

## How can we enhance the sustainable management of water in South Australia?

### Challenge summary

Water is vital for all aspects of life on Earth. It is a critical resource underpinning Australia's economy, society, and the environment. The Water Licensing Branch of the Department for Environment and Water (DEW) is responsible for monitoring water use to manage the state's water resources. Through this Challenge, DEW is seeking to work with an innovative startup(s) to design and develop a combination of hardware and easily integrated software that can be retrofitted to the existing water meter network to enable the remote reporting and monitoring of water usage in real-time to drive innovative data analytic capabilities.

### Overview of the Challenge

Sustainable water management requires technological innovation driving increased efficiency and productivity and enhanced environmental outcomes. A critical element in the sustainable management of the state's water resources is the issuing of licences and water allocations, measuring water use through metering requirements, the management of water in high-demand areas, and providing water for the environment.

The DEW Water Licensing Branch receives meter readings for approximately 12,000 meters that are predominantly submitted through an online meter reading application, either by the licence holder or a DEW officer. South Australia has a comprehensive licensed water meter network that is used to monitor water use against volumetric limits (water allocations). A simple usage advice statement is returned to licence holders via email or SMS. The statement includes a water account balance, so that licence holders can monitor usage against their water allocations and purchase any additional water allocations that they need through the water trade market. Currently, this information is static and provided through disaggregated systems.

### Solution Requirements

DEW is seeking an innovative and cost-effective solution that enhances current practices and adds value to the state's water management strategy. This solution is intended to provide an order of magnitude increase in the information available to government, licence holders, researchers and decision-makers to drive the efficient and effective use of the state's water resources. It is envisaged the collection of real-time data will open the door to further innovations and capabilities on the sustainable management for our water usage.

DEW is seeking scaleable, technology-driven solutions, including:

1. The design of electronic output device (EOD) units that can be deployed to an existing meter fleet consisting of a diverse range of meter types, manufacturers and models, to allow for transmission of real-time data to the State Water Register (owned by DEW).
2. The development of a software application suitable for desktop and mobile devices that can receive usage data for each water licence holder from the State Water Register and provide analytical information back to the licence holder that assists with their management requirements. For example, warnings when the use is approaching allocation limits, when usage has exceeded allocation limits and when a water allocation is projected to be under utilised. Such warnings could also be supported with information such as:
  - current water trade prices
  - penalty charge implications
  - comparison to previous years usage
  - crop application rates
  - allocation announcements
  - water market announcements, etc.

Each meter within the network must conform to the South Australian Licensed Water Use Meter Specification, where one of the requirements of this specification is that a meter shall be capable of being fitted with an EOD, to allow for transmission of information to distant points. This may be by way of an EOD included on/in the meter or by the availability of an optional and fully compatible EOD device that can easily be retrofitted to each meter at a future date.

The South Australian licensed water use meter fleet is privately owned, whereby each licence holder is responsible for the purchase and maintenance of their own meter(s). This has resulted in a diverse fleet of meter types, manufacturers and models, where its estimated there are 27 different models in operation across the network.

### Commercial benefits of the solution

When water users take water in excess of their water allocation, it has the potential to put the state's water resources at risk and impact those who depend on these resources.

To deter this behaviour, significant penalties apply when licence holders exceed their water allocations. These penalty rates are set at a value to ensure that penalty charges are significantly greater than the value of purchasing water allocations through the water trade market. 205 penalty charges were issued in 2018-19, and a further 154 in 2019-20, to licence holders across South Australia who exceeded their licence allocation.

In addition to penalties for taking water in excess of a water allocation, licence holders can be issued an expiation for not supplying meter readings to DEW, as required by a condition of their water licence. 86 expiations were issued in 2018-19 and a further 54 in 2019-20, to licence holders across South Australia for failure to provide meter readings. These expiations are currently set at \$1,090 per offence.

Also, unused water allocations can be traded through third party trading platforms. Water trading plays an important role in the redistribution of finite water resources. This Challenge has the potential to enable licence holders to maximise their water allocations and derive additional revenue sources.

Accordingly, water use businesses can incur significant costs or lost income opportunities from water trade if they are not effectively monitoring water use and water trade markets.

#### Further information

A Q&A session will be held where further information can be obtained directly from the DEW Challenge Owner and the Go2Gov Program Manager. To register your interest for this session and if you have any further questions regarding this Challenge, please contact the Program Manager at [DIS.SmartProcure@sa.gov.au](mailto:DIS.SmartProcure@sa.gov.au).

#### How to apply

For information on the eligibility criteria and how to apply, visit [www.fixe.org.au](http://www.fixe.org.au)