technology is paramount as the world is moving faster than ever and digitalisation has been proven to drive efficiency in businesses. Considering this, Air Selangor is actively implementing digitalisation efforts to boost transformation and unlock opportunities in line with Air Selangor’s goal of becoming a Digital Utility of the Future.

In 2023, there were various digitalisation initiatives carried out to further create value for stakeholders where key initiatives include data analytics, Intelligent Command Centre (ICC), and enterprise content management.

## PILLAR 5

# LEVERAGING DIGITALISATION TO SUPPORT A CIRCULAR ECONOMY

### BUSINESS INNOVATION AND DIGITILISATION



#### Leveraging Digitalisation to Support a Circular Economy

##### Digital & Analytics Centre

Digitalisation plays a pivotal role in advancing the principles of a circular economy by revolutionising resource management, production processes, and waste handling. The Digital & Analytics Centre (DAC) and the initiatives it has spearheaded ensure that Air Selangor can optimise resource utilisation and decisioning in real-time, minimising waste and maximising efficiency.

Consumer engagement is also elevated through digital platforms, empowering individuals to make sustainable choices with access to information on product origins and transactional activities. Furthermore, digital technologies improve collaboration among stakeholders within the circular economy ecosystem. In essence, digitalisation acts as a catalyst for the transition towards a circular economy by fostering resource optimisation, transparency, innovation, and sustainable consumption practices.

In realising the above, the DAC has developed and integrated various systems. A sterling example of this is the Enterprise Data Lake, an amalgamated data repository integrating various source systems, including internal and external source systems.

The consolidated data repository allows for the discovery and mining of raw data from one single source of truth for consistent and accurate insights.

In addition to the above, the Business Intelligence dashboard, consisting of the Air Selangor Strategic Plans and Initiatives Realisation (ASPIRE) and the Operations Business Intelligence (OBI) enables Air Selangor to utilise timely information to generate insights for decision making on strategic, tactical, and operational business drivers. This facilitates data driven business decision making, allowing Air Selangor to achieve its strategic objectives. Similarly, the Water Intelligence for Supply and Demand Operations Management (WISDOM), allows us to make long term strategic forecast on water demand according to specific localities.

The usage of advanced statistics and mathematics models to derive sharper insights for decision making on specific business operations matters has been translated into Analytics Use Cases. The use of Artificial Intelligence (AI) has further leveraged on advanced Machine Learning to predict and optimise insights to generate action plans for planning of water supply and demand based on various business scenarios.




## PILLAR 5

# LEVERAGING DIGITALISATION TO SUPPORT A CIRCULAR ECONOMY

### Customer Management Initiatives (CMI)

Air Selangor aims to provide the best customer service experience for our consumers through empowerment. This is done via seamless access to digital applications, or apps. The concept of inclusiveness and simplicity is central to Air Selangor as it strives to develop, enhance and optimise relevant internal systems and processes that relate to the needs of effective customer management throughout the organisation.

The CMI consists of five main areas of deliverables, namely the SuperApp, SuperWeb, Digitised Customer Oriented Processes, Activity Management and the AI Chatbot & Smart Assistant. The specifics are as follows:

 <h3 style="margin-top: 10px;">SuperApp and SuperWeb</h3> <p>This is a mobile/website application that has information sourced from multiple services on one platform. The customer journey experience between the SuperApp and SuperWeb are harmonised, providing intuitive and seamless customer experience.</p>	 <h3 style="margin-top: 10px;">Activity Management</h3> <p>Transparent milestones for the services with the ability to view and track field agent service progress alongside the scheduling of appointments with field agents.</p>
 <h3 style="margin-top: 10px;">Digitised Customer Oriented Processes</h3> <p>Selected services that a customer can obtain from service counters will be available online in the SuperApp and SuperWeb.</p>	 <h3 style="margin-top: 10px;">AI Chatbot and Smart Assistant</h3> <p>Robust and intelligent chatbots with virtual agents for personalised customer experience.</p>

The DAC spearheaded the development and implementation of CMI which started in Quarter 3 2023 and would be completed over 2.5 years. The SuperApp and SuperWeb is targeted to be available to consumers by the third quarter of 2024.

### Data and Digital Ambassador (DDA) Immersion Programme

Air Selangor aspires to be a data driven organisation. A data driven organisation is one that effectively and consistently utilises data in their decision-making process across all levels of the organisation. This means driving change, innovating new products, delighting customers, and enhancing employee productivity through the power of data.

