Soil Bank

Presented by
Monica Bosco

DELIVERING LASTING IMPACT THROUGH PROPERTY AND PROJECTS

Renewal SA

Government of South Australia

Agenda

1. Renewal SA | priorities and portfolio
2. Soil Bank overview and history
3. Purpose and key outcomes
4. Soil reuse | Policy and framework
5. EPA standard | Waste derived fill
6. Process
7. Fees
8. Case study | Torrens to Darlington
9. Key advice
10. Future direction

Our priorities

Housing delivery increasing and accelerating housing supply in our cities and the regions.

Innovation districts that are propelling the jobs and industries of the future.

Strategic land release for industrial development to grow key sectors in our economy.

Partnerships and engagement to get the best results.

Portfolio at a glance

300+ BUSINESSES

- Across 3 innovation districts

MORE THAN $1B OF HELD ASSETS

22,000+ HOMES

more than 20 residential and mixed-use precincts, including:

- **10 partnerships**
- **35 homes** as part of the Regional Key Worker Housing Scheme

28% OF THE STATE'S INDUSTRIAL LAND SUPPLY

12M+ VISITORS PER YEAR

- **Across 3 civic projects**: Festival Plaza, Adelaide Railway Station and Adelaide Riverbank

- TOTAL REVENUE
- TOTAL LANDHOLDINGS

$200+ MILLION*

3,000+ HECTARES

Approximately 50% future residential and mixed-use and 50% future industrial/employment projects

**Per annum, based on the 2025-26 FY forecast budget*

Soil Bank | Overview and history

- Established to store and transfer excess soil between development sites
- Trial endorsed by EPA, followed by formal approval as a soil recycling facility
- Operating since 2017 under a 10-year Development Approval and EPA licence
- Licence renewal due September 2027, with opportunity to evolve and innovate.

Purpose and key outcomes

Primary objective: cost savings through reuse of soil

- Reduce purchase of fill material
- Reduce disposal costs

Resource efficiency

- Minimise reliance on virgin quarry materials
- Match soil quality to project need (avoid over-specification)

Waste reduction

- Divert reusable soil from landfill
- Support circular use of materials across projects

