

The Otway Project

— monitoring the stored CO₂

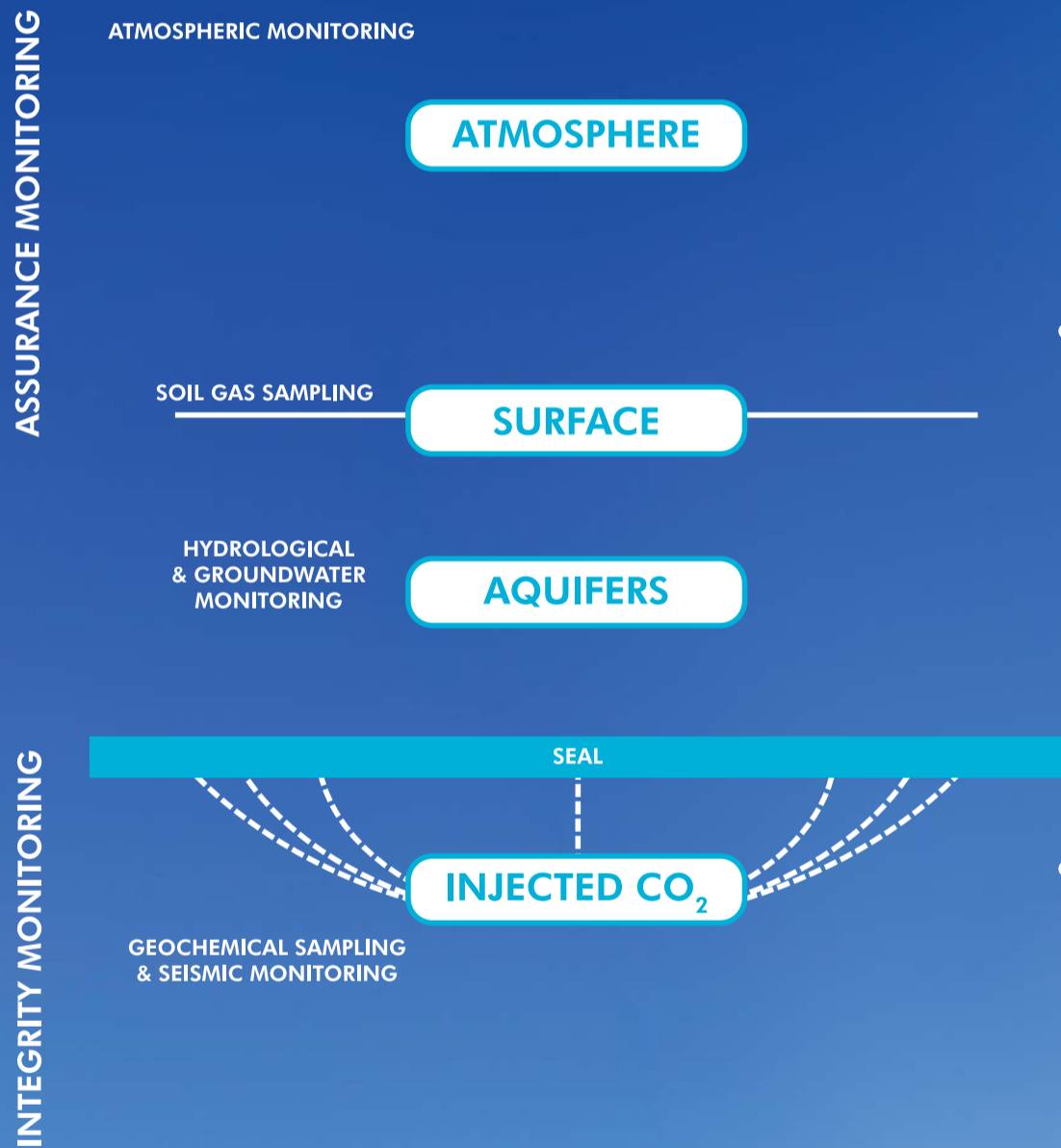
The CO2CRC has put in place a series of monitoring and verification (M&V) procedures for the Otway Project to:

- address the effectiveness and safety of the site for CO₂ storage (**Assurance Monitoring**)
- understand the behaviour of the injected CO₂ with the Waarre C depleted gas field (**Integrity Monitoring**)



The M&V procedures will:

- develop existing and new M&V technologies that can be deployed for future CCS projects in Australia and worldwide;
- help Australian regulators and government officials develop appropriate regulatory frameworks for CO₂ storage; and
- inform and re-assure the local community that CO₂ storage is a safe technology to reduce CO₂ emissions.



Atmospheric domain

Detect unlikely leakages to the atmosphere



Near-surface and surface domains

Ensure that there is no effect on groundwater, soils, plant and animal life. Methods used include hydrological monitoring of water levels, analysing groundwater chemistry from shallow aquifers and sampling soil gas.



Subsurface domain

Monitor and verify deep migration and behaviour of the stored CO₂. Monitoring includes downhole geochemical and geophysical measurements at Naylor-1.



Atmospheric	Geophysical
Lo Flo	VSP (Naylor-1 & CRC-1)
Flux tower	3D surface seismic
Flask sampling	Microseismic
Headspace gas sampling	High Resolution Travel-Time
CO ₂ sniffers	Logging (Naylor-1 & CRC-1)
Geochemical	Pressure/Temperature (CRC-1 & Naylor-1)
Surface soil gas	
Hydrodynamic sampling	
Groundwater chemistry	
Downhole fluid sampling	

Assurance M&V
Integrity M&V

Monitoring-based regulation for CO₂ injection & storage

The CO₂ storage conditions were approved by the Victorian Environment Protection Authority (EPA) under a provision for Research Development and Demonstration (RD&D).

The monitoring and verification M&V plan also defines trigger points and contingency actions, should the storage site not function as anticipated.

The Otway Project has gained insights into the important specific approval and regulatory issues associated with CO₂ storage.