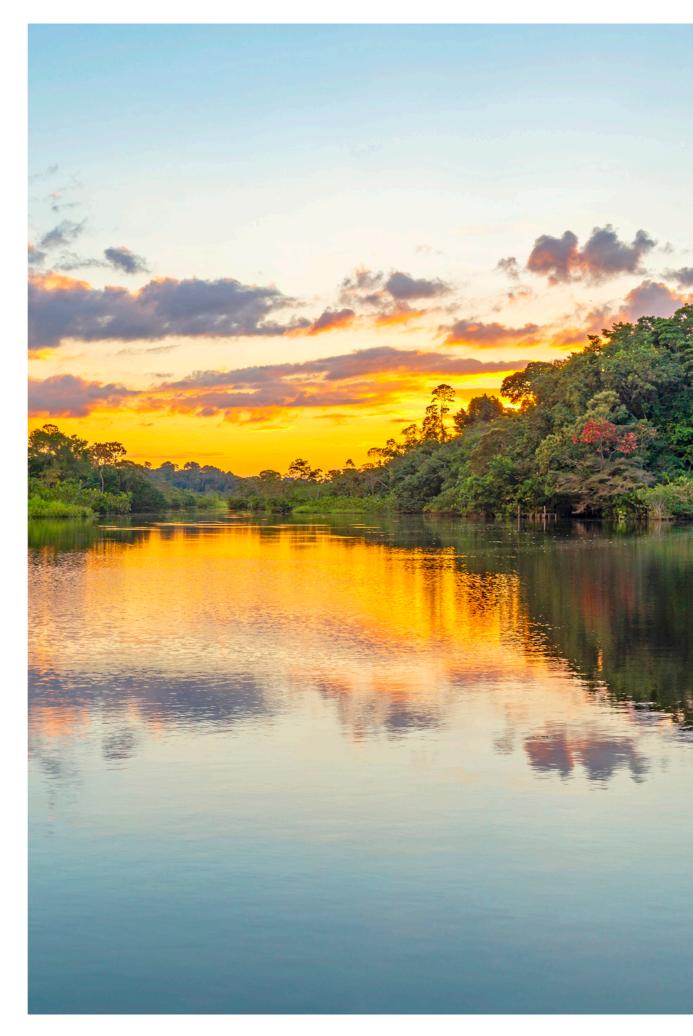


Sukuk Kelestarian Air Selangor Impact Report 2021 - 2022

ABOUT THIS REPORT

Pengurusan Air Selangor Sdn. Bhd. (Air Selangor or the Company) is pleased to present its inaugural Sukuk Kelestarian Air Selangor Impact Report 2021 - 2022. This report provides information about the allocation of the Company's Sukuk Kelestarian Air Selangor (Sukuk Kelestarian) proceeds to eligible projects and the impact of these projects. Reporting of both qualitative and quantitative indicators for the period between 1 January 2022 and 30 September 2022, are based on the Air Selangor Sustainable Development Sukuk Kelestarian Framework (Sukuk Kelestarian Framework or the Framework).

Some data which indicate reductions or increments are shown in comparison to data of the same period last year i.e., 1 January to 30 September 2022 against 1 January to 30 September 2021. This has been indicated in the section on Allocation of Proceeds.





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MESSAGE FROM THE ACTING CHIEF EXECUTIVE OFFICER

Dear Stakeholders,

I am pleased to present to you Air Selangor's inaugural Sukuk Kelestarian Air Selangor Impact Report which will provide updates on the progress of projects funded by the Sukuk Kelestarian.

The Sukuk Kelestarian is an important component of Air Selangor's RM10 billion Sukuk Murabahah Programme which was established in December 2020. The proceeds from the Sukuk Kelestarian in particular are to be used to support projects that contribute to the **United Nations Sustainable Development** Goals (SDGs).

> To date, Air Selangor has issued three tranches of Sukuk Kelestarian totalling RM1.43 billion which has been largely deployed to finance a range of sustainable water supply and sustainable water management projects.