To achieve this, the DDA is one of the game changers that has been envisioned to spearhead Air Selangor in becoming a data driven organisation. The objective of the DDA Immersion Programme is to create a spokesperson and influencer for data analytics and digital activities development in their respective departments and enterprise wide. Those same individuals should also foster, drive and expand the adoption and use of data analytics and digital initiatives together with inter-departmental collaboration.

The first cohort of the DDA Immersion Programme started in May 2023. The DDA will be partnering with the DAC for the year-long duration of this programme, with the first cohort expected to complete the programme in May 2024.



## PILLAR 6

### GIVING BACK TO COMMUNITY

The community is part and parcel of Air Selangor's sustainability journey. We recognise the importance of a good relationship between the organisation and the community, and strives to bring positive changes to society.

Through a series of community engagements and CSR flagship programmes, Air Selangor aims to continuously invest in the development of the community in which the organisation is serving, with the hope to build resiliency and sustainability of the water ecosystem.

**PILLAR 6**  
**GIVING BACK**  
**TO COMMUNITY**

**CORPORATE SOCIAL RESPONSIBILITY (CSR)**



**Box of Hope**

Box of Hope was initiated in 2020 with hope to ease the financial burden of our community by providing underprivileged households with essential provisions. As of December 2023, Air Selangor has benefitted 5,075 families in Selangor, Kuala Lumpur, and Putrajaya.

As an avenue for the public to donate the essential items, collection boxes were placed at five Village Grocer outlets in MyTown, 1MontKiara, Melawati Mall, i-City Mall, and Tamarind Square.

Air Selangor partnered with Yayasan Food Bank Malaysia to help pack and distribute the provisions across Selangor, Kuala Lumpur, and Putrajaya.

Throughout 2023, 1,700 boxes were distributed to selected households, compared to 1,621 boxes in 2022.



**Festive CSR for Underprivileged**

Air Selangor took the opportunity to contribute to the underprivileged community during special festivities such as Chinese New Year, Ramadan, Hari Raya Aidilfitri, Hari Merdeka, Air Selangor’s Anniversary, Deepavali, and Christmas.

In 2023, provisions were distributed to 763 recipients across 20 different welfare houses with the value of provisions amounting to RM185,669.30, as compared to RM177,365.00 in 2022.

Additionally, during these festive visits, the organisation also provided plumbing assistance for the welfare homes to ensure continuous supply of clean and safe treated water to the vulnerable community.

## PILLAR 6

# GIVING BACK TO COMMUNITY



### Empowering Online Learning for Underprivileged Community

Air Selangor under its CSR programme Sesama Mara has collaborated with Pandai Education Sdn Bhd (Pandai) to assist B40 students to gain access to digital educational materials in preparation for SPM examination.

This initiative is an extension of the 'Empowering Online Learning' effort introduced in 2020 to assist children from the B40 income group in continuing their education amidst the COVID-19 pandemic. This collaboration aims to provide interactive and sustainable educational courses through the Pandai Premium mobile application enabling B40 SPM students to excel and continue to receive quality education.

The collaboration between Air Selangor and Pandai helped provide a Pandai Premium app subscription for 70 children of Air Selangor's employees, 50 students under the Yayasan Wilayah Persekutuan, and 55 students of Kampung Batu 3, Semenyih. In total, 175 SPM students have access to Pandai Premium.

Pandai Premium is a comprehensive subscription plan that enables students to access all practice questions, tests, notes, one-on-one chat assistance, online tutoring in all subjects, and exam question samples for uninterrupted revision at any time.

Air Selangor invested RM52,500 in this initiative in 2023.



### Hydro Heroes Volunteer Programme

Air Selangor launched the Hydro Heroes Volunteer Programme on 29 July 2023 to inculcate volunteerism among employees and provide a platform to give back to the community.

As of December 2023, 117 employees have registered as Hydro Heroes and have participated in multiple volunteering programmes throughout the year.

### STRATEGIC COMMUNITY INVESTMENT

#### Skim Air Darul Ehsan

Skim Air Darul Ehsan (SADE) was devised by the Selangor State government as a mechanism to make certain that every consumer will have equal access to clean and safe water. Eligible low-income households are provided 20m<sup>3</sup> of water free every month. In 2023, there were 35,817 new registrations, bringing up the total approved recipients since the inception of the scheme in 2019 to 285,673.

