



PRODUCT INFORMATION & SITE ASSESSMENT GUIDE

Floating Cover Systems for Open Water Storage

HDPE Shade Balls • Hexagonal Automatic Water-Filled Floating Covers

99%

SURFACE COVERAGE

95%

EVAPORATION REDUCTION

>45 m/s

WIND RESISTANCE

\$0

OPERATING COSTS

Floating Cover Systems for Open Water Storage

EXECUTIVE OVERVIEW

Reftex supplies engineered floating cover systems that dramatically reduce evaporation, inhibit algal growth, and protect water quality across open water storages. Our range includes the proven UV-stabilised HDPE shade ball and the advanced hexagonal automatic water-filled floating cover — an interlocking, self-ballasting system delivering up to 99% surface coverage with exceptional wind resistance.

Both systems install without specialised equipment or infrastructure and operate unsupervised for their full service life, making them ideally suited to poultry farm dams, municipal reservoirs, and industrial treatment facilities.

Every product is backed by a 5-year warranty with an 8-year expected service life, with zero operating costs, no maintenance and no supervision required for the life of the system.

Why Cover Your Water Storage?

- **Reduces evaporation** — conserving large volumes of water that would otherwise be lost
- **Inhibits algae proliferation** — without chemical intervention
- Limits bromate formation and assists with odour management
- Confines vapours and regulates heat loss
- **Deters birds, animals and debris** — proven in mining tailing ponds and applicable to agricultural and municipal storages

THE HARD FACTS

- ✓ **Surface coverage** — 91% (shade balls); up to 99% (hexagonal cover)
- ✓ **Evaporation reduction** — 85–91% (shade balls); up to 95% (hexagonal cover)
- ✓ **Wind resistance** — > 45 m/s, self-ballasting (hexagonal cover)
- ✓ **Odour & emission reduction** — up to 96% (hexagonal cover)
- ✓ **Warranty & service life** — 5-year warranty; 8-year expected service life
- ✓ **Operating cost** — \$0; no maintenance, no supervision
- ✓ **Typical exposed loss** — 15–25 ML per hectare per year in inland zones
- ✓ **Deployment** — no specialised equipment or infrastructure required

THE TRUE COST OF AN UNCOVERED STORAGE

Across Australian agriculture, mining, municipal and industrial operations, open water storage is essential infrastructure — and one of the most overlooked sources of loss on site. In high-evaporation inland zones, a single hectare of exposed water can surrender 15 to 25 megalitres a year to evaporation alone: water already paid for, pumped, licensed and treated, lost without ever being used. The loss compounds — more pumping, higher electricity bills, pressure against licensed extraction limits, and rising exposure to algae, odour and water-quality problems.

It is not unavoidable. It is fixable — passively, permanently, and with zero operating cost.

POULTRY & LIVESTOCK

- ✓ Secures animal-welfare drinking and shed-cooling water
- ✓ Strengthens biosecurity through cleaner, algae-suppressed water
- ✓ More headroom under Water Sharing Plan extraction limits
- ✓ Less reliance on emergency water carting in dry spells

MIXED & BROADACRE FARMING

- ✓ Cuts evaporative loss and make-up pumping on stock storages
- ✓ Keeps annual take comfortably inside licensed volumes
- ✓ Reduces pump wear and electricity demand
- ✓ Scales economically from farm dams to large ring tanks

MINING & RESOURCES

- ✓ Deters birds and wildlife from tailing and process-water ponds
- ✓ Suppresses algae, surface dust and odour
- ✓ Conserves licensed water and supports compliance
- ✓ Backs environmental reporting with auditable savings

MUNICIPAL & INDUSTRIAL

- ✓ Reduces evaporation of treated and process water
- ✓ Limits bromate formation and assists odour management
- ✓ Inhibits algal growth without chemical dosing
- ✓ Protects reservoir and process-water quality

PRODUCT 1 — HDPE SHADE BALLS

UV-stabilised black hollow float balls providing 91% surface area coverage on open water storages. Manufactured from chemical-resistant high-density polyethylene (HDPE), the balls are designed to withstand prolonged exposure to sun, rain, ice, snow, and wind — backed by a 5-year warranty with an expected service life of 8 years.

Originally developed as bird balls to prevent avian access to mining tailing ponds, they are now widely used in agricultural water storages including poultry farm dams.

