

Introduction

Welcome to the final newsletter of 2023. This is officially the 40th newsletter we have published, marking a decade of Infradebt and the Infradebt quarterly newsletter! We hope the newsletter has provided useful insights for readers. For the team at Infradebt, writing the newsletter has often been a cathartic exercise, and we have genuinely enjoyed the process of sharing our views with readers over the past decade.

It was another big quarter for infrastructure to round out 2023 – with incredible volatility in risk free interest rates and lots of policy developments in the renewable energy space. One of the biggest policy announcements of 2023 was the Commonwealth Capacity Investment Scheme (CIS), initially announced in 2022 (with little detail), it is a seven-year procurement program to be undertaken by the Commonwealth for 32GW of new wind, solar and storage capacity. We dive into the details of CIS and its implications in our first article.

This quarter we have four articles:

- Commonwealth Capacity Investment Scheme (CIS)
- Six months living with Elon
- Does an auction reveal more about the asset or the bidders? Winner’s curse or choose your own adventure?
- Greatest Hits

To round out the year, and to thank those that make it all possible , we are grateful for the trust and support of our clients. We hope you enjoy reading this edition and wish you all the best for the festive season and a very Happy New Year!

Markets Update

Throughout 2023, bond markets mirrored the joys of a family driving holiday – with markets relentlessly echoing one burning question “Are we there yet?”!

It started with a mini banking crisis in early March sending what turned out to be false alarms that the rapid rise in interest rates had caused cracks in the financial systems, and that the rate hiking cycle should pause - pulling yields back in March. With inflation reading at 5%, the Fed disagreed and continued raising rates in March and May FOMC meetings which forced the bond markets to realise that we are not quite there yet – pushing yields back up.

In July, inflation fell to 3% providing the Fed room for the first pause in the rate hike cycle but only for a month. The Fed raised rates again in July and convinced the bond market that higher rates are to stay for longer. With inflation numbers creeping up again in the September quarter on the back of higher fuel prices, bond yields pushed up again climbing to levels not seen since 2007.