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



OVERVIEW

The sustainable development of water infrastructure is crucial in addressing the needs of Malaysia's growing population that requires continuous access to clean and safe treated water. The funding provided by the Sukuk Kelestarian is therefore critical in helping Air Selangor to achieve its goals of improving, expanding and optimising its networks, systems and storage to ensure the long term, sustainable supply of clean water, and to minimise disruption and reduce water loss.

Thus, the proceeds have been used to support 2022 compared to 28.43% in September 2021, various initiatives under Air Selangor's 30-year business plan which include the development of new water treatment plants (WTPs), improvements to the distribution network, maintenance and rehabilitation of assets as well as the reduction of non-revenue water (NRW).

PROGRESS UPDATE

As of September 2022, the Rasau Water Supply Scheme Stage 1 (Rasau Stage 1) project is in the design phase with major work being undertaken for planning, site assessment and land acquisition.

We remain strongly committed to investing in new water infrastructure and improving on existing infrastructure to ensure the operational efficiency and long-term sustainability of the water supply system. It is imperative that we execute this mandate with the greatest urgency given the critical importance of safe, clean and accessible water for generations now and in the future. Going forward, Air Selangor is optimistic that the Sukuk Kelestarian will help support the timely implementation of our sustainability initiatives.

Ir. Abas Abdullah Acting Chief Executive Officer distributable capacity.

LOOKING AHEAD

The bulk of the proceeds from the Sukuk Kelestarian will be primarily used to fund the capital expenditure requirements of the Rasau Stage 1 project which is estimated to cost RM4 billion, as well as pipe replacement and NRW reduction programmes. Through pipe replacement projects and other NRW reduction programmes, we aim to achieve NRW of 25% by 2025, 20% by 2037 and 15% by 2049.

This will produce an additional supply of 700 million litres per day (MLD) that is expected to come on stream in 2025. The development of the Labohan Dagang Phase 1 distribution network is meanwhile expected to be completed by the end of 2022 and will further add 69 MLD to our

In terms of pipe replacement projects, 47.63km of pipelines has been replaced since January until September 2022. Other efforts to reduce NRW have also yielded results with the NRW rate decreasing by 0.35% to 28.08% in September yielding savings of 137 MLD.

Produce an additional supply of

700 **MLD**

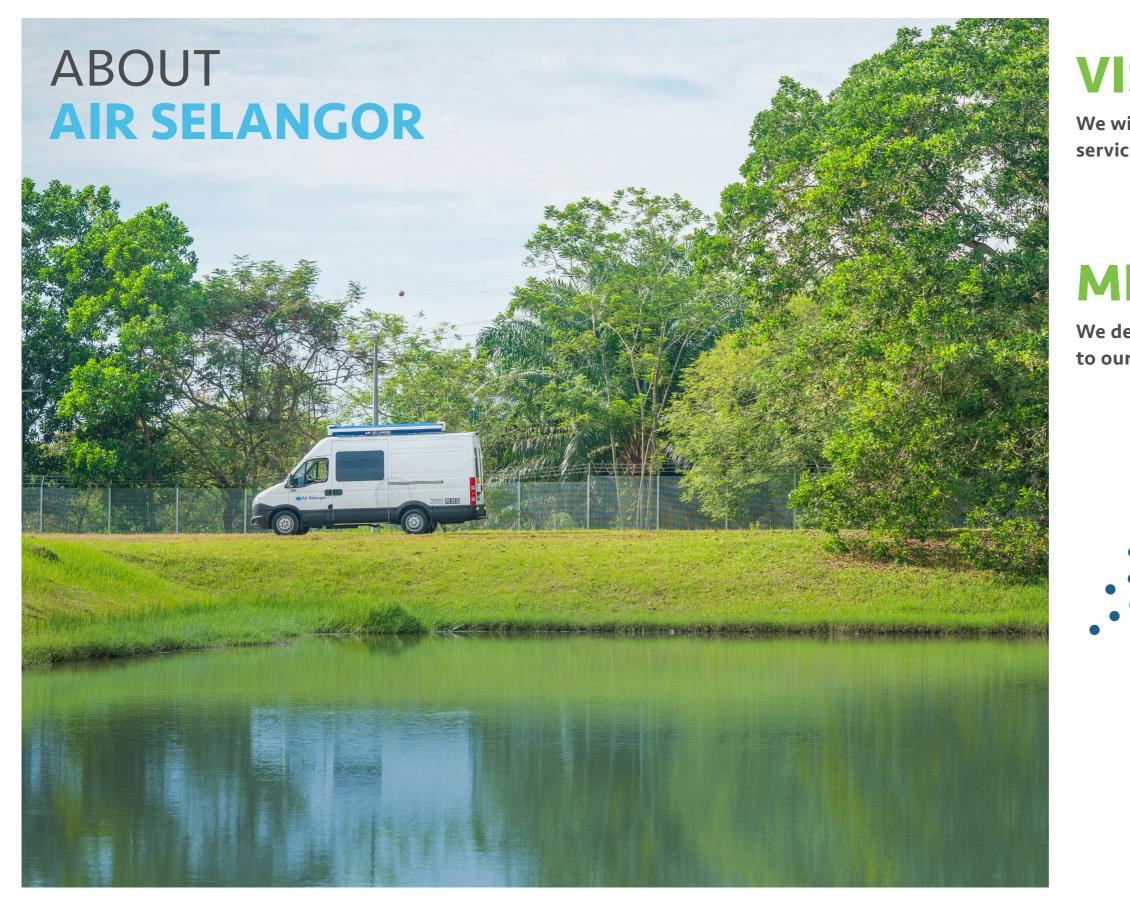
that is expected to come on stream in 2025