Technical Specifications — Shade Balls	
Material	UV-stabilised high-density polyethylene (HDPE)
Diameter	100 mm (4 inch)
Type	Hollow
Weight	40 g per ball
Colour	Black
Surface coverage	91% at standard density (116 balls per m²)
Warranty	5 years
Expected service life	8 years under typical outdoor conditions

PRODUCT 2 — HEXAGONAL FLOATING COVER

The next generation of floating cover. Each hexagonal unit features an innovative double-shell internal float valve that automatically injects water on deployment, increasing unit weight from 170 g to 890 g. This self-ballasting design anchors the cover to the water surface and delivers outstanding wind resistance of more than 45 m/s — well beyond cyclonic wind speeds.

The hexagonal geometry tessellates across the water surface without the gaps inherent to spherical designs, achieving a 98%–99% surface coverage rate, backed by a 5-year warranty with an 8-year expected service life.

Technical Specifications — Hexagonal Cover	
Surface coverage rate	98% (up to 99% surface area coverage)
Wind resistance	> 45 m/s
Usage per square metre	28 pieces
Specification diameter	228 mm (8.98 inch)
Weight	170 g dry; 890 g water-filled (automatic)
Ballast system	Double-shell internal float valve with automatic water injection
Shipping density	30,000 pieces per 40' HQ container (approx. 1,171.4 m²)
Warranty	5 years
Expected service life	8 years

AT A GLANCE — CHOOSING THE RIGHT COVER

Feature	HDPE Shade Balls	Hexagonal Floating Cover
Surface coverage	91%	98% (up to 99%)
Wind resistance	Withstands typical wind exposure	> 45 m/s (self-ballasting)
Units per m²	116 balls	28 pieces
Unit weight	40 g	170 g dry / 890 g filled
Service life / warranty	8 years / 5-yr warranty	8 years / 5-yr warranty
Anti-overlap design	—	Interlocking hexagonal geometry

IN DEPTH — SHADE BALLS & HEXAGONAL COVERS

HDPE SHADE BALLS

Tracing their origins to "bird balls" developed to keep avian wildlife off mining tailing ponds, shade balls are made from chemical-resistant, UV-stabilised HDPE. Each hollow 100 mm ball weighs just 40 g yet endures years of sun, rain, ice, snow and wind. At end of life, HDPE is a widely recycled polymer, allowing spent balls to be recovered and reprocessed rather than sent to landfill.

Deployment in Three Steps

- **1. Measure & order** — allow 116 balls per m²
- **2. Pour onto the water** — no machinery, no infrastructure, no shutdown
- **3. Let them work** — the balls self-arrange into a monolayer and reposition as levels change

HEXAGONAL FLOATING COVERS

Each 228 mm hexagonal unit carries a double-shell internal float valve that automatically injects ballast water on deployment, lifting unit weight from 170 g to 890 g and anchoring the cover through winds beyond 45 m/s. The units tessellate edge-to-edge with no overlap, sealing up to 99% of the surface. Like the shade balls, the covers are HDPE-based and recoverable for recycling at end of life.

Deployment in Three Steps

- **1. Measure & order** — allow 28 pieces per m²
- **2. Place onto the water** — each unit automatically fills its internal ballast (170 g → 890 g)
- **3. Let them interlock** — the hexagons tessellate into a sealed, wind-stable layer

FIG. 1 — HDPE SHADE BALL

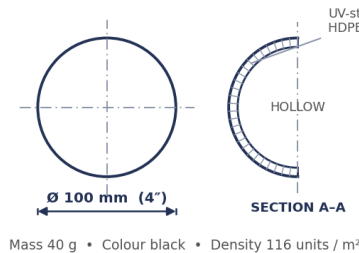
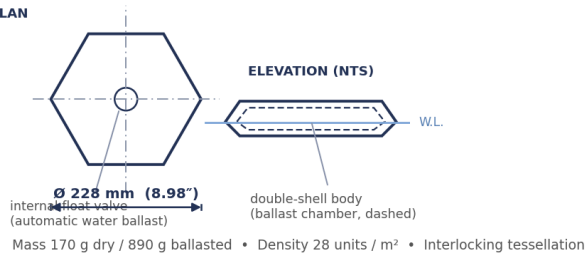