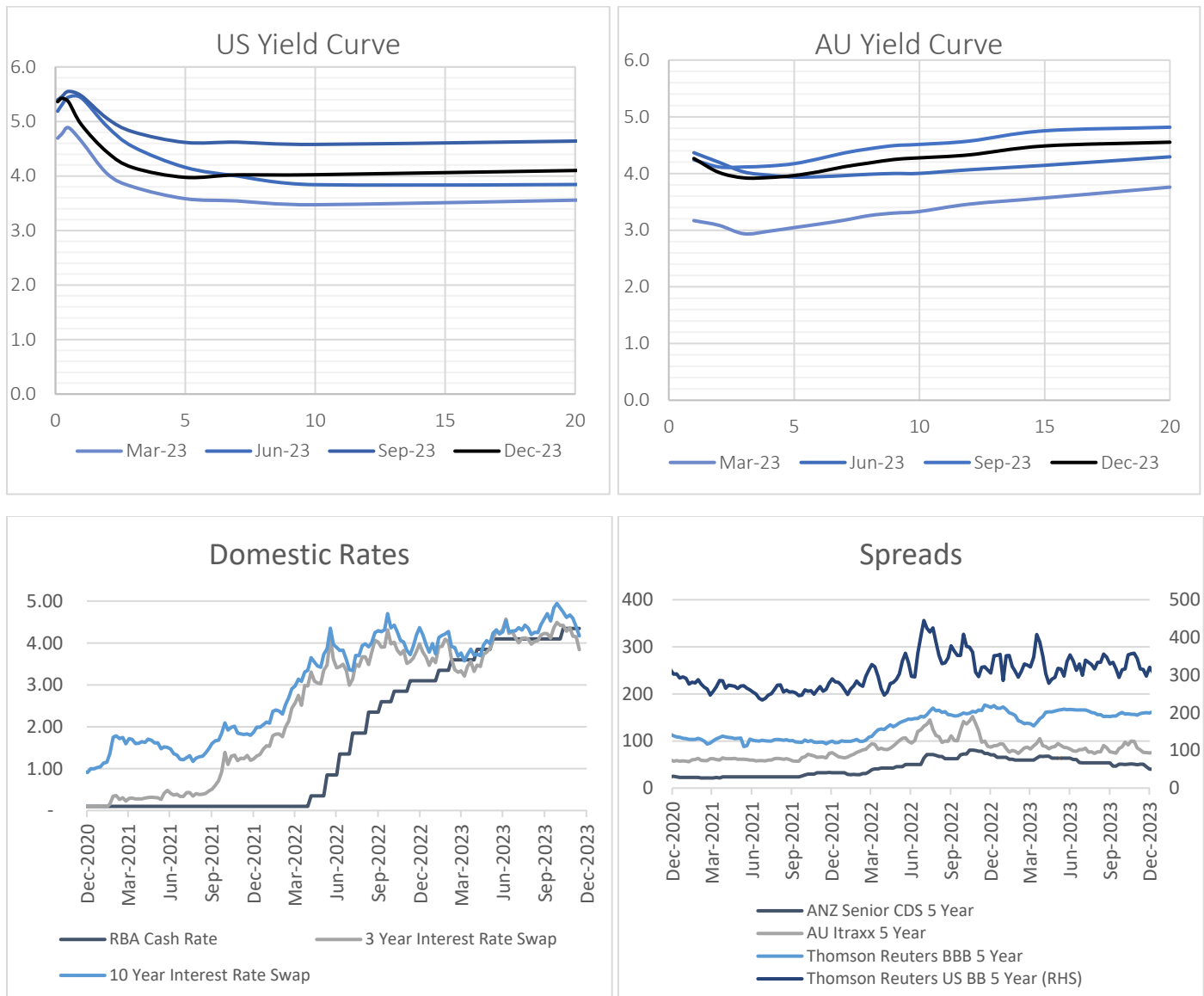
Enter Q4, Inflation has stabilised around the 3% mark, much closer to the 2% Fed target compared to earlier in the year. The Fed has been able to hold rates for three consecutive FOMC meetings. In the latest FOMC press conference, Jerome Powell pointed out that the policy rate is likely at or near its peak for this tightening cycle. With the caveat of raising rates *only* if appropriate and making decisions one meeting at a time. Jerome Powell has also provided guidance on possible rate cuts in the upcoming three years to bring the official policy rate to 2.9% by 2026.

So, are we there yet?

Bond markets definitely think so, the yields on 10-year bonds have dropped by a massive 1% over the last two months alone!

Will the RBA follow suit and dare provide forward guidance like Mr. Powell? Michelle Bullock has only been in the job for three months, so I won’t be too optimistic on that front. With domestic inflation still hovering around 5% and a tight labour market, there is limited room for the RBA to talk about rate cuts. However, the latest FOMC meeting has

resulted in a rally for the Australian dollar, reaching 67 US cents at the time of print. The slope of the yield curve has also shifted downwards by approximately 25 basis points.



Sources: Refinitiv Eikon

New issuance and refinancing

Detailed below is publicly available infrastructure debt issuance for the quarter:

Date	Borrower	Instrument	Size (\$m)	Term (Yrs)	Pricing
October	Queensland school PPP	Loan	180	5/10	
October	Aurizon	Loan	200	5-7	BBSY+165-185
October	FRV Solar Portfolio	Loan	1,000		
October	Goyder South 1B	Loan	592	7.2	

Date	Borrower	Instrument	Size (\$m)	Term (Yrs)	Pricing
October	Student Accommodation Finance Pty Ltd	Loan	394	3	
October	AGL	Loan	250	5/7	BBSY+175/195
October	Koorangie BESS	Loan	256	5	
October	Transurban Queensland	Loan	220	10/12	BBSY+180/200
October	ElectraNet	Loan	100	8	
November	Karraatha Accomodation	Loan	90	11.1	
November	Lighthouse disability accommodation	Loan	130	-	
November	APA	Loan	1250	7/10	BBSY+170/195
November	CDC Data Centres	Loan	1000		
December	Port of Brisbane	Loan	400	10/12	BBSY+175/195