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We aim to achieve NRW of

25% by 2025 20% by 2037

15% by 2049



Air Selangor is responsible for the abstraction, treatment and distribution of treated water to consumers in Selangor, Kuala Lumpur, and Putrajaya, with more than 2.5 million accounts consisting of domestic, non-domestic, and others. Air Selangor Holdings Berhad (AIS Holdings) is the immediate holding company and Menteri Besar Selangor (Incorporated), a corporate body formed under Enactment No.3 of the Menteri Besar Selangor (Incorporation), Enactment 1994, is the ultimate holding corporation of Air Selangor. Air Selangor produces 5,108 MLD of treated water and distributes the water to its consumers through 30,339km of pipelines. In order to ensure a continuous supply of high quality treated water is delivered to all our customers, we are supported by more than 5,000 dedicated staff. Air Selangor's business operations are regulated by Suruhanjaya Perkhidmatan Air Negara (SPAN) and subjected to the Water Services Industry Act 2006.

VISION

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

MISSION

We deliver the best experience to our customers



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OUR BUSINESS PLAN

Air Selangor's business operations are guided by its regulatory business plan which is approved by SPAN, consisting of seven Strategic Plans and Initiatives (SPIs) and eight Key Result Areas (KRAs). A Capital Expenditure (CAPEX) of over RM35 billion over a 30year period has been earmarked for this business plan which will be utilised to upgrade existing water infrastructure, improve operational efficiency, and source new water resources. The business plan will be reviewed from time to time, in response to the changing operating environment of the water services industry.



WATER FOREVER Towards a Sustainable Water Future

1) Ensure a sustainable water supply for the future.

Mitigate potential effects of climate change and raw water pollution.

Design interventions and initiatives that ensure that the water supply is in tandem with water demand. Some of these actions include reducing system water loss, optimising customer water use, as well as identifying and developing new sources of water.



1

2

3

4

IMPROVEMENT TO ASSET RELIABILITY AND RESILIENCE

Towards Resilient Water Future

Optimise management and maintenance of our assets.

Ensure uninterrupted water supply to our customers.

Rehabilitate, replace, and upgrade our assets.

Improve water storage capacity.