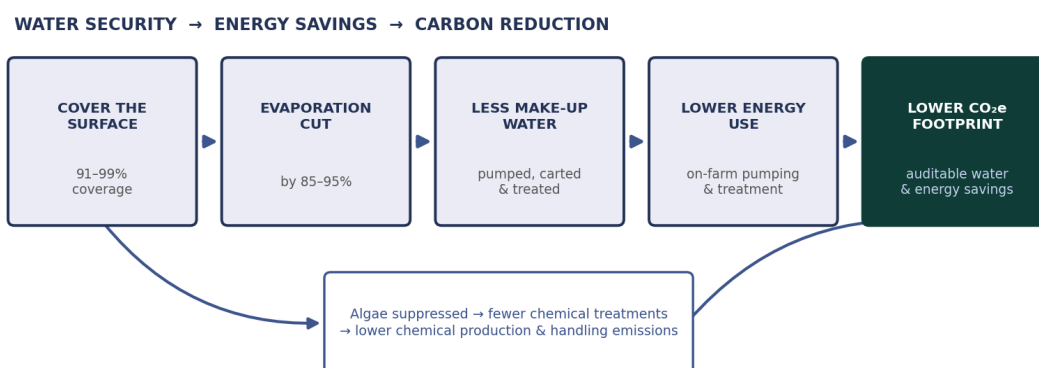
FIG. 2 — HEXAGONAL FLOATING COVER



All dimensions in millimetres unless noted • Drawings not to scale

Technical reference: principal dimensions and construction of both cover types

THE CARBON REDUCTION PATHWAY

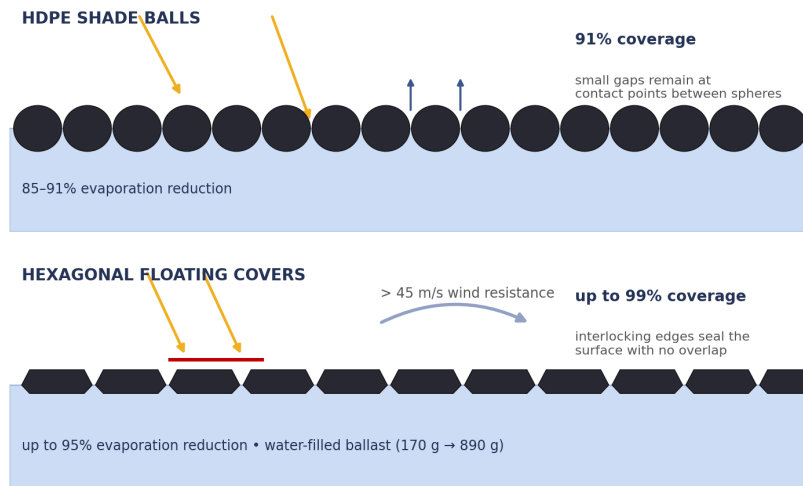


From surface coverage to a lower carbon footprint — the operational chain behind the savings

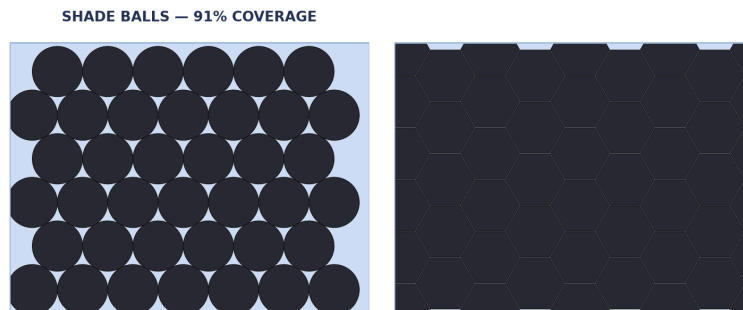
For full-scale livestock production operations, every megalitre of evaporation avoided is water that never has to be pumped, carted or treated again — and reduced algal growth means fewer chemical treatments to produce, transport and apply. These measurable water and energy savings strengthen environmental reporting and sustainability positions. While floating covers do not directly generate tradeable carbon credits under standard Australian or international offset schemes, they support indirect carbon management by cutting energy use across water supply and treatment systems.

HOW IT WORKS — SHADE BALLS VS HEXAGONAL COVERS

Both systems form a floating barrier that blocks solar radiation before it reaches the water, suppressing evaporation and algal growth. Spheres always leave small gaps at their contact points; the hexagonal covers interlock edge-to-edge to seal the surface almost completely, with automatic water-filled ballast holding them stable in extreme wind.