Equity and other news

- Horizon Roads is selling their 55% stake in Eastlink. Non-binding indicative bids submitted late November with second round taking place next year. Transurban, Vinci Group, QIC, Abertis Infraestructuras and KKR are all parties either bidding or displaying interest.
- Octopus has acquired the 500MW/1GWh Blackstone BESS, Queensland's largest proposed BESS project.
- Singapore Power, a subsidiary of Temasek, has hired Goldman Sachs to find a buyer for its 40% of gas and electricity distribution giant Jemena, expected to reach \$5 billion.
- Smart Energy, a supplier and installer of residential rooftop solar and battery systems, is searching for a backer to expand their business from \$50 million in annual revenue to \$200 million.
- AirTrunk is considering an IPO that would value the data centre business at over \$10 billion on an EV basis. It could go higher after Infratil revalued its holdings in CDC which implies an EBITDA multiple of >30x.
- Amp Energy is searching for a buyer for a portfolio of three SA/NSW assets; the 119MW Hillston Solar Farm, the 39MW Molong Solar Farm and the 150MW/300MWh Bungama BESS.
- Evie Networks, owner of Australia's largest network of electric vehicle fast-charging stations is hunting for a capital partner to power its overseas growth plans.
- Vocus Group has commenced discussions to create a \$6.3 billion debt syndicate for its bid to carve out TPG Telecom's fibre assets.
- Alinta has mandated MA Moelis to shop Alinta Core, its proprietary billing and customer management software platform, which already services circa 700,000 accounts.
- A consortium of institutional investors is selling their controlling stake in Queensland Airports Limited, which owns four QLD airports. Interest demonstrated by Vinci, Dexus, and a consortium of KKR and Skip Capital. First round bids are due in March.

- The \$20 billion Origin Energy takeover bid by Brookfield and EIG has been blocked by shareholders, most notably AustralianSuper (16.5% holding).
- London's NatWest Group Pension Fund is selling its 20% stake in NSW Land Registry Services, with non-binding indicative bids due mid-December.
- GoZero, a distributor, manufacturer and assembler of zero-emissions buses and trucks, is close to securing a \$100 million asset finance facility, and a \$100m capital raise.
- IFM increased their holdings in Atlas Arteria by 2% (total <24%) after buying \$169 million of shares at \$5.82 each.
- CleanPeak Energy has acquired a 14.5MW portfolio of solar farms from Sentient Impact Group; the Williamsdale, Mount Majura and Karratha Solar Farms.
- Unisuper is selling an unknown portion of its 30% stake in the Victoria Desalination Plant, which can pump up to a third of Melbourne's water needs to its dams during droughts by purifying seawater.
- Blackrock-backed Australian EV charging station business, JOLT Charge, is seeking a capital partner to tip in about \$150 million to help fund its global expansion plan. The deal is expected to launch next year.
- Jet Charge, an EV charging services provider has mandated UBS to drum up about \$70 million in growth capital.
- Tetris Energy is undertaking a sale of its 3.4GW early-stage renewables development platform across Wind, Solar and BESS.
- Palisade has kicked off meetings with institutional investors over the past week to build support for a \$1 billion raise for its Intera Renewables platform. Intera has a 1GW Wind, solar and BESS portfolio, with a \$2 billion enterprise valuation.
- Plenary Group is looking towards its next leg of growth, launching a global capital raising.
- Anacacia Capital is fielding interest for its construction and infrastructure advisory business RP Infrastructure.
- Global Power Generation Australia is heading for the auction block next year. With a portfolio of 1.3GW in operations or late-stage construction by Q1Y24, it is expected to be worth about \$4 billion.
- Lightsource BP has sold five solar farms totalling 1,037MWdc to Beijing Energy International Australia for an equity value of \$813 million.
- Western Australia's Regional Joint Development Assessment Panel has given planning approval for a 500 MW solar farm that Woodside Energy proposes building near Karratha in the state's northwest.
- DIF Capital is looking to sell a 'handful' Australian renewable assets including their stake in Bright Energy Investments.
- The winners of the NSW Roadmap Tender Round 2 were announced which will provide 1,075 MW of storage capacity once delivered. Successful proponents are AGL, Akaysha, Iberdrola and Enel X.
- The Victorian State Electricity Commission has invested \$245 million of equity in the first 600 MW stage of Equis Renewables' 1,200 MW Melbourne Renewable Energy Hub.