To qualify for the scheme, applicants are required to submit an application and fulfil the following criteria:

- Malaysian citizens that are residing or renting in the Selangor state
- A monthly household income of less than RM5,000
- Currently using individual meters in the residential premise.

# GLOSSARY AND INDEXES

## Association Memberships

1. Malaysian Employers Federation
2. Senior Utility Advisory Group, Smart Water Network (SWAN) Forum, UK
3. Contact Centre Association of Malaysia (CCAM)
4. Transparency International Malaysia
5. Customer Experience Professionals Association
6. International Water Association (IWA)

## GRI Content Index

<b>STATEMENT OF USE</b>	Air Selangor has reported in accordance with the GRI Standards for the period between 1 January to 31 December 2023.
<b>GRI 1 USED</b>	GRI 1: Foundation 2021
<b>APPLICABLE GRI SECTOR STANDARD(S)</b>	Not applicable

DISCLOSURE	DESCRIPTION	PAGE
<b>GRI 2: GENERAL DISCLOSURES 2021</b>		
2-1	Organisational details	A2, 18, Back Page
2-2	Entities included in the organisation’s sustainability reporting	Not applicable
2-3	Reporting period, frequency and contact point	A2
2-4	Restatements of information	53, 63
2-5	External assurance	Not applicable
2-6	Activities, value chain and other business relationships	18, 19, 49
2-7	Employees	23, 68,
2-8	Workers who are not employees	Not applicable
2-9	Governance structure and composition	39
2-10	Nomination and selection of the highest governance body	Not applicable
2-11	Chair of the highest governance body	11
2-12	Role of the highest governance body in overseeing the management of impacts	39
2-13	Delegation of responsibility for managing impacts	39
2-14	Role of the highest governance body in sustainability reporting	39
2-15	Conflicts of interest	Not applicable
2-16	Communication of critical concerns	44
2-17	Collective knowledge of the highest governance body	Not applicable
2-18	Evaluation of the performance of the highest governance body	Not applicable
2-19	Remuneration policies	Not applicable
2-20	Process to determine remuneration	Not applicable
2-21	Annual total compensation ratio	Not applicable
2-22	Statement on sustainable development strategy	2 - 10
2-23	Policy commitments	Not applicable
2-24	Embedding policy commitments	Not applicable
2-25	Processes to remediate negative impacts	44, 75 - 77
2-26	Mechanisms for seeking advice and raising concerns	44

## GLOSSARY AND INDEXES

DISCLOSURE	DESCRIPTION	PAGE
2-27	Compliance with laws and regulations	50
2-28	Membership associations	85
2-29	Approach to stakeholder engagement	35, 36, 75 - 77
2-30	Collective bargaining agreements	Not applicable
<b>GRI 3: MATERIAL TOPICS 2021</b>		
3-1	Process to determine material topics	34, 37
3-2	List of material topics	34, 37
3-3	Management of material topics	38 - 84
<b>Topic Standards</b>		
<b>Procurement Practices 2016</b>		
204-1	Proportion of spending on local suppliers	49
<b>Anti-corruption 2016</b>		
205-1	Operations assessed for risks related to corruption	44, 45,
205-2	Communication and training about anti-corruption policies and procedures	45, 46
<b>Materials 2016</b>		
301-1	Materials used by weight or volume	63
<b>Energy 2016</b>		
302-1	Energy consumption within the organisation	54, 55
302-3	Energy intensity	55
302-5	Reductions in energy requirements of products and services	54, 63
<b>Water and Effluents 2018</b>		
303-2	Management of water discharge-related impacts	50
303-3	Water withdrawal	60
303-5	Water consumption	57
<b>Emissions 2016</b>		
305-1	Direct (Scope 1) GHG emissions	53
305-2	Energy indirect (Scope 2) GHG emissions	53
305-4	GHG emissions intensity	53
<b>Waste 2020</b>		
306-1	Waste generation and significant waste-related impacts	59
306-2	Management of significant waste-related impacts	59
306-3	Waste generated	59, 63
306-4	Waste diverted from disposal	59
306-5	Waste directed to disposal	59
<b>Effluents and Waste 2016</b>		
306-3	Significant spills	50
<b>Employment 2016</b>		
401-1	New employee hires and employee turnover	68
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	69
401-3	Parental leave	69