SEVEN STRATEGIC PLANS AND INITIATIVES (SPIs)

SPI 4

TOWARDS BEST CUSTOMER EXPERIENCE

Drinkable Water from Tap by 2028 and Best Customer Service

Improve our service delivery and exceed customer expectations in terms of reliability, responsiveness, and quality continuously.



NON-REVENUE WATER REDUCTION

NRW Reduction by 25% by 2025, 20% by 2037, and 15% by 2049

1 Reduce water loss throughout our operations, targeting to achieve 25% by 2025, 20% by 2037, and 15% by 2049

2 Optimise operational costs and increase our revenue.

SPI 6

CREATING A CONDUCIVE WORKING ENVIRONMENT

World-Class Water Services Provider

Position Air Selangor as an employer of choice by creating a safe and conducive work environment.

Develop and grow talent within our Company to ensure a sustainable pipeline of leaders and achievers.



IMPROVING OPERATIONAL EFFICIENCY Digital Utility of the Future

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, namely production, distribution, asset inventory and maintenance, and customer management.





ENVIRONMENTAL STEWARDSHIP Waste Zero Environment

1

Operate responsibly, minimising our impact on the environment, and adhere to regulations.

Towards a zero-waste environment, optimising resource use and reducing our carbon emissions.

Strategy 2 :

STANDARDISING

OUR **SUSTAINABILITY STRATEGY**

Air Selangor established its Sustainability Strategy for its first operating period (OP1) between October 2019 and 2022, with the aim of addressing gaps in sustainability practices and identifying opportunities to strengthen sustainability embodiment within the organisation. This strategy is in line with Air Selangor's business plan and supports the United Nations SDGs.

Strategy 1: **ENHANCING GOVERNANCE & INTEGRITY**

- LINK WITH SPIs
- LINK WITH SDGs 16 PEACE, JUSTI AND STRONG INSTITUTION
- Stablish and implement global throughout the organisation.
 - LINK WITH SPIs
 - LINK WITH SDGs







Strategy 3 : TRANSPARENT COMMUNICATION

- (→) Enhance communications throughout the organisation and externally with customers through new and existing platforms.
 - **LINK WITH SPIs**







(→) Establish annual Sustainability Reporting process which integrates performance data and sustainability commitments.

LINK WITH SPIs





RM 0.00

Woter Information

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PENGURUSAN AIR SELANGOR SDN BHD

SUKUK KELESTARIAN FRAMEWORK

Air Selangor developed and published its Sukuk Kelestarian Framework on 30 September 2020 to ensure transparency, disclosure, and integrity in the issuance and governance of a sustainable and responsible investment (SRI) Sukuk known as the Sukuk Kelestarian Air Selangor. The Framework discusses how proceeds are used and managed, the process undertaken for project evaluation and selection, and lastly, allocation and impact reporting.

The Framework was developed in accordance with the following principles and standards (Sustainability Bond Principles and Standards), and supports Air Selangor's business plan, Sustainability Strategy and priority SDGs.

 The International Capital Market Association's (ICMA) 2018 Green Bond Principles, 2018 Social Bond Principles, and 2018 Sustainability Bond Guidelines

 The ASEAN Capital Markets Forum's (ACMF) 2018 Green Bond Standards, 2018 Social Bond Standards, and 2018 Sustainability Bond Standards; and

 The Securities Commission Malaysia's (SC) SRI Sukuk Framework (SC SRI Sukuk Framework).



The Framework was reviewed by RAM Sustainability Sdn. Bhd. which issued a Second Party Opinion on 9 November 2020 confirming the Framework's adherence to the abovementioned Sustainability Bond Principles and Standards. The report can be accessed here: https://www.airselangor.com/uploads/2020/12/2nd opinion sukuk.pdf

SUKUK KELESTARIAN GOVERNANCE

The Sukuk Kelestarian Framework details how the funds raised can be utilised to finance, refinance, or invest in eligible projects that are aligned with Air Selangor's business plan, Sustainability Strategy and priority SDGs as indicated in four (4) categories. These are:



SUSTAINABLE WATER SUPPLY



SUSTAINABLE WATER MANAGEMENT



Eligible projects must meet the criteria set out in the Framework. The evaluation and selection of eligible projects are carried out by the Sukuk Kelestarian Working Group which comprises senior officers from Air Selangor's Sustainability and Water Conservation Section and Finance and Strategy Department during the annual capital expenditure budgeting process, or when necessary. Himpact of these projects on the Company's performance commitments, health and safety, environment, and social impact, as well as their cost and viability. Air Selangor has committed to report on the allocation and utilisation of its Sukuk Kelestarian proceeds on an annual basis, including select case studies to demonstrate the sustainability

and Water Conservation Section and Finance and Strategy Department during the annual capital expenditure budgeting process, or when necessary. Additionally, Air Selangor's annual capital expenditure budget is reviewed and approved by the Board of Directors and SPAN. Air Selangor has committed to report on the allocation and utilisation of its Sukuk Kelestarian proceeds on an annual basis, including select case studies to demonstrate the sustainability impact of eligible projects. This is to demonstrate the Company's commitment towards transparency with our investors and to adhere to the various Sustainability Bond Principles and Standards which we ascribe to.

Projects are considered based on how they contribute towards achieving Air Selangor's strategic plans and objectives, the 11

RENEWABLE ENERGY

GREEN BUILDING/ASSETS

LINK WITH SPIS



SUKUK KELESTARIAN **KEY FEATURES**

Air Selangor issued its first Sukuk Kelestarian on 29 October 2021 and has since issued three tranches of Sukuk Kelestarian amounting to RM1.43 billion in total proceeds as of 30 September 2022.

Tranche	Tranche 2	Tranche 2	Tranche 3	Tranche 3	Tranche 3	Tranche 3	Tranche 4
Series	Series 3	Series 4	Series 1	Series 2	Series 3	Series 4	Series 3
Currency	MYR	MYR	MYR	MYR	MYR	MYR	MYR
ISIN	MYBVS2103881	MYBVX2103873	MYBVK2202581	MYBVN2202577	MYBVS2202568	MYBVX2202550	MYBVX2203392
Size (RM mil)	255.0	175.0	120.0	160.0	370.0	250.0	100.0
Net Proceeds (RM mil)	255.0	175.0	120.0	160.0	370.0	250.0	100.0
lssue Date	29 October 2021	29 October 2021	26 July 2022	26 July 2022	26 July 2022	26 July 2022	19 September 2022
Maturity Date	29 October 2036	29 October 2041	26 July 2029	26 July 2032	24 July 2037	25 July 2042	19 September 2042
Coupon	4.74%	4.88%	4.73%	4.87%	5.28%	5.45%	5.35%

ALLOCATION OF PROCEEDS

Air Selangor has allocated and utilised 65.6% of the total proceeds raised, amounting to RM937.7 million for the financing and refinancing of eligible CAPEX and operating expenditure (OPEX).

Purpose/ Projects	CAPEX (R	RM mil)	OPEX (RM mil)	TOTAL	
	Financing	Refinancing	Financing	RM mil	%
Sustainable Water Supply	315.8	76.8	236.8	629.4	44.0%
Sustainable Water Management	87.8	215.7	4.9	308.3	21.6%
Renewable Energy	-	-	-	-	-
Green Building/ Assets	-	-	-	-	-
Allocated/ Utilised (RM mil)	403.5	292.6	241.6	937.7	65.6%
		Unal	located/ Unutilised	492.3	34.4%

🗊 TOTAL

RM1,430 million 100.0%

Out of the total of RM1.43 billion of proceeds raised, 20.5% was allocated and utilised for the refinancing of CAPEX, 28.2% was allocated and utilised for the financing of new CAPEX and 16.9% was allocated and utilised for the financing of OPEX. 34.4% of the proceeds have yet to be allocated/ utlised and are invested in Shariah-compliant money market instruments or fixed deposits.