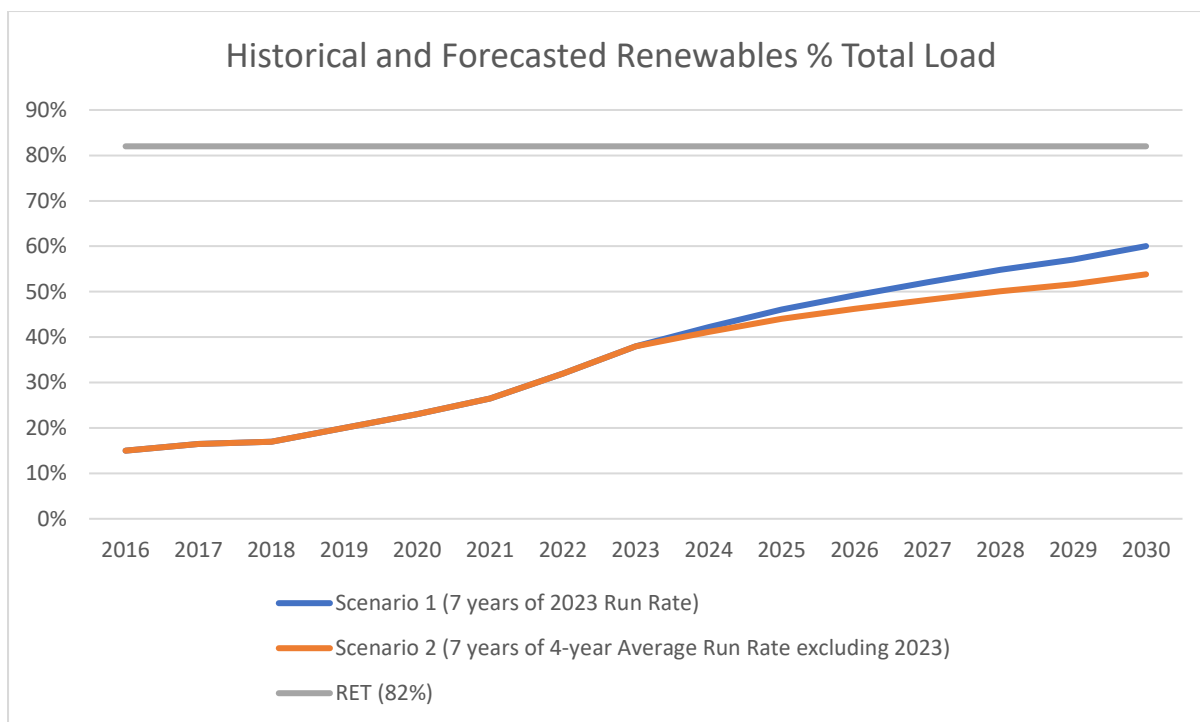
Sources: Refinitiv Eikon, AFR, Reneweconomy

Commonwealth Capacity Investment Scheme (CIS)

22 November 2023 saw a massive announcement in the history of Australia’s electricity markets with Chris Bowen announcing an intention for the Commonwealth to procure 32GW of new wind, solar and storage capacity for delivery prior to 2030. Given there is currently around 20GW of existing utility scale wind and solar in the NEM, this would more than double renewable generation supply. This is a massive task to be completed in just seven years, considering it has taken around 40 years to get to our current capacity of wind and solar (the first wind farm in Australia began operating in 1987!).

While some of what follows may come across as negative – it is important to understand that Team Infradebt is composed of debt investors. We can see the downside in anything! 😊 Any intervention in the market, however well intentioned, will have both intended and unintended consequences.