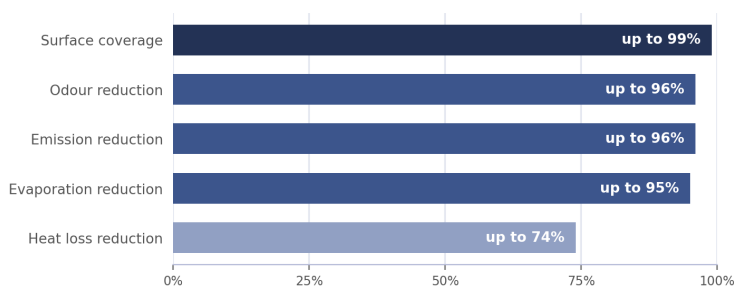


Cross-section: how each cover type protects the water surface



Plan view: spheres leave open water between contact points; hexagons tessellate to near-total coverage

MEASURED BENEFITS



Hexagonal floating cover — measured performance

HEXAGONAL FLOATING COVER

- **Up to 99% coverage** — highest of any cover format
- **> 45 m/s wind resistance** — self-ballasting
- **Up to 95% evaporation reduction**; 96% emission & odour reduction; 74% lower heat flux

HDPE SHADE BALLS

- **91% coverage** at 116 balls per m²
- **85-91% evaporation reduction** at full monolayer
- **Proven bird & wildlife deterrent**; inhibits algae without chemicals

Both products: zero operating costs, no maintenance, no supervision required.

INDUSTRIAL & AGRICULTURAL APPLICATIONS

Reftek floating covers are engineered for versatility and durability across a wide range of demanding environments. They are suitable for evaporation control, algae prevention, and surface protection in:

- Poultry farm dams and agricultural water reservoirs
- Salt-elimination tanks and water coagulation basins
- Municipal water treatment and storage facilities
- Oil and gas sector tanks and containment ponds
- Mining tailing ponds and leachate lagoons
- Environmental protection and industrial open-water applications



Shade balls deployed on a water treatment clarifier

Key Differentiators

- No specialised installation equipment required
- Fully unsupervised operation for the product's full service life
- Proven in extreme climates — sun, rain, ice, snow, and wind
- Scalable from small farm dams to large industrial reservoirs

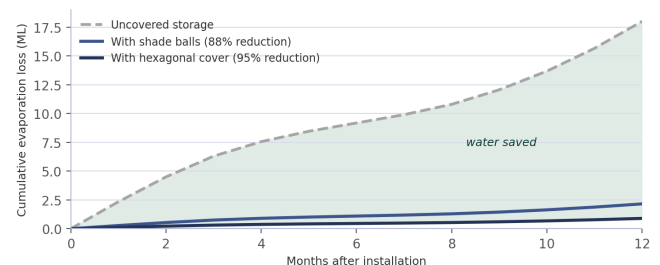
ENVIRONMENTAL BENEFITS & CARBON FOOTPRINT

By significantly reducing evaporation — typically 85–91% at full monolayer shade ball coverage, and up to 95% with the hexagonal cover — floating covers conserve large volumes of water that would otherwise need to be replaced. For poultry farms and other water-intensive operations, this lowers the energy demand associated with pumping, transporting, or treating replacement water, directly contributing to a reduced overall carbon footprint.

Reduced algal growth also decreases the need for chemical treatments, limiting emissions linked to chemical production, handling, and application. Over each product's service life, these operational savings can offset the carbon emissions associated with HDPE manufacturing.

Documented water conservation from floating covers has supported broader environmental reporting and sustainability goals for water-intensive operations, and supports indirect carbon management by reducing energy use in water supply and treatment systems.

ILLUSTRATIVE ANNUAL WATER SAVINGS



Illustrative example: 1 hectare open storage with 18 ML/year evaporative loss. Actual savings vary with climate, storage geometry and coverage achieved.

PROVEN TECHNOLOGY. LOCAL EXPERTISE.

Floating cover technology is proven worldwide — from mining tailing ponds to municipal reservoirs. What matters on your site is a supplier who understands Australian conditions and how a working operation actually runs. That is where Reftek is different.

PROVEN, HIGH-PERFORMANCE SYSTEMS

Engineered UV-stabilised HDPE shade balls and self-ballasting hexagonal covers built to specifications trusted internationally for evaporation control, bird deterrence and water-quality protection — rated for years of Australian sun, wind and temperature extremes, and backed by a 5-year warranty with an 8-year expected service life.

REAL LOCAL KNOWLEDGE

Reftek is based in Tamworth NSW, operating across the Hunter, New England and North West regions — backed by more than fifty years of practical involvement in the region's industrial and agricultural sectors, across both electrical contracting and on-farm infrastructure.

RELIABLE SUPPLY & HANDS-ON SUPPORT

Reftek handles shipping of the systems and provides practical, straightforward guidance for on-site deployment — so you deal with a local specialist who stands behind the product, not an anonymous importer.