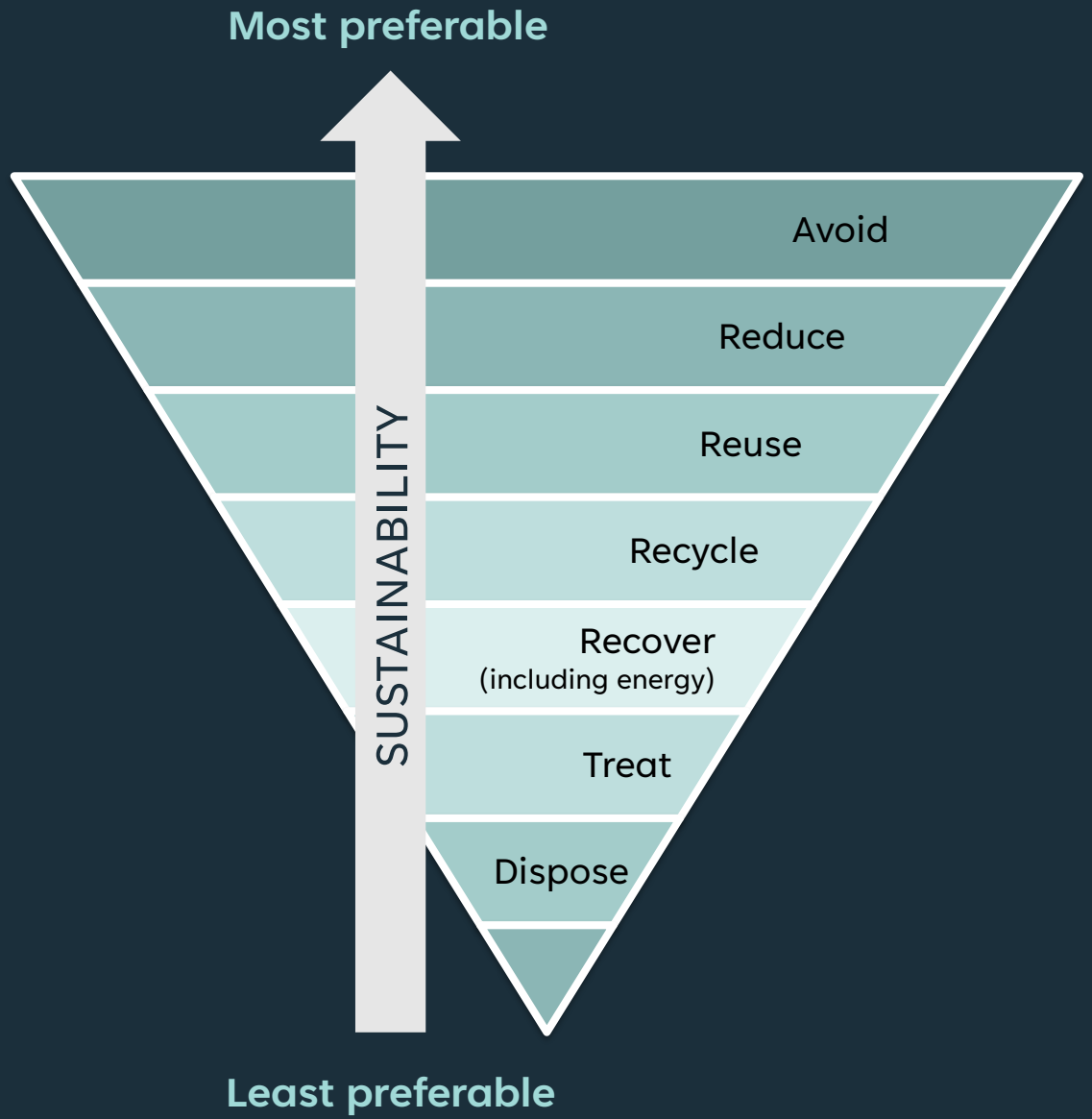
Additional outcome

- Site has increased by ~500,000 tonnes of material since inception.

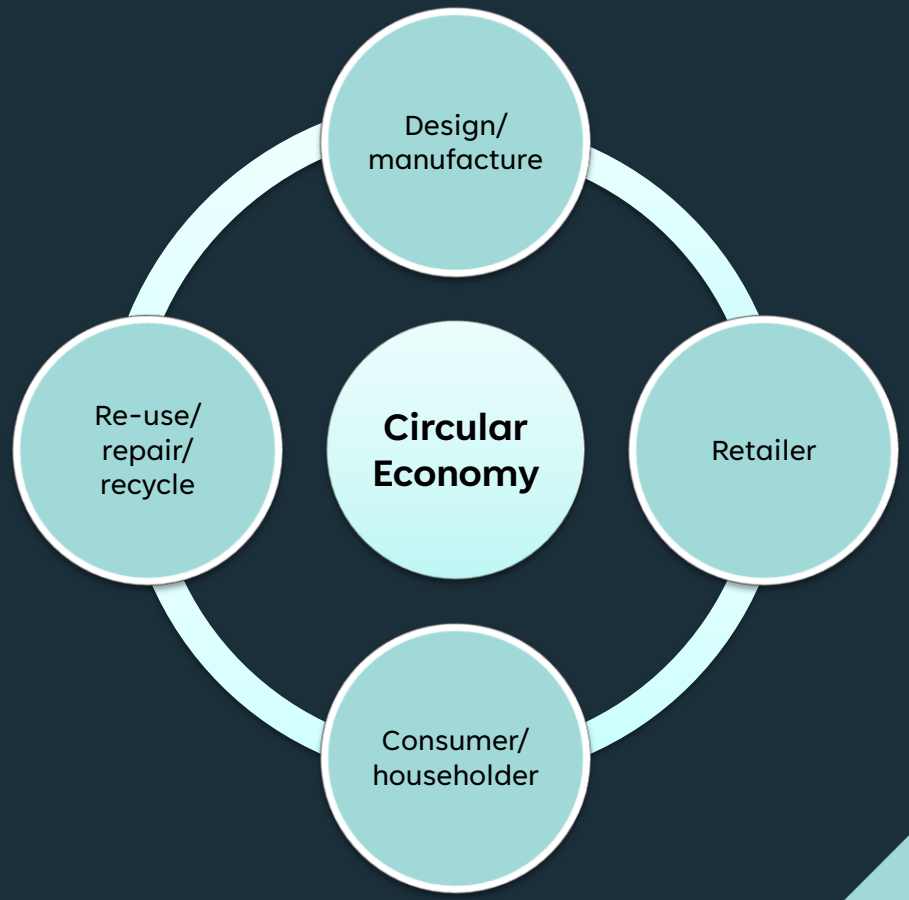
Soil reuse | Policy and framework

- Regulated by the Environment Protection Authority (EPA) under the Environment Protection Act 1993
- Supports key principles:
  - Ecologically sustainable development
  - Waste hierarchy
  - Circular economy outcomes
  - Protection of the environment and minimisation of harm
- Aligned with the South Australian Waste Strategy, promoting:
  - increased resource recovery
  - reduced landfill.

Waste Hierarchy



Circular economy



EPA standard | Waste derived fill

- Soil ceases to be ‘waste’ when it meets EPA standards for reuse
- Classification based on contamination levels
  - Waste fill (cleanest)
  - Intermediate waste soil
  - Low-level contaminated
  - Protection of the environment and minimisation of harm
- Soil Bank can only accept Waste Fill and Intermediate Waste Soil as these present the best opportunity for immediate reuse.