First, it is important to recognise Minister Bowen needed to do something. In the absence of a significant change in policy settings, Australia was on track to massively undershoot the government’s 82% renewable by 2030 target (see chart below). If growth rates in GWh continue at rates consistent with recent times we would still miss the mark by at least 20%!



In electricity infrastructure terms, 2030 is incredibly soon. When it takes 5+ years to approve and build transmission upgrades and 2-3 years to build wind farms (plus up to 5 years before hand to get development approval), 2030 will come in the blink of an eye. By contrast, in political terms, 2030 is at least two general elections away, a long time in politics!.

To get to 82% (or even close) Australia needs a massive wave of wind and solar projects to reach financial close in the next 3-4 years. The Commonwealth Capacity Investment Scheme (CIS) is intended to make this happen.

This is a great goal. It is good for the planet because the quicker we can achieve decarbonisation, the lower the cumulative CO2 emissions (which is what matters from here on out) and, hence, dangerous warming potential. It is good for electricity reliability because Australia’s legacy coal fired power stations are, in general at the end of their

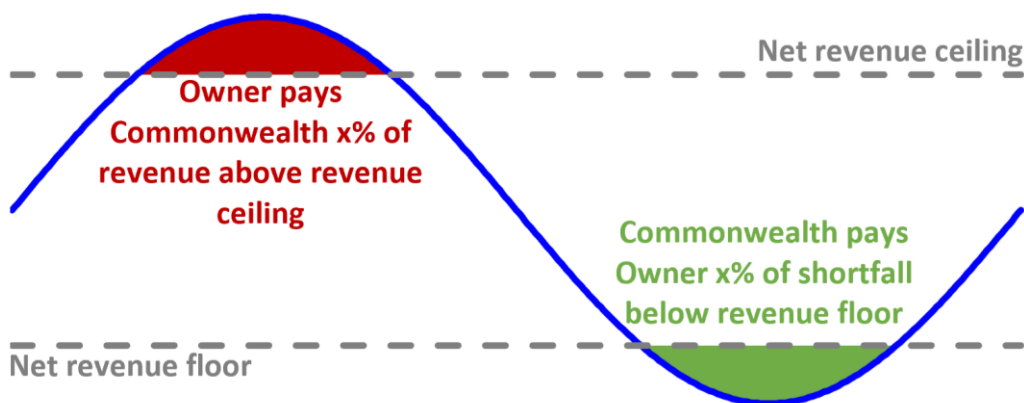
operating lives, and need to be replaced (and are likely to have lower reliability until they are replaced). The longer we spend thinking about the optimal long-term solution (and we have wasted a decade already) the more risk we take that these plants suffer unexpected breakdowns prior to their retirement.

The CIS is an unequivocal signal from the Commonwealth that the long-term future of Australia’s electricity supply will be provided by wind and solar firmed with storage, and that this is going to happen quickly and at scale. This helps clarify the outlook for the myriad stakeholders in the electricity sector. Hopefully it assists in driving a change throughout the sector from endless discussions of what we should do (what about some Nuclear 😊?) to a discussion of “how do we do it?” and “how do we do it quickly?”. Note we’re not anti-nuclear per say, it’s just that we’ve never seen a compelling case in terms of both cost and/or time – it may well be a solution for countries with poor renewable resources – but that’s not Australia.

What is the Commonwealth Capacity Investment Scheme?

It is a scheme which will allocate revenue support agreements (CISAs) to successful projects through a series of six-monthly auctions starting in 2024 and running to 2026 (for wind projects) and to 2027 for solar and storage projects. It will be seeking to support 32GW of new capacity (23GW of wind and solar and 9GW of storage). Projects will compete against each other to bid a floor revenue (which indicatively will apply for 15 years).

Once built, if the project revenue falls below this floor level, then the CISA would kick in, topping up project revenues. Similarly, if revenues exceeded a ceiling (also part of the auction process) then the project would pay the Commonwealth some of these windfall high revenues (see below).