What Sets Reftek Apart

Getting it right for your site	Free, modelled site assessment using your storage, evaporation, pumping profile and tariffs — before any commitment.
Choice of system	Two complementary technologies matched to surface size, wind exposure and coverage priority — not one product.
Getting it delivered	Reftek handles shipping of the systems to your operation.
Getting it deployed	Straightforward deployment guidance and support — no specialised equipment or infrastructure.
Long-term confidence	5-year warranty, 8-year expected service life, zero operating cost, no maintenance.
Local accountability	A Tamworth-based specialist who understands working farms and regional operations.

The professional choice for covered water storage — assessed, supplied and supported from Tamworth.

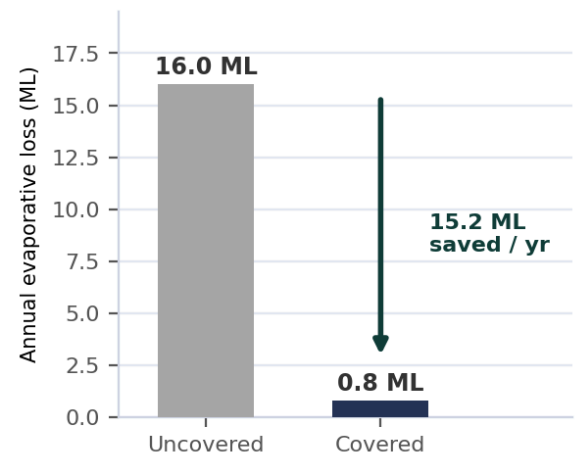
WORKED EXAMPLES — THE NUMBERS IN PRACTICE

The two scenarios below are modelled worked examples, generated with the same methodology used in our free site assessments — realistic Australian storage sizes, climate data and tariffs, presented so you can see the shape of the result before requesting your own. They are illustrative models, not customer trials; your site-specific figures will reflect your storage, climate and pumping profile.

EXAMPLE A — CONTRACT POULTRY GROWER, INLAND NORTHERN NSW

A 0.8 ha (8,000 m²) shed-supply dam in a 2,000 mm/yr net evaporation zone loses **16.0 ML each year** — water that must be pumped back at 450 kWh/ML on a \$0.35/kWh agricultural tariff, plus \$80/ML in access and usage charges. Fitted with the **hexagonal floating cover (95% reduction)**, annual loss falls to 0.8 ML.

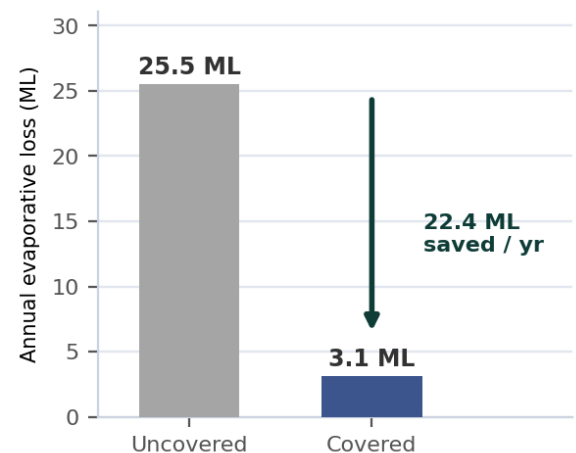
15.2 ML WATER SAVED / YR	\$3,610 SAVINGS / YR	\$28,880 OVER 8-YR SERVICE LIFE
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EXAMPLE B — MIXED FARMING RING TANK, NORTH-WEST SLOPES

A 1.5 ha (15,000 m²) ring tank supplying stock water and shed cleaning in a 1,700 mm/yr zone loses **25.5 ML each year**. Deployed with **shade balls (88% reduction)** — the economical option for a large surface — annual loss falls to 3.1 ML, cutting pumping energy by more than 10,000 kWh a year on the same tariff assumptions.

22.4 ML WATER SAVED / YR	\$5,329 SAVINGS / YR	\$42,630 OVER 8-YR SERVICE LIFE
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Modelling assumptions (both examples): 450 kWh pumping energy per ML, \$0.35/kWh agricultural tariff, \$80/ML combined water access and usage charges. Figures exclude product and freight costs and will vary with climate, storage geometry and water management practice. Ask for a free assessment to see your own numbers on this basis.

BEYOND THE FARM — MINING & MUNICIPAL

Poultry and mixed farming are where Reftek's worked examples begin — but the same evaporation physics, and the same two systems, apply wherever open water is exposed. On larger industrial and municipal storages the value often extends well beyond water savings to compliance, wildlife deterrence and water-quality protection.

