AusDERBS

Australian Distributed Energy Resource Backed Securities

The Challenge: Australia has one of the highest carbon footprints per capita of any developed nation, much of it from power consumption by households and businesses of which >80% is produced by fossil fuels[1]. The energy grid is mainly centralized and requires transformation to support utility scale renewable sources like wind and solar. One solution is transforming homes and businesses into 'Distributed Energy Resources' (DERs), producing renewable power at the source, reducing reliance on fossil fuels and stabilizing the energy grid through frequency response[2]. Incentives exist via government subsidies[3] and the Clean Energy Finance Corporation (CEFC) that support lending for green income producing and energy saving assets[4]. However, the market is fragmented and the energy transition in Australia requires supercharging.

AusDERBS – Packaging green finance along the value chain

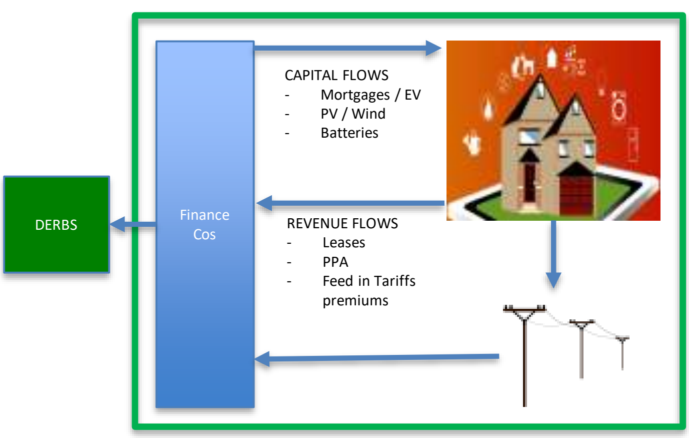
Our Asset Backed Securities (ABS) bundle income streams from finance and other cashflows related to renewable energy plus storage produced 'behind the meter' via energy efficient buildings and equipment.
These include finance & power purchase agreements (PPAs) for income producing assets:

- Small scale Solar PV/ Wind and Battery Storage

Plus other related green rated assets:

- Residential and commercial mortgages
- Electric vehicles (EV)
- Energy efficient appliances

All of which are endorsed by the Australian government's CEFC and have been previously certified by the Climate Bonds Initiative (CBI) in discrete securitisations of these assets[5].
The bundling of these otherwise traditionally independent assets across different institutions diversifies risk for the institutional investor and will change attitudes along the value chain about the impact of interrelated green finance. All whilst freeing up capital, supercharging returns and the energy transition.



Target Geography: Australia

- Strong credit worthiness of banks, finance companies, households and businesses[6]
- Existing government owned green bank (CEFC)
- Strong regulatory framework and oversight of financiers with stable currency[7]
- Large institutional investor pool in $3T compulsory superannuation (pension) scheme[8]

Environmental & Social Impact

Reduction of ~40,000T of CO_2 p.a.

849 g CO_2 equiv. / kWh saved[16/17]

Environmental

- Each kWh generated from renewable assets can be measured in CO_2 reductions in the current grid fuel mix
- Increased grid stability via DERs allowing an increase in centralized utility scale renewable energy projects. These would be otherwise limited due removal of inertia from the grid. DERs also help eliminate traditional transmission losses