Source: DCCEEW briefing presentation

Importantly this floor/ceiling would still incentivise the project to enter into offtake agreements with electricity retailers/users and, if not contracted, to maximise the market revenues of the project. The project would also still be incentivised to optimise market revenue as x% of revenue (perhaps 25%) would remain exposed to market outcomes, even if the floor or ceiling was binding.

The Commonwealth believes that these revenue floor arrangements will reduce the risk of greenfield wind/solar/storage development and, hence, encourage new capacity into the system (and importantly new capacity that would not otherwise get built).

The reverse auction nature of the process and the competition between projects and proponents would be expected to drive revenue floors to the minimum. This will reduce the cost to the Commonwealth (compared to a system where it procured capacity outright or, god forbid, chose to build on Snowy 2.0 and tried to deliver the projects itself).

What are the Implications?

It is early days and there is a lot of detail yet to be announced. It will also be very interesting to see how the first few auctions go and what the market clearing level of revenue floors will be. While the current policy design claims that

these auction price outcomes will be secret – the reality will be that each project will have a myriad of advisers, investors and lenders, all of whom will need to know what the revenue floor locked in under the CISA is. Thus, while it may not be publicly announced, the outcomes of tenders will be widely known.

Here are four early implications from the CIS:

- **electricity and LGC prices will be lower.** The CIS is all about providing incentives outside of existing market revenues to encourage new entrants (and a massive amount of new entrant capacity). This will result in lower electricity prices. This will be directly negative for existing wind and solar projects – who will earn lower revenues. Compared to an extension of the RET as a mechanism for driving investment – this is a big difference.
- **the early 2030s will be interesting.** The CIS is all about driving capacity into the market in the very late 2020s. At the same time, a disproportionate share of existing wind and solar projects have PPAs that end in 2030 (ie aligned with the end of the RET). Thus, just when prices will potentially be low due to a surge in supply, existing projects are likely to have above average exposure.
- **reverse auction prices will rise over time.** The auctions will be open to any project that wasn't committed prior to the CIS announcement (22 November 2023). Thus, it is quite possible that early CISAs will be awarded to projects that were already under construction (and projects that were happy to proceed on a merchant basis can afford to bid low in the CISA). Infradebt's expectations is that as the auctions progress – and the sheer volume of projects required to hit the 32GW bites – that auction prices will rise. It is also possible that a meaningful share of early CISA winners fail to reach financial close for their projects (in this context, it is noteworthy to look at the experience of the Victorian VRET2 auction).
- **CISAs will deliver much more value to lenders than equity investors.** CISAs are a limited revenue floor for a limited period (15 years compared to project lives of 25-35 years). Our expectation, at least in early rounds, is that auction prices are likely to be set on the basis of covering opex and a significant component of debt service, but won't actually be set at a level that provides a meaningful return to equity. Thus, the impact of the CISA is a modest capital structure change – somewhat higher somewhat cheaper debt – rather than something that necessarily changes the equity base case operating cash flows. The equity base case for wind and solar projects has always been highly sensitive to post PPA merchant revenue forecasts. This will still be the case, it will just be post the end of a 15 year CISA floor rather than a 10 year PPA term (ie longer term, lower price, same overall dynamic).

In conclusion, the CIS will have significant implications for the Australian electricity sector that we will continue to be discussing for years ahead (7 at a minimum 😊). The CIS, like any major public policy announcement, will have its winners and losers – but it is unquestionably better than doing nothing.

Six months living with Elon

No, this article isn't about my (Alex Ramsey) twitter experience post Elon's acquisition, rather we took the plunge to buy a Tesla (Model Y Long Range) earlier this year and my daughter named the car 'Elon'.

A little about me and our use case for the car. The Tesla basically replaced our larger SUV family car which mainly did weekend trips. We have a second small car which, prior to Elon, my wife drove to work. I ride a bike to work. I'm not a 'car guy' – I can appreciate the machinery and I know how to ooh and ahh when a mate had bought his latest twin turbo (insert name) sports car – cars just don't excite me. To emphasise the point, this is the first time I've had a car in the garage worth more than the sum total of our bikes (Rule #25 is a good rule to live by <https://www.velominati.com/comment-page-8/>) – note this says more about my enjoyment of cycling than the value of the cars I've owned.