# GLOSSARY AND INDEXES

DISCLOSURE	DESCRIPTION	PAGE
<b>Occupational Health and Safety 2018</b>		
403-1	Occupational health and safety management system	65
403-3	Occupational health services	Not applicable
403-4	Worker participation, consultation, and communication on occupational health and safety	66, 67
403-5	Worker training on occupational health and safety	66, 67
403-6	Promotion of worker health	67
403-9	Work-related injuries	25, 32
<b>Training and Education 2016</b>		
404-1	Average hours of training per year per employee	69
<b>Diversity and Equal Opportunity 2016</b>		
405-1	Diversity of governance bodies and employees	25, 68
<b>Local Communities 2016</b>		
413-1	Operations with local community engagement, impact assessments, and development programmes	82 - 84
<b>Customer Health and Safety 2016</b>		
416-1	Assessment of the health and safety impacts of product and service categories	9, 62, 72 - 74

## SASB Content Index

CODE	DESCRIPTION	UNIT OF MEASURE	PAGE	REMARKS
<b>SUSTAINABILITY DISCLOSURE TOPICS &amp; ACCOUNTING METRICS</b>				
IF-WU-130a.1	Energy Management	(1) Total energy consumed (2) Percentage grid electricity (3) Percentage renewable	Gigajoules (GJ), Percentage (%)	54, 55, 63 -
IF-WU-140a.1	Distribution Network Efficiency	Water main replacement rate	Rate	25 Air Selangor reports this in kilometers per year
IF-WU-140a.2		Volume of non-revenue real water losses	Thousand cubic meters (m <sup>3</sup> )	31, 62 Air Selangor reports this in percentage
IF-WU-140b.1	Effluent Quality Management	Number of incidents of non-compliance associated with water effluent quality permits, standards, and regulations	Number	50 -
IF-WU-140b.2		Discussion of strategies to manage effluents of emerging concern	Not applicable	-
IF-WU-240a.1	Water Affordability & Access	Average retail water rate for (1) residential, (2) commercial, and (3) industrial customers	Rate	<a href="https://www.airselangor.com/faq/">https://www.airselangor.com/faq/</a>
IF-WU-240a.2		Typical monthly water bill for residential customers for 10 Ccf of water delivered per month	Reporting currency	<a href="https://www.airselangor.com/faq/">https://www.airselangor.com/faq/</a>
IF-WU-240a.3		Number of residential customer water disconnections for non-payment, percentage reconnected within 30 days	Number, Percentage (%)	Not disclosed
IF-WU-240a.4		Discussion of impact of external factors on customer affordability of water, including the economic conditions of the service territory	Not applicable	26 -

## GLOSSARY AND INDEXES

CODE	DESCRIPTION	UNIT OF MEASURE	PAGE	REMARKS	
<b>SUSTAINABILITY DISCLOSURE TOPICS &amp; ACCOUNTING METRICS</b>					
IF-WU-250a.1	Drinking Water Quality	Number of (1) acute health-based, (2) non-acute health-based, and (3) non-health-based drinking water violations	Number	31	-
IF-WU-250a.2		Discussion of strategies to manage drinking water contaminants of emerging concern	Not applicable	72, 73	-
IF-WU-420a.1	End-Use Efficiency	Percentage of water utility revenues from rate structures that are designed to promote conservation and revenue resilience	Percentage (%)	Not disclosed	
IF-WU-420a.2		Customer water savings from efficiency measures, by market	Cubic meters (m <sup>3</sup> )	Not available	
IF-WU-440a.1	Water Supply Resilience	Total water sourced from regions with High or Extremely High Baseline Water Stress, percentage purchased from a third party	Thousand cubic meters (m <sup>3</sup> ), Percentage (%)	Not available	
IF-WU-440a.2		Volume of recycled water delivered to customers	Thousand cubic meters (m <sup>3</sup> )	Not available	
IF-WU-440a.3		Discussion of strategies to manage risks associated with the quality and availability of water resources	Not applicable	62, 72 - 74	-
IF-WU-450a.1	Network Resiliency & Impacts of Climate Change	Wastewater treatment capacity located in 100-year flood zones	Cubic meters (m <sup>3</sup> ) per day	Not applicable	
IF-WU-450a.2		(1) Number and (2) volume of sanitary sewer overflows (SSO), (3) percentage of volume recovered	Number, Cubic meters (m <sup>3</sup> ), Percentage (%)	Not applicable	
IF-WU-450a.3		(1) Number of unplanned service disruptions, and (2) customers affected, each by duration category	Number	61	-
IF-WU-450a.4		Description of efforts to identify and manage risks and opportunities related to the impact of climate change on distribution and wastewater infrastructure.	Not applicable	Not applicable	
<b>ACTIVITY METRICS</b>					
IF-WU-000.A	Number of: (1) residential, (2) commercial, and (3) industrial customers served, by service provided		Number	19	
IF-WU-000.B	Total water sourced, percentage by source type		Cubic meters (m <sup>3</sup> ), Percentage (%)	Not disclosed	
IF-WU-000.C	Total water delivered to: (1) residential, (2) commercial, (3) industrial, and (4) all other customers		Thousand cubic meters (m <sup>3</sup> )	Not disclosed	
IF-WU-000.D	Average volume of wastewater treated per day, by (1) sanitary sewer, (2) stormwater, and (3) combined sewer		Cubic meters (m <sup>3</sup> ) per day	Not applicable	
IF-WU-000.E	Length of (1) water mains and (2) sewer pipe		Kilometers (km)	25	Length of water mains only