MINING TAILING & PROCESS-WATER PONDS

On a large inland tailings or process-water pond, evaporation applies at far greater scale — a 5 hectare pond in a high-evaporation zone can lose of the order of 100 ML a year. UV-stabilised HDPE shade balls — originally developed as bird balls for exactly this application — retain a large share of that water while delivering:

- ✓ Proven bird and wildlife deterrence
- ✓ Surface dust and odour suppression
- ✓ Algae inhibition without chemical dosing
- ✓ Licensed-water conservation & compliance support

MUNICIPAL RESERVOIRS & INDUSTRIAL STORAGE

On treated-water reservoirs and industrial storages, the self-ballasting hexagonal cover seals up to 99% of the surface — reducing evaporation of already-treated water while protecting quality and easing treatment load. Its double-shell internal float valve and automatic water ballast hold the cover stable in winds beyond 45 m/s. Key benefits:

- ✓ Limits bromate formation, assists odour control
- ✓ Inhibits algal growth without dosing
- ✓ Near-total sealing with cyclonic wind stability
- ✓ Zero operating cost, no supervision

Matching the System to the Site

Application	Recommended system	Key benefits
Mining tailing / process ponds	HDPE shade balls	Bird deterrence, dust & odour, water conservation
Municipal treated-water reservoirs	Hexagonal cover	Evaporation, bromate & odour, algae control
Industrial containment ponds	Either, matched to site	Surface protection, evaporation & emission control

Site-specific volumes for any sector are modelled free on request.

Ask for a no-obligation assessment to see your own numbers on the same basis as our worked examples.

REDUCING OPERATING COSTS & REGULATORY RISK IN RURAL WATER STORAGE

Across much of rural Australia — and particularly inland northern NSW — open water storages are vital for livestock drinking water, shed cooling and general farm operations. High evaporative losses, rising electricity costs for pumping, water access charges and Water Sharing Plan rules create ongoing cost and compliance pressure. Floating covers address all four at once, passively and with zero operating cost.

PUMPING ELECTRICITY & MAKE-UP WATER

Holding a dam at working level means continually pumping replacement water — consuming electricity, often on agricultural tariffs, and adding wear to pumps. Because floating covers cut evaporation by 85–95%, the make-up volume falls proportionally, directly lowering kWh consumption and electricity bills.

WATER ACCESS FEES & LICENSING

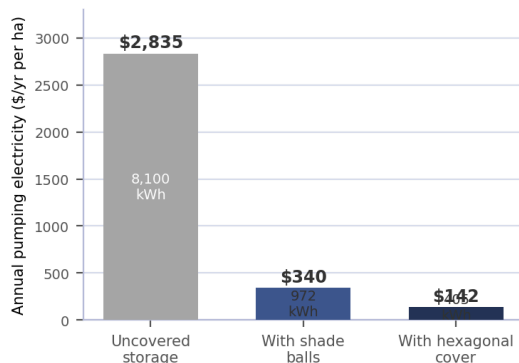
Many operations incur charges linked to water access, entitlement or usage, and in Water Sharing Plan areas extraction is capped. Reduced make-up water keeps annual take comfortably inside licensed volumes.

CEASE-TO-PUMP RULES & ANIMAL WELFARE WATER

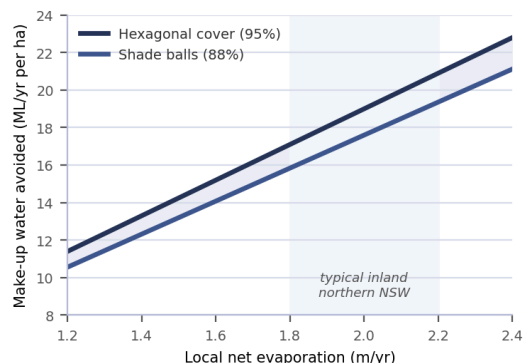
Under NSW Water Sharing Plans, many river systems carry "cease to pump" restrictions during low flows, with a commonly provided exception for water needed for animal health and hygiene — including cooling poultry sheds. A covered storage loses far less to evaporation, so extraction is needed less often and in smaller volumes, making it easier to operate within restrictions while protecting critical animal welfare supplies.

POULTRY PRODUCTION ECONOMICS

Australian poultry operations, particularly contract growers, work to characteristically tight per-bird margins. In that environment, even modest reductions in pumping electricity and emergency water carting flow through to measurable improvements in farm profitability — delivered passively, while algae suppression supports consistent water quality for bird performance and biosecurity.



Illustrative annual pumping electricity per hectare of storage. Assumptions: 18 ML/yr evaporative loss, 450 kWh per ML pumped, \$0.35/kWh agricultural tariff.



