



## VCTF Investee Companies – Current Portfolio (Chronological)

### DNA Energy (2022)

- DNA Energy is accelerating the clean energy transition with IoT hardware and software solutions that optimise how and when energy is used and produced. They control air conditioning, solar and batteries to make the most of assets their customers already own.

### PVSTOP (2022)

- PVSTOP's spray-applied fire retardant solution acts as a liquid blanket, to effectively shut down solar cells in fire and emergency situations.

### HAMR Energy (2021)

- HAMR is an Australian, low carbon fuels and chemicals company that tackles climate change by originating and executing renewable methanol developments.

### SAVIC Motorcycles (2021)

- Savic Motorcycles is a Melbourne-born and bred electric vehicle company that is developing Australia's first stylish, high-performance electric road bike.

### Allume Energy (2020)

- Allume provides behind-the-meter hardware and software, to support multi-tenant energy distribution and billing of solar and battery power – thus enabling enhanced uptake of renewables. Headquartered in Melbourne, with operations expanding into the USA and UK.

### Capricorn Power (2020)

- Capricorn's Barton Heat Engine technology can efficiently transform waste heat into rotational energy – which is used to generate electricity at low cost with zero emissions.

### Southern Green Gas (2020)

- Southern Green Gas is pioneering world class Direct Air Capture technology to create a carbon-neutral future.

### SynergenMet (2019)

- Synergen Met's core technology is a plasma torch for safe, just-in-time production of sodium cyanide at a mine site. The torch is also usable in complete destruction plant for toxic perfluoroalkyl substances (PFAS)

### Gane Energy (2018)

- Melbourne-based Gane Energy is a clean fuel development and licensing company. Gane Fuel™ is an industrial diesel fuel substitute with extremely low particulate, NOx and SOx emissions – when used in conventional diesel engines with only minor modifications.



## Investees engaged initially through *Energy Next Accelerator*

### First Cohort (2021)

- HAMR Energy: Turning carbonaceous waste into chemicals and green fuels, to offset the use of virgin fossil resources.
- HVAC-TES: Cost effective, thermal energy storage for solar power users.
- Need Energy (Zimbabwe): Resource management system, for distributed micro-grids.

### Second Cohort (2022)

- Zawn: Making phone covers from recycled ocean-bound plastic.
- DNA Energy: AI-enabled demand response solution eg for HVAC for across multiple buildings.
- Hydroverse: Holochain-enabled Proof of Origin for hydrogen or other liquid or gaseous fuels.
- Chargur: Safety covering for EV charging cable, to prevent tripping hazards.

## VCTF Investee Companies – Historical (Chronological)

### Food Revolution Group (now ASX:FOD) formerly Lang Technologies (2012)

- Began with efficient extraction of nutrients from fruit waste at Laverton.
- Now producing wide range of juices and fibres in repurposed Heinz facility at Mill Park.

### Semitech Semiconductors (2012)

- Novel componentry to enable digital communication using existing power line infrastructure.
- VCTF exited but trading profitably, exploring other applications for technology.

### Renex Group (2012)

- Australia's first integrated treatment and remediation facility for heaving contaminated soils (Dandenong).
- VCTF funding supported land acquisition, plant start-up and certification, technology transfer ex Germany.

### Illum-a-lite, formerly Greenearth Energy (2011)

- Initially technology driven enterprise based on novel high efficiency lighting ballasts, evolved to a diversified energy management company providing lighting and HVAC retrofits.
- VCTF supported development phase, exited by trade sale.

### Embertec (2009)

- Technology to cut standby power consumption of household devices through sophisticated monitoring – with no user intervention.
- VCTF funded early stage commercialisation, still supplying *SmartSwitch™* system for specialist applications.

### Lightanate (2009)

- Titanium dioxide nano-materials for water, solar and advanced coating applications.

### Metsol, formerly Metallic Waste Solutions (2009)

- Process for extracting high purity Zinc Oxide from various feedstocks, eg. zinc ore, galvaniser's ash and electric arc furnace dust.
- Pilot plant established at Port Pirie, SA – assets and IP sold to InCoR (USA).



#### **Altaus (2008)**

- 'Backyard' invention: Micro wind turbine aimed at Australian residential market.
- Demo project did not prove theoretical performance, market appetite was low. Did not progress.

#### **Active Reactor (2007)**

- Electromagnetic controller to improve energy efficiency of high intensity discharge lamps. Technology has been surpassed by electronic controllers and LED developments for mass market applications, but it continues to service a niche in high intensity stadium lighting.

#### **Aquaspy, formerly Agrilink (2007)**

- Technology to measure soil moisture and optimise use of water usage for agriculture/viticulture and turf management.
- Failed to achieve the desired penetration levels in its target markets, mainly due to lower-cost competitors.

#### **Ecoul, formerly Smart Storage (2007)**

- First-stage commercialisation of CSIRO *UltraBattery*<sup>™</sup> (lead-acid battery with supercapacitor). Required fundamental review and refocus of R&D to deliver a commercially viable product.
- VCTF recruited CEO who drove the business, then exited in 2010 to facilitate acquisition and further development by East Penn Manufacturing (USA).

#### **Aqua Sciences (2006)**

- Ultrasonic in-line cleaning technology to lower energy usage, reduce cycle times and improve and overall efficiency of food processing facilities.
- Number of prototypes built and installed to prove performance, but high level of inertia in the industry held back adoption.

#### **Hardwear (2006)**

- Laser surface treatment from Swinburne University research, to reduce wear and prolong operating life in metallic components such as steam turbine blades.
- After successful refurbishment of SA Torrens Island power plants, VCTF exited in 2010 to specialist facility service company.

#### **MIGfast (2006)**

- Novel welding tip developed by CSIRO to enhance speed, reduce fumes in high volume manufacturing.
- Technology successfully implemented at small scale and licensed, but could not achieve penetration of challenging, high-volume applications (eg. automotive or shipbuilding).

#### **Oceanlinx, formerly Energetech (2006)**

- Demonstration of wave generation technology off NSW coast, with successful link to grid. Several design iterations refined and improved performance.
- Undone by multiple deployment problems associated with extreme weather events.

#### **VivaBlu (2006)**

- Low cost, high throughput UV water sterilizing technology for downstream wastewater treatment.

#### **APM Maryvale (2005)**

- Novel waste to heat/electricity for a highly polluting papermill waste.
- Viable technology solution but ultimately not sustainable commercial opportunity.



#### **Cool Energy (2005)**

- Single-step cryogenic process for removing carbon dioxide and hydrogen sulphide contaminants from raw natural gas.
- Project did not meet critical development objectives as a stand alone business, but picked up by Shell for internal use.

#### **Kinergi (2005)**

- Novel high efficiency mechanical energy harvesting, eg. to convert vehicle vibrations into stored electrical power.
- Several novel applications identified, but technology overtaken by higher energy density Li-ion storage solutions. Exited in 2007.

#### **V Fuel (2005)**

- Uni NSW battery technology for remote area power supplies in telecommunications industry.
- Did not advance beyond development phase, due to implementation problems.