But I must say, Elon just rips – there's just no shortage of power, there's no flat spot in the acceleration when overtaking, and the battery (primary mass) is spread across the floor of the vehicle, so the handling is brilliant. The



driving experience is further enhanced by the various driver aids – it's just a really easy car to drive – it's the only way I can explain it.

Having now financed a number of utility scale batteries - I'm a huge fan of the technology. Utility scale batteries are the absolute work horses for the power system – they can do it all – fast response, arbitrage etc. So it's no surprise that the car performs so well -the battery cells in your standard Tesla Model 3/Y are exactly the same chemistry as the cells in the Neoen Capital Battery or the Genex Bouldercombe Battery.

But it's not all rainbows and unicorns. EVs certainly have a few limitations, and you are forced to change your behaviour. For example, on long trips it simply does require more planning. Elon's range (normal Australian roads) is probably about 400km. This distance to empty is fine, what matters is how/whether you'll be able to charge to continue your journey. Take skiing as an example – a day trip from Canberra to Perisher is 400km return – add in cold weather and a decent climb from Jindabyne to Perisher, and Elon doesn't have the range to complete the trip without charging. For a ski trip this is fine, there are fast chargers enroute and all you require is a 10 minute charge. But a more recent trip to Eden (far South Coast of NSW) necessitated more planning as there are no destination fast chargers in Eden, the nearest being in Bega (60km from Eden). Of course, you can use a plug in wall charger (simple 10Amp charger) at the hotel (we did) but this charges at a max rate of 2kW/h (the battery is 80kWh).

This is the limitation of EVs today – there just aren't enough fast chargers for switching to an EV to be 'convenience equivalent' to having an ICE vehicle (you know there's a petrol station everywhere). It's not impossible – it just takes a little more planning and thought.

Where I think for many people the lack of charging infrastructure will be most keenly felt is during peak holiday periods – there could be some impressive queues on Boxing Day at some chargers. When will this change? Well, it's happening now, and as more EVs go on road, the market opportunity will drive more supply, but I think it will be a complete non-issue if/when trucking transportation shifts to electric (I know this is not happening soon) – once this occurs you will have high capacity charging everywhere particularly along major arterial routes.

So what about the operating cost? Over 5 months, or 6,800km (just over 1 MWh of consumption) we have spent a grand total of \$23 directly (fast charging), indirectly we have spent another circa \$80 on outside solar hours charging. The rest of the time the car is charged from my roof. I don't mean for this to sound smug (I get that it does) – but the point I want to emphasise is that owning an electric car is cheap and its convenient. People often talk to the upfront cost being high, but the median car price in 2022 was \$52,000 vs a new model 3 of \$62,000. As we pump more and more renewables into the grid (and excess supply drives down daytime electricity prices), as we electrify more of our living, more households will install solar (it makes sense even without a feed-in-tariff) and there will be excessive generation relative to household need so why not fill your car? The other compelling economic incentive is the Federal Government's recent changes to FBT making it very compelling from a capex perspective.

So would I recommend an EV? Definitely. The Tesla itself is a definite upgrade and more than compensates for any inconvenience when travelling far (a very small percentage of the use case). We sold our SUV (family car) but kept our small hatch (which basically did around town commuting before we purchased the Tesla). We are now considering selling it too, as we're not using it and having to actively take it for a drive to stop the battery going flat.

Does an auction reveal more about the asset or the bidders? Winner's curse or choose your own adventure?

Infrastructure assets have largely traded through competitive bid processes. While every process is a little different – they do run to a pretty standard playbook. This playbook is developed and managed by the financial advisers that chaperone sellers and bidders through the process (it is basically a 4 week residential auction marketing campaign on steroids – and that is not to say that investment bankers are jumped up real estate agents 😊).

The typical sales process has a 10-12 week timetable. Bidders are given access to a data room of curated information on the project. It usually runs in two phases, with an initial large number of potentially bidders whittled down to a short-listed group of 3-4 bidders for a final binding bid round. Out of this a winner emerges.