Illustrative make-up water avoided per hectare across local evaporation rates. Actual results vary with climate, storage geometry and coverage achieved.



LOWER ELECTRICITY USE



EASIER CEASE-TO-PUMP COMPLIANCE



PROTECTED ANIMAL WELFARE WATER



IMPROVED OPERATING MARGIN

Safe for Livestock Drinking Water

Reftex shade balls and hexagonal floating covers are manufactured from UV-stabilised HDPE consistent with AS/NZS requirements for plastics used in water storage applications. The material is chemically inert and does not leach carcinogens, heavy metals or other undesirable compounds into stored water under normal outdoor exposure — making these systems suitable for storages supplying drinking water to production livestock, including poultry.

Request a site-specific water savings and cost-reduction assessment.

We will model your storage, local evaporation and pumping profile — no obligation.

Web: www.ReftexAustralia.com

Email: reftekaustralia@proton.me

WHAT YOU GET WITH EVERY REFTEK SYSTEM

Choosing a floating cover should be a low-risk decision. With Reftek, everything that matters is covered from the outset — the assessment before you commit, the product and its warranty, the shipping, and the support to get it deployed. Here is exactly what comes with every system.

BEFORE YOU DECIDE

- ✓ **Free, modelled site assessment**
— your storage, evaporation, pumping profile and tariffs, with no site visit required to start
- ✓ **Side-by-side results**
— modelled water, energy and dollar savings for both shade balls and the hexagonal cover
- ✓ **No obligation at any stage**
— you weigh the decision entirely on your own figures

WITH YOUR SYSTEM

- ✓ **5-year warranty, 8-year service life**
— engineered for Australian conditions
- ✓ **Zero operating cost & maintenance**
— set and forget for the life of the system
- ✓ **UV-stabilised, chemically inert HDPE**
— safe for livestock drinking water, consistent with AS/NZS requirements for plastics in water storage applications
- ✓ **Reftek handles shipping**
— the systems are delivered to your operation
- ✓ **Deployment guidance & support**
— no specialised equipment or infrastructure

No pumps to run. No chemicals to dose. No moving parts to fail.

Just a proven cover doing its job, quietly, for years.

Start with the free site assessment.

We model your site, handle shipping, and support a straightforward deployment — no obligation.

www.ReftekAustralia.com
reftekaustralia@proton.me

SPECIALIST IMPORTERS. PROFESSIONAL SUPPLY.

Reftek Australia is a specialist importer and supplier of electrical products and floating cover systems — sourcing internationally proven lines, qualifying them for Australian conditions, and supplying them with local accountability from our Tamworth NSW base — operating across the Hunter, New England and North West regions.

The company is led by a director whose family background spans more than fifty years in the local agricultural sector. That grounding sets a simple sourcing standard:

How We Supply

- **Specialist import** — electrical products and floating cover systems, sourced to specification
- **Qualified for Australia** — UV, wind and temperature performance for local conditions
- **One accountable supplier** — assessment, shipping and deployment guidance in one place
- **Warranty-backed** — 5-year warranty, 8-year expected service life

“If it isn't practical, durable and proven in the field, we don't supply it.”

THE STANDARD BEHIND EVERY REFTEK PRODUCT

100%
AUSTRALIAN OWNED

Tamworth
BASED & OPERATED

5-yr
WARRANTY BACKED

TWO TRADES. ONE STANDARD.

FOR THE TRADE

PVC conduit and fittings to AS/NZS standards, step drill kits, and data & electricians hand tools — field-proven lines, imported to specification.

FOR THE FARM

Floating cover systems for dams, ring tanks and reservoirs — specified from a free site assessment modelled on your own storage, climate and tariffs.

TWO RANGES. TWO CHANNELS.

Reftek supplies through the channel that serves each customer best: the electrical range over the counter at wholesalers trade customers already deal with, and the water storage range direct — where every order starts with a free site-specific assessment.

ELECTRICAL RANGE — PROUDLY AVAILABLE THROUGH



MM Electrical Merchandising group • TLE Electrical • CETNAJ • and other group businesses

Partner marks reproduced courtesy of their respective owners.

AT THE WHOLESALE COUNTER

Electrical & Data Range

- PVC conduit & fittings to AS/NZS standards
- Step drill kits
- Data & electricians hand tools

Available through MM group branches.

DIRECT FROM REFTEK ONLY

Water Storage Range

- HDPE shade balls
- Hexagonal automatic water-filled floating covers
- Free site-specific water savings assessments

Not stocked at wholesalers — every order is sized from your assessment.