# GLOSSARY AND INDEXES

## Glossary

<b>AACP</b>	Air Selangor Anti-Corruption Plan	<b>CM</b>	Corrective Maintenance
<b>ABAC</b>	Anti-Bribery and Anti-Corruption	<b>CMA</b>	Cybersecurity Maturity Assessment
<b>ABMS</b>	Anti Bribery Management System	<b>CMI</b>	Customer Management Initiatives
<b>ACEO</b>	Acting Chief Executive Officer	<b>CMP</b>	Coaching and Mentoring Programme
<b>AESP</b>	Authorised Entrant & Standby Person	<b>COBE</b>	Code of Business Ethics
<b>AI</b>	Artificial Intelligence	<b>CRA</b>	Corruption Risk Assessment
<b>AIA Berhad</b>	American International Assurance Company Berhad	<b>CSAT</b>	Customer Satisfaction
<b>AIRRA</b>	Air Selangor Mobile App Chatbot	<b>CSI</b>	Customer Satisfaction Index
<b>APOSHO</b>	Asia Pacific Occupational Safety and Health Conference	<b>CSR</b>	Corporate Social Responsibility
<b>ASNP</b>	Air Selangor NIOSH Safety Passport	<b>CXD</b>	Customer Experience Department
<b>ASPIRE</b>	Air Selangor Strategic Plans and Initiatives Realisation	<b>DAC</b>	Data Analytics Centre
<b>B40</b>	Referring to the bottom 40% of income earners in Malaysia	<b>DASS</b>	Depression Anxiety Stress Scale Screening
<b>BAC</b>	Board Audit Committee	<b>DDA</b>	Data and Digital Ambassador
<b>BCM</b>	Business Continuity Management	<b>DOE</b>	Department of Environment
<b>BCMS</b>	Business Continuity Management System	<b>DRP</b>	Disaster Recovery Plan
<b>BCP</b>	Business Continuity Plan	<b>DSM</b>	Department of Standards Malaysia
<b>BIA</b>	Business Impact Analysis	<b>DUN</b>	Dewan Undangan Negeri
<b>BNRC</b>	Board Nomination and Remuneration Committee	<b>DWE</b>	Desktop Walkthrough Exercise
<b>BOD</b>	Board of Directors	<b>DWQI</b>	Drinking Water Quality Index
<b>BPC</b>	Board Procurement Committee	<b>DWQS</b>	Drinking Water Quality Standard
<b>BRSC</b>	Board Risk and Sustainability Committee	<b>ECP</b>	Environmental Competent Person
<b>BUR</b>	Biennial Update Report	<b>eDPLAS</b>	Electronic Development Plan Approval System
<b>CAPEX</b>	Capital Expenditure	<b>EE</b>	Energy Efficiency
<b>Carbon Neutral</b>	Achieving balance between the amount of greenhouse gas emissions produced and the amount of emissions removed from the atmosphere	<b>EPMC</b>	Environmental Performance Monitoring Committee
<b>CBS</b>	Customer Billing Services	<b>ERCMC</b>	Environmental Regulatory Compliance Monitoring Committee
<b>CEI</b>	Corporate Energy Intensity	<b>ERM</b>	Enterprise Risk Management
<b>CeIO</b>	Certified Integrity Officer	<b>ERP</b>	Emergency Response Plan
<b>CePBFO</b>	Certified Environmental Bag Filter Operation	<b>ESG</b>	Environmental, Social and Governance
<b>CePIETSO</b>	Certified Environmental Industrial Effluent Treatment Systems Operation	<b>EXCO</b>	Executive Committee
<b>CePSO</b>	Certified Environmental Scrubber Operation	<b>EY</b>	Ernst & Young
<b>CePSWAM</b>	Certified Environmental Scheduled Waste Management	<b>FDWEC</b>	Flood Desktop Walkthrough Exercise
<b>CIP</b>	Corporate Integrity Pledge	<b>FRC</b>	Free Residual Chlorine
		<b>FRIM</b>	Forest Research Institute Malaysia
		<b>GDP</b>	Gross Domestic Product
		<b>GET</b>	Green Electricity Tariff
		<b>GHG</b>	Greenhouse Gas