The conventional way of thinking about this is that the winning bidder is that party who is best placed to maximise the value of the asset. That is, they might have unique insights into revenue enhancement or cost reduction opportunities. Or equally they might have synergies with other assets they own.

However, the reality is often much less about the asset. This is a competitive process where everybody had access to a common information set. The key difference is the winner bid more than everyone else.

Why did they bid more? Usually two reasons:

- Lower cost of capital; and/or
- Higher revenue growth/cash flow forecasts

These issues are particularly important for renewable projects. Most projects have offtake agreements for the initial years (most expire in 2030). As a result, bidders generally will have very similar assessments of revenues in the early years of operation for a project. However, post the end of PPAs, it is not uncommon for different bidders to have very different revenue forecasts.

Thus, winning bidders will, in most cases, be those parties with the most aggressive combination of lower return requirement (when did you last hear an infrastructure manager crow to their clients about how low their return targets were?) or have the most optimistic revenue forecasts (also not too attractive a characteristic). Importantly, the biggest divergences in revenue forecasts are often decades down the road – and so it might take a while before these forecasts are proven right or wrong.

It is this dynamic that underpins our view that investors should spend more effort on assessing the fundamental cost of the projects they are buying (as entry cost will be a fundamental driver of long-term return outcomes) as well as on benchmarking projects under standardised revenue assumptions.

But hey – that's just us, we are fundamentally value investors – and the great thing about a market is that it takes sellers and buyers to make it work, and we all get to choose our own adventure!

Greatest Hits

It has been ten years since we published our first newsletter. During the last decade, we have written 120 articles and aimed to cover a diverse range of issues affecting fixed income and infrastructure investors. We thoroughly enjoyed this journey, and to celebrate this milestone we thought it would be nice to look back and find out what were the local fan favourites?

<p>Alexander</p>	<p>“When power becomes a worthless by-product – peculiar incentives from the Renewable Energy Target”</p> <p>In 2016, we saw the odd outcomes of renewable energy policy, in the form of LGCs, driving negative bidding by generators and, hence, negative electricity prices. We introduced our readers to the negative electricity price phenomenon which seemed like a bug in 2016 but we boldly predicted that it will be a feature of electricity system of the future (today).</p> <p>https://www.infradebt.com.au/insights16</p>
<p>Matthew</p>	<p>“Renewables – perspectives from different parts of the capital structure”</p> <p>This article comprehensively articulates renewables projects from a financial and operational perspective. It highlights the importance of understanding, at a granular level, the fundamental financial mechanics of infrastructure investing, and in my opinion alludes to how infrastructure debt has a key place in the portfolio of investors.</p> <p>https://www.infradebt.com.au/post/renewables-perspectives-from-different-parts-of-the-capital-structure</p>
<p>Alex</p>	<p>“Would you like some impact with that?”</p> <p>Impact investing in 2017 was primarily dominated by equity investments. Investors were limited by choice and we talked about potential opportunities in the fixed income space. What makes us proud is the journey of transforming those ideas into comprehensive products for our clients to take advantage of impact opportunities.</p> <p>https://www.infradebt.com.au/insights17</p>
<p>Irene</p>	<p>“Easter Egg hunt”</p> <p>A simple light-hearted little piece that reminds us of a dynamic of investing that we seem to forget – if you look for easter eggs where everyone else is looking your chances of success will be competed away. The best return opportunity lies where no one else is looking! 😊</p> <p>https://www.infradebt.com.au/post/easter-egg-hunt</p>
<p>Teresa</p>	<p>“Monopoly Behaviour”</p> <p>This is an article outlining how some network companies are using bank guarantee backed “grid annuities” to lock in risk free returns (the beauty of negotiating from a monopoly position). As we push to build new transmission and roll out more renewables, grid operators have a key role to play. However, excess returns for one component of the supply chain is going to just push up costs for all electricity consumers.</p> <p>https://www.infradebt.com.au/post/monopoly-behaviour</p>