Buying floating covers or shade balls? These are supplied direct by Reftek only. Start with the free assessment — we model your storage, evaporation and pumping profile, then quote the exact quantities your site needs. See page 10.

Trade & Wholesale Enquiries

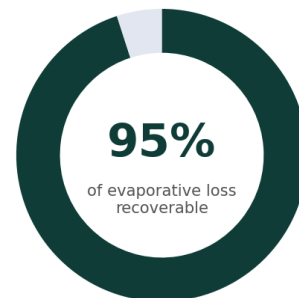
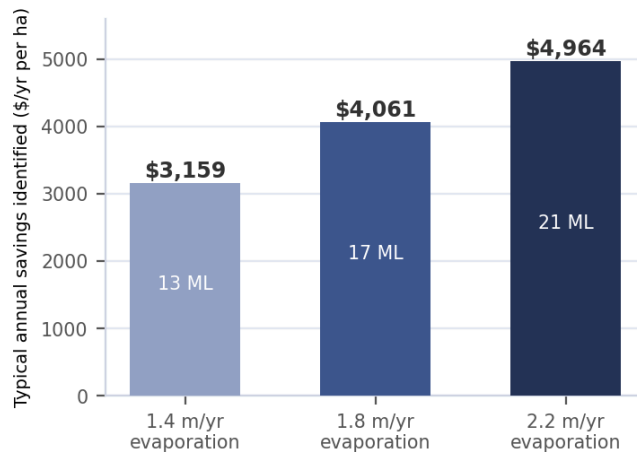
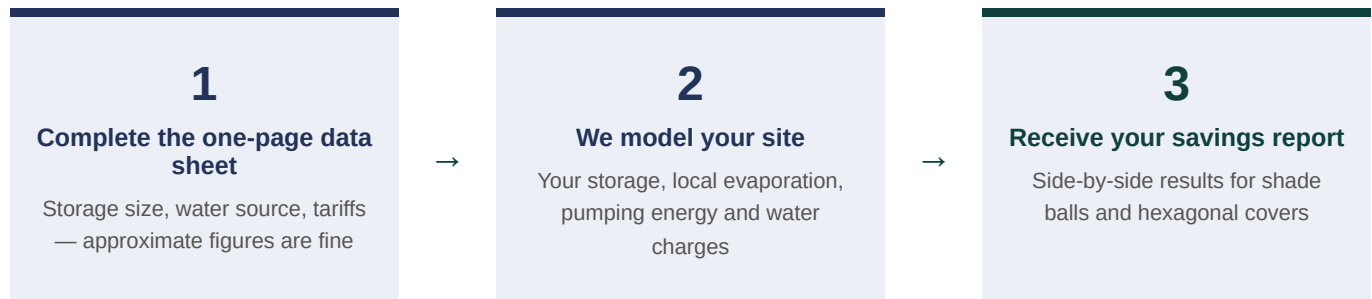
Interested in stocking the Reftek electrical range, or sourcing floating cover systems for a client's project? Contact us directly for trade terms, product data and merchandising support.

Electrical range: available at the counter. Water storage: contact Reftek directly.

Web:
www.ReftekAustralia.com
Email:
reftekaustralia@proton.me

QUANTIFY WHAT YOUR STORAGE IS COSTING YOU — FREE

Every uncovered storage carries an ongoing, quantifiable cost in water, electricity and margin. Our free site assessment puts a number on it — modelled from your storage dimensions, local evaporation, pumping profile and tariffs — so you can weigh the decision on your own figures, not ours. No site visit required to start, and no obligation at any stage.



*Illustrative savings identified per hectare with the hexagonal cover across climate zones.
Assumptions: 450 kWh/ML, \$0.35/kWh, \$80/ML water charges.*

WHAT YOU'LL RECEIVE

- Your modelled annual evaporative loss in ML
- Water, kWh and dollar savings — side by side for both products
- Quantities and container estimate for your storage
- Notes on licensing headroom and cease-to-pump resilience

WHAT AN ASSESSMENT TYPICALLY IDENTIFIES

- **Lower electricity use** — less make-up water to pump
- **Easier compliance** — more headroom under extraction limits
- **Protected animal welfare water** — supply security in dry spells
- **Improved operating margin** — passive savings, zero running cost

Request your free assessment today.

Web: www.ReftekAustralia.com
Email: reftekaustralia@proton.me



TRADE QUALITY • RURAL KNOW-HOW

**The experts in electrical
& agricultural supply.**

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