Category	Examples of Key Projects Funded	Total Allocation and Utilisation (RM mil)	Reporting Indicators (1 January 2022 to 30 September 2022)
Sustainable Water Supply	 Development of new water treatment facilities Upgrading, rehabilitation, refurbishment and/or maintenance of water treatment facilities, including dams and off-river storage (ORS) Connecting, expanding, improving, rehabilitating, refurbishing, replacing and/or maintenance of distribution network or systems. 	629.4	 Million cubic metres of clean water produced: 1,394.38 mil m³ Water quality compliance: 99.84% Length of pipe replaced: 47.63km Number of new household water connections: 37,478 accounts Additional distributable capacity in development: 1,399 MLD Additional water supply capacity from alternative water source (reclaimed water developed: 4 MLD
Sustainable Water Management	 Pipe replacement programme Physical loss reduction programme Commercial loss reduction programme Construction, upgrading, and/ or rehabilitation of reservoir and pumphouses Construction, expansion and/or rehabilitation of residual treatment facilities and residual disposal areas Initiatives to improve pollution detection and management and enhance laboratory services to amongst others, improve water quality and reduce service disruptions Digital, automation and IT initiatives to enhance network communication and network management to amongst others, reduce service disruptions and improve operating efficiency. 	308.3	 Energy consumption per cubic meter of water produced: 1.963 MJ CO₂/m³ *Billed volume carbon intensity reduction: 0.13% *Billed volume energy intensity reduction: 0.25% *Pipe Burst Index Reduction (no./100km/year): 2.11 *Non-revenue water reduction: 0.35% Amount of water saved from NRW initiatives: 137 MLD Number of pollution incidences detected and prevented: 36 incidents Percentage of water treatment residuals treated: 38.98%

* Data comparison between 1 January 2021 to 30 September 2021 and 1 January 2022 to 30 September 2022.

A total of RM629.4 million was allocated and utilised for Sustainable Water Supply projects which is largely attributed to the development of the new Rasau Stage 1 and the maintenance of existing water treatment and distribution infrastructure. Under the category of Sustainable Water Management projects, RM308.3 million was allocated to maintain and improve production and distribution efficiency such as improving system connectivity to minimise service disruptions, reducing system losses, minimising the impact on the environment, and improving water quality.

Some examples of Sustainable Water Supply and Sustainable Water Management projects and initiatives undertaken by Air Selangor are discussed in the following section.