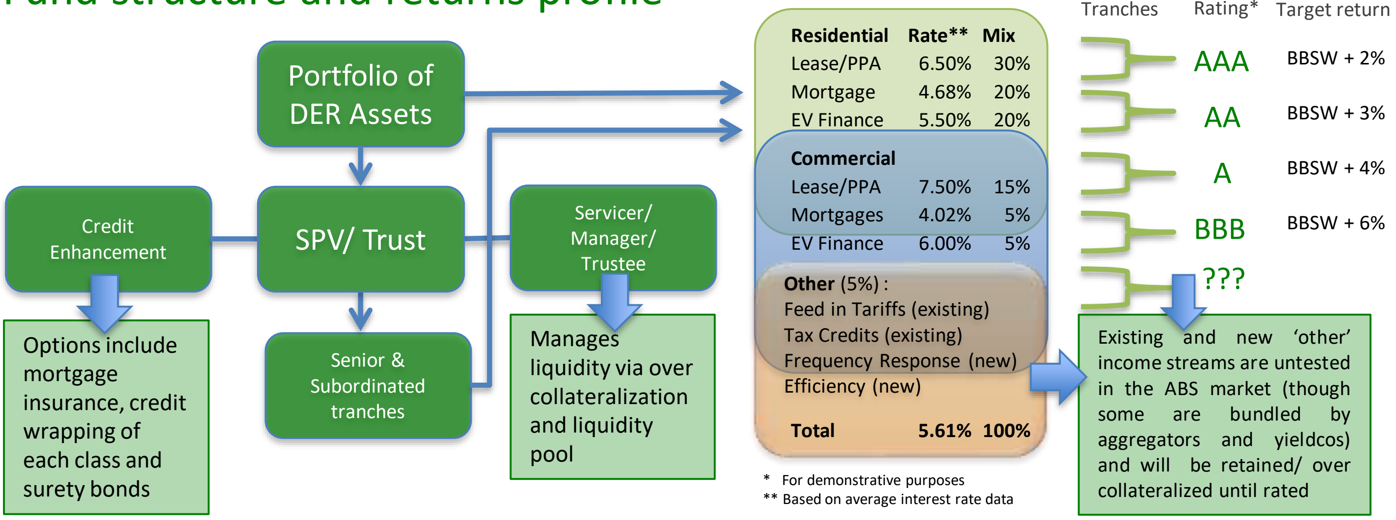
Social

- ESG investors will be able to contribute to smaller scale solutions on climate change and energy transformation
- Non-ESG investors will understand the importance of climate risk in underlying assets
- Banks and Financial Institutions improve their 'green' credentials and are incentivized to package 'green' finance for DERs (e.g. Mortgage, PV + Battery, EV) with mainstream/ subsidized rates
- Households and businesses are empowered through attractive bundled options from reliable financiers, allowing them to easily decrease their carbon footprint
- **UN Sustainable Development Goals addressed**

Addressable Market

- AU \$38b ABS issued in 2019[9]
- 9.2m Households[10]
- 2.13m Businesses[11]

Fund structure and returns profile



Fund Size / Term	AU$250m / 7 – 10 years
Investment Criteria	- Green finance assets and income streams related to Australian households and businesses centered around finance for both energy production plus storage (i.e. must have energy production plus battery to qualify, other assets are additional) - Delivered by accredited banks and finance companies currently operating under current CEFC guidelines
Target Returns	Australian Bank Bill Swap Rate (BBSW) + 2% - 6%p.a. (depending on rating of tranche)
Cashflows	Standard cashflow 'waterfall' repayment according to seniority of tranches via rating
Minimum Investment	AU$5m
Fees	Guarantee fees of 0.20% - 0.40% depending on risk weighting
Asset Class	Special Purpose Vehicle, Amortizing ABS
Target Investors	CEFC, impact investment firms, pension & sovereign wealth funds, family offices

Scalability

- Regulation has potential to position DERBS as 'prime' in the ABS market as underlying assets will address climate risk (e.g. phasing out of petrol and diesel vehicles over next two decades)[12]
- Applicable in developed markets where ABS issuance in 2019 was estimated to be US$1T and many regulatory and development bank measures are already in place[13]
- Future application in developing markets where DERs and associated finance have become more common due to existing grid infrastructure and power supply to homes and businesses being poor e.g. Bangladesh[14] & Sub-Saharan Africa[15]
- Growing list of assets for inclusion: Domestic hydro, anaerobic digestion, micro combined heat and power, vehicle to grid (V2G), as well as 'other' income streams noted in fund structure (top right)

Due Diligence – Risk Assessment

Risk	Action/ Mitigation
Credit Risk of Households, Businesses and broader systemic risk in Financial System	All forms of finance are currently offered in the market at terms compliant with regulators. Credit Enhancement is available and can be diversified between assets
Prepayment Risk	Over collateralization. Interest rate environment in Australia (low/ stable)
Lower than expected social & environmental impact of assets	To be accredited by CEFC under current programs. Certification via CBI

Assumptions: *Securities can be rated in line with returns * C02 in energy mix remains constant * Income streams from DERs can be securitized *Firm Frequency & Efficiency markets will operate

Resources: 1. The Economist 2. US National Institute of Building Sciences 3. Aus Dept. of Energy 4. CEFC 5. National Australia Bank 6. theaufinance.com 7. IMF 8. Association of Superannuation Funds of Australia 9. Macquarie Research 10. Australian Bureau of Statistics 11. Parliament of Australia 12. World Economic Forum 13. S&P Global 14. Microgrid Media 15. PV Magazine 16. Solar Choice 17. Australian Power Generation