Process

1. Waste soil is classified
2. Soil Disposal Agreement
3. Waste soil received and tracked on site
4. Stockpiled
5. Offered for reuse

1. Waste soil is classified

- Soil must be classified in accordance with the EPA Standard by a suitably qualified consultant
- Must meet the Standard to be considered a reusable product
- Review by Renewal SA:
  - Sampling regime and methodology
  - Classification outcomes
  - Potential constraints to reuse (e.g. contaminants, inclusions, asbestos risk)
- Note: Geotechnical properties are not assessed.

2. Soil Disposal Agreement

- Agreement entered once material meets reuse criteria (EPA compliant, chemically suitable, free from unwanted inclusions)
- Sets out conditions of acceptance and roles and responsibilities
- Key responsibilities:
  - Supplier transports soil to Soil Bank
  - Renewal SA inspects and verifies material against “Approved Soil” criteria
  - Importation can be halted if material does not meet requirements
  - Supplier may be required to re-test or remove non-compliant soil.

3. Waste soil received and tracked on site

- Waste Fill: low risk and does not require EPA tracking
- Intermediate Waste Soil: must be tracked under EPA requirements
  - Obligations apply to supplier, transporter and receiving facility
  - Transporters must hold an EPA licence
- Soil Bank tracking (all material):
  - All incoming soil recorded to support reuse
  - Separate areas for Waste Fill and Intermediate soil
  - Weighed via weighbridge and logged in a central database
  - Tracks volumes, location, and dates
- Future focus: enhancing tracking through drones and survey data.

4. Stockpiled

- Material must remain identifiable from receipt through storage to support safe reuse under the EPA Standard
- Soil may be stored on site for extended periods (including multiple years)
- Management approach:
  - Civil contractors manage and place soil into approved stockpiles
  - No treatment of soil occurs on site
  - Non-compliant material is refused at entry
- Compliance:
  - All stockpiles managed in accordance with EPA guidelines.

5. Offered for reuse

- Soil may be stored from a few months to several years, depending on demand
- Supplied to Renewal SA projects and external government projects (state, local and federal)
- Responsibility:
  - Receiving party responsible for confirming suitability for their site.

Fees

Delivery type	Day of delivery	Time of delivery	Cost ($ p/t ex GST)
Waste fill	Monday to Friday	7:30 am to 4:00 pm	$8 per tonne
Intermediate			$25 p/t
Low level			$224 p/t
Waste fill, intermediate or low level	Saturday		$1,200 daily fee + p/t rate
Waste fill, intermediate or low level	Sunday		$1,600 daily fee + p/t rate

- Standardised disposal fees apply for incoming soil
- Pricing reflects cost of managing material (approx. $4 per tonne for stockpiling)
- Market context:
  - Private operators may offer flexible pricing based on volume, timing and relationships
  - Renewal SA operates with consistency and competitive neutrality
- Internal use:
  - Supply fees for Renewal SA projects are negotiated internally.

Source: Torrens to Darlington,
Department for Infrastructure and Transport

Case study

Torrens to Darlington (T2D)

- $15.4B project delivering a 10.5 km non-stop motorway
- Final link in the 78 km North–South Corridor (Gawler to Old Noarlunga)
- Servicing ~120,000 vehicles per day
- Includes twin tunnels, generating significant volumes of excavated soil.

Source: Torrens to Darlington,
Department for Infrastructure and Transport

Case study

Torrens to Darlington (T2D)

Soil Bank contribution

- Secured surplus fill from surface works and tunnel boring operations
- Enabled reuse of material to unlock strategic industrial land north of Adelaide
- Provided an approved receival pathway where none previously existed.

Outcomes (last 12 months)

- ~200,000 tonnes received, stockpiled and transferred for reuse
- Reduced reliance on quarried (virgin) materials
- Lowered disposal and material costs
- Supported project delivery on time and within budget.

Key advice

Define the objective

- Site filling and/or storage for future reuse

Prioritise data management

- Track soil, reports and locations accurately
- Ensure reporting aligns with physical stockpiles

Strengthen tracking systems

- Use digital tools (e.g. GIS, drones) to map and monitor stockpiles

Shift mindset

- Treat soil as a resource, not a waste.

Future direction

Long-term strategy

- Build on learnings to improve efficiency and maximise reuse outcomes

Increase flexibility

- Respond quickly to soil opportunities
- Explore more flexible pricing approaches

Soil brokering

- Facilitate direct transfer between project sites where storage isn’t required

Dual-purpose site

- Co-locate Soil Bank on sites requiring fill
- Assess early onsite use vs reuse elsewhere

Future direction

Improve quality control

— Strengthen upfront assessment to prioritise soil suitable for immediate reuse

Enhance tracking

— Implement digital solutions for stockpile mapping and monitoring.

Thank you

Monica Bosco
Monica.Bosco@sa.gov.au

renewalsa.sa.gov.au

Renewal SA

Government of South Australia