## GLOSSARY AND INDEXES

<b>GJ</b>	Gigajoule
<b>GPS</b>	Global Positioning System
<b>GRI</b>	Global Reporting Initiative
<b>GSR</b>	Guided Self-Regulation
<b>GWC</b>	Global Water Conference
<b>GWh</b>	Gigawatt-Hour
<b>HIRADC</b>	Hazard Identification, Risk Assessment and Determining Control
<b>HIRARC</b>	Hazard Identification, Risk Assessment and Risk Control
<b>HORAS</b>	Hybrid Off-River Augmentation System
<b>HRD</b>	Human Resources Department
<b>HSE</b>	Health, Safety and Environment
<b>HSSE</b>	Health, Safety, Security, and Environment
<b>HYDRA</b>	Hybrid Distribution Water Quality Real-time Analyser
<b>ICC</b>	Intelligent Command Centre
<b>ICON</b>	HSE Improve and Continue Programme
<b>IKM</b>	Malaysian Institute of Chemistry
<b>IMS</b>	Integrated Management System
<b>ISMS</b>	Information Security Management System
<b>ISO</b>	International Organization for Standardization
<b>ITD</b>	IT Department
<b>IWK</b>	Indah Water Konsortium
<b>kgCO<sub>2</sub>/m<sup>3</sup></b>	Kilogram of carbon dioxide per cubic metre
<b>kWac</b>	Kilowatt Alternating Current
<b>kWh</b>	Kilowatt-Hour
<b>LCD</b>	Litres per Capita per Day
<b>LLT</b>	Leadership Listening Tour
<b>LTI</b>	Lost-Time Injury
<b>LTIFR</b>	Lost Time Injury Frequency Rate
<b>LUAS</b>	Lembaga Urus Air Selangor
<b>m<sup>3</sup></b>	Cubic Metre
<b>MACC</b>	Malaysian Anti-Corruption Commission
<b>MAN 5</b>	Majlis Air Negara Kelima
<b>MCCG</b>	Malaysian Code of Corporate Governance
<b>mil.m<sup>3</sup></b>	Million Cubic Metre

<b>MIROS</b>	Latihan Bersama Institut Keselamatan Jalanraya Malaysia
<b>MJ/m<sup>3</sup></b>	Megajoule per Cubic Metre
<b>MLD</b>	Million Litres per Day
<b>MOH</b>	Ministry of Health
<b>MSOSH</b>	Malaysian Society of Occupational Safety and Health
<b>MT</b>	Metric Tonne
<b>MWac</b>	Mega-Watt Alternating Current
<b>NACP</b>	National Anti-Corruption Plan
<b>NCCA</b>	Non-Conformity and Corrective Action
<b>NCOSH</b>	National Council for Occupational Safety and Health
<b>NETR</b>	National Energy Transition Roadmap
<b>NGO</b>	Non-Governmental Organisation
<b>NIOSH</b>	National Institute of Occupational Safety and Health
<b>NPS</b>	Net Promoter Score
<b>NRR</b>	Natural Rate of Rise
<b>NRW</b>	Non-Revenue Water
<b>NSDWQ</b>	National Standard for Drinking Water Quality
<b>OACIS</b>	Off-Plant Autonomous Chlorine Injection System
<b>OBI</b>	Operations Business Intelligence
<b>OEx</b>	Operational Excellence
<b>OFI</b>	Observation/Opportunity for Improvement
<b>OHSMS</b>	Occupational Health and Safety Management System
<b>OIML</b>	International Organization of Legal Metrology
<b>OMA</b>	Operations Mobile Application
<b>OP</b>	Operating Period
<b>OPAK</b>	Operasi Pengepaman Air Kolam
<b>OPEX</b>	Operational Expenditure
<b>ORS</b>	Off-River Storage
<b>OSD</b>	Operational Services Department
<b>OSH</b>	Occupational Safety and Health
<b>OSHA</b>	Occupational Safety and Health Act
<b>OSI</b>	Operational Safety Improvement
<b>PAKAR</b>	Pasukan Khas Lembangan dan Alur Air
<b>PCW</b>	Planning & Capital Works
<b>PETRA</b>	Kementerian Peralihan Tenaga dan Transformasi Air