ALLOCATION OF **PROCEEDS**

/ 13

0

700 MLD

Rasau Water Supply Scheme Stage 1

467,000

CASE **STUDIES**

Delivering Resilient Water Supply Via **Rasau Water Supply** Scheme Stage 1

Project Category: Sustainable Water Supply

Link with

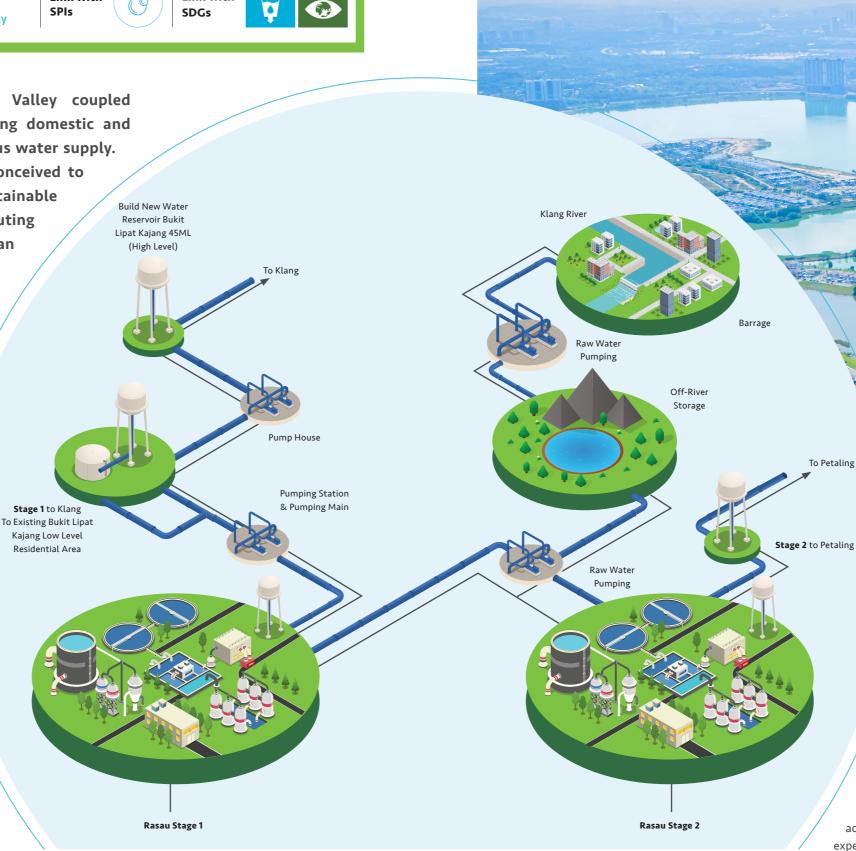


Rapid development within the Klang Valley coupled with climate change has led to increasing domestic and industrial demand for clean and continuous water supply. Air Selangor's SPI 1 - Water Forever is conceived to mitigate these challenges, to ensure a sustainable water supply for the future, while contributing towards the achievement of SDG 6 - Clean Water and Sanitation and SDG 13 - Climate Action.

The development of the Rasau Water Supply Scheme (Rasau Scheme) will increase the overall water reserve margin and reduce dependence on the Sg Selangor River Basin as the current primary raw water source for the Klang and Petaling regions.

The Selangor state government's rehabilitation efforts have improved the water quality of Sg Klang, making it an untapped raw water source. Raw water abstracted from Sg Klang will be pumped into the biggest ORS facility in Malaysia comprising nine existing ponds located within the district of Sepang and Petaling measuring 489 hectares in total with a capacity of 42 million cubic metres.

The design of the Rasau Scheme helps mitigate the risk of water supply disruption to consumers as the ORS facility serves the dual purpose of raw water storage and to further improve water quality. In a conventional WTP, whenever pollution is detected in the river, the WTP is forced to halt operations until the pollution clears which may lead to water supply disruption for thousands of consumers.



2025

15

15.6%

For the Rasau Scheme, water from Sg Klang will be pumped into the ORS and subsequently fed into the WTP. If river pollution occurs, operations at the WTP will not be affected as raw water abstraction from the ORS can continue as usual. This ensures zero disruption to WTP operations and ultimately minimises the impact of water service disruption on consumers.

The expected completion of Rasau Stage 1 in 2025 will produce up to 700 MLD of clean water supply to 467,000 accounts in the Klang region, with water reserve margin expected to increase to 15.6%.

SDGs

PENGURUSAN AIR SELANGOR SDN BHD

The Physical Loss Reduction Programme consists of managing leaks from the transmission pipelines and the service connections up to the point of the customer's water meter. The programme consists of the following initiatives:

CASE **STUDIES**

Non-Revenue Water **Management Through Physical Loss Reduction Programme**

Project Category: Sustainable Water Management

Link with SPIs



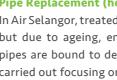


NRW is treated water that is produced but is "lost" or unaccounted for through leakages before reaching the consumer and where water supplied to the consumer is under-billed. Losses can either be physical losses caused by leakages or burst pipes, or commercial losses due to inaccurate meter readings, water thefts, or unbilled water usage.

Reduction of NRW reduces system water losses and wastage of resources that are used to treat raw water and distribute treated water to the consumers. These resources include manpower, energy, chemicals, and others. A lower NRW rate means less water is abstracted from rivers and dams which minimises environmental impact. This also indicates higher operating efficiency which further contributes to increasing water supply resilience in the face of climate change.

In reducing the NRW rate, Air Selangor has carried out Physical Loss Reduction Programme and Commercial Loss Reduction Programme. On average, the Physical Loss Reduction Programme contributes to a larger portion of the NRW savings at around 74.4%.