## GLOSSARY AND INDEXES

<b>PFA</b>	Polyfluoroalkyl
<b>PKS</b>	Pusat Khidmat Setempat
<b>PNC</b>	Potential Non-Conformance
<b>POLIGONs</b>	Pipe Cleaning Zone with Compression Gear and Isolation
<b>POPs</b>	Persistent Organic Pollutants
<b>PPR</b>	Projek Perumahan Rakyat
<b>PPT</b>	Pengiktirafan Pencapaian Terdahulu
<b>PTOS</b>	Permit to Work & Operational Safety Improvement
<b>PTW</b>	Permit To Work
<b>PV</b>	Solar Photovoltaic
<b>PwC</b>	PricewaterhouseCoopers
<b>QAP</b>	Quality Assurance Programme
<b>RA</b>	Residential Association
<b>RAM Ratings</b>	RAM Rating Services Berhad
<b>RENEW</b>	Renewable Energy for Water
<b>RMADP</b>	Risk Management Advocate Development Programme
<b>RMC</b>	Risk Management Committee
<b>RMD</b>	Risk Management Department
<b>RMS</b>	River Monitoring System
<b>RPA</b>	Robotic Process Automation
<b>RS-1</b>	Rancangan Selangor Pertama
<b>RTF</b>	Residuals Treatment Facility
<b>SADE</b>	Skim Air Darul Ehsan
<b>SASB</b>	Sustainability Accounting Standard for Water Utilities and Services
<b>SBAM</b>	Sukan Bekalan Air Se-Malaysia
<b>SBR</b>	Singapore Business Review
<b>SDGs</b>	Sustainable Development Goals
<b>SIRIM</b>	Standards and Industrial Research Institute of Malaysia
<b>SJAM</b>	Skim Jaminan Air Mentah
<b>SKM</b>	Sijil Kemahiran Malaysia
<b>SLDN</b>	Sistem Latihan Dual Nasional
<b>SMS</b>	Short Message Service
<b>SOP</b>	Standard Operating Procedure

<b>SPAN</b>	Suruhanjaya Perkhidmatan Air Negara
<b>SPI</b>	Strategic Plans and Initiatives
<b>SPM</b>	Sijil Pelajaran Malaysia
<b>SRI</b>	Sustainable and Responsible Investment
<b>SSP1</b>	Sg Selangor Phase 1
<b>SSP2</b>	Sg Selangor Phase 2
<b>SWAN</b>	Smart Water Networks Forum
<b>TAMS</b>	Total Asset Management System
<b>tCO<sub>2</sub></b>	Tonne of Carbon Dioxide
<b>ToR</b>	Terms of Reference
<b>TSM</b>	Tariff Setting Mechanism
<b>UAG</b>	Utility Advisory Group
<b>UARL</b>	Unavoidable Annual Real Losses
<b>UAV</b>	Unmanned Aerial Vehicles
<b>UKM</b>	Universiti Kebangsaan Malaysia
<b>UM</b>	Universiti Malaya
<b>UN SDGs</b>	United Nations' Sustainable Development Goals
<b>UPEN</b>	Unit Perancang Ekonomi Negeri
<b>WAMS</b>	Work and Asset Management System
<b>WEDP</b>	Water Expert Development Programme
<b>WHO</b>	World Health Organization
<b>WISDOM</b>	Water Intelligence for Supply and Demand Operations Management
<b>WRP</b>	Water Reclamation Plant
<b>WSIA</b>	Water Services Industry Act
<b>WTP</b>	Water Treatment Plant

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