Pressure Transient on Transmission Pipes

Transient pressure sensors with an advanced analytical software system are installed along Air Selangor's transmission pipelines. These sensors continuously monitor and analyse detected "leak noise" and identify potential leaks proactively, which allows repair work to be carried out immediately, and reduces the occurrence of pipe bursts.

Pressure Management Programme

To enhance monitoring and management of treated water distribution and minimise water losses along the distribution network, Air Selangor compartmentalises its distribution regions into smaller sections known as Water Balance Areas (WBA), District Meter Zones (DMZ), and Pressure Management Zones (PMZ). Within the zone, the water inflow and outflow are continuously monitored with alarm indicators whenever possible losses are identified. Consumers' accounts and pipelines are further segregated into DMZ for further precision in terms of leak detection and pressure management. For areas where the frequency of pipe bursts is high, a PMZ is established. This compartmentalisation is important to enable focused pressure management, monitoring, active leak detection and repair, and to extend the life of pipelines, which will ultimately contribute towards reducing NRW.



Active Leak Detection Programme

Air Selangor has a total of 54 Leak Specialists and 133 Leak Inspectors. The team is equipped with specialised sounding equipment and noise loggers to detect leaks within the reticulation network.

NRW ACHIEVEMENT

Air Selangor has successfully achieved the target set by SPAN for NRW for three years in a row. The NRW achievement as of September 2022 is at 28.08% with savings of 137.0 MLD of which 99.8 MLD is attributed to the **Physical Loss Reduction Programme.**

 $(\mathbf{1})$

The savings are equivalent to **2.34 tCO**₂ of emissions avoided daily

Pipe Replacement (Hotspot)

47.63km pipe laid from January to September 2022.

Active Leak Detection

Detection at 184,730 points with **76,046** leaks found (early prevention of pipe burst). Communication Pipe Replacement



Finalisation of **19** packages with estimated 1.380 new connections.

Pipe Burst Case



Total of **1,207** pipe burst cases were recorded from January to September 2022, a **19%** reduction from the same period in the previous year.

Pipe Replacement (hotspots) and Communication Pipe Replacement

In Air Selangor, treated water is distributed through pipelines of more than 30,000km, but due to ageing, environmental factors and changing internal water pressures, pipes are bound to deteriorate over time. Therefore, pipe replacement projects are carried out focusing on ageing pipes and pipes that are beyond economic repair.

Air Selangor remains committed to further reducing its NRW rate to 25% by 2025, 20% by 2037, and 15% by 2049, to ensure efficient distribution of treated water to consumers.



Please refer to our Sustainability Report to learn more about Air elanaor's NRW proaram

CASE STUDIES

Leveraging Digitalisation In Ensuring The High Quality Of Treated Water

Project Category: Sustainable Water Management



Efforts to ensure constant improvements in water quality as part of Air Selangor's target under the Trust the Tap initiative by 2028 have led Air Selangor to initiate several projects since the start of its 30-year business plan.

One of the initiatives is the installation of an automatic secondary chlorination system within Air Selangor's distribution network, known as the Off-Plant Autonomous Chlorine Injection System (OACIS). OACIS is used to boost chlorine levels within the distribution pipeline, whenever necessary, to its required level as set by the Ministry of Health (MOH) Drinking Water Quality Standards (DWQS). A certain level of chlorine in treated water is important to eliminate pathogenic microorganisms and bacteria.

As of September 2022, there were a total of 31 OACIS units installed, with plans to install more OACIS units in the future. Prior to the installation of OACIS in 2017, Air Selangor recorded a total of 230 Free Residual Chlorine (FRC) violations. Upon installation of OACIS, the number of violations gradually reduced to 12 violations recorded for the year 2021. From January to September 2022, Air Selangor recorded only 4 FRC violations. The installation of additional OACIS units will help further reduce FRC violations.







gradually reduced from 230 to 4

100

Head Office

Pengurusan Air Selangor Sdn Bhd Jalan Pantai Baharu, 59200 Kuala Lumpur Tel: 03 2088 5400

www.airselangor.com