INFRASTRUCTURE PARTNERSHIPS AUSTRALIA

ASSESSING THE PLAUSIBILITY OF AUSTRALIA'S ENERGY PIPELINE

The scale of the Australia and New Zealand Infrastructure Pipeline (ANZIP) has rapidly expanded over recent years, surpassing the $1 trillion mark in April. As the pipeline has grown – driven primarily by growth in energy projects - the dynamics affecting it have changed.

To analyse these changing dynamics, Infrastructure Partnerships Australia developed three metrics of pipeline plausibility: Visibility, Consistency and Magnitude. In short, what proportion of projects on ANZIP have publicly available construction schedules? How many of those projects stick to their schedules? And if they miss them, by how much?

The results of this analysis were clear, primarily publicly procured road, rail and social projects are much more likely to stick to their plans than energy projects, which are delivered in less mature, developer-led markets that respond to a very different set of market signals and nascent regulatory processes.

To deal with the plausibility challenges of the energy pipeline, we have dug further into the data to establish predictive capability in our pipeline analysis. This has resulted in the establishment of the Energy Infrastructure Plausibility Matrix, a multi-criteria model that assesses energy projects on ANZIP for their likelihood to meet future construction schedules.

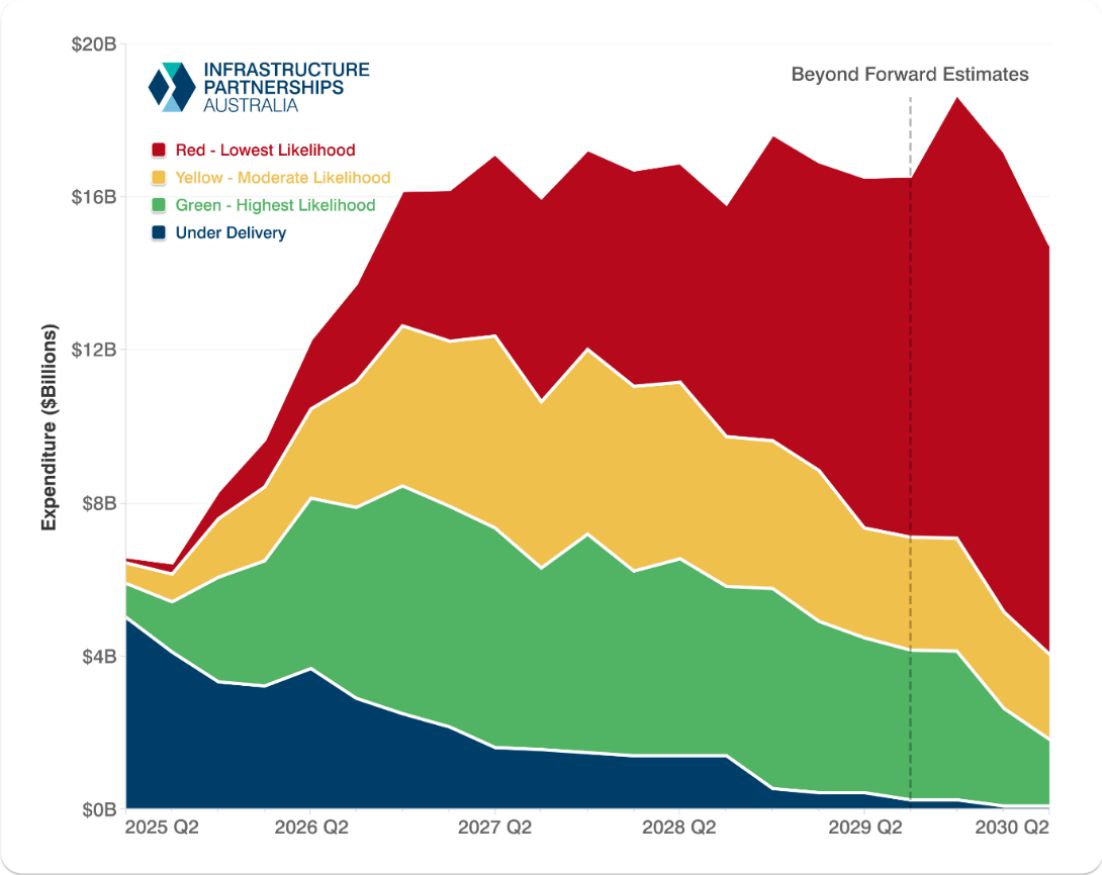
THE ENERGY INFRASTRUCTURE PLAUSIBILITY MATRIX

The Plausibility Matrix assesses projects not yet under delivery against their achievement of lead indicators for on-time delivery. Criteria include big-ticket gateways like signing main works contracts, final investment decision status, planning approvals and the presence of credible equity; as well as smaller, but no less important milestones including power purchase agreements, government funding or financing assistance, major project designation, and participation in priority planning programs.

This model does not pass a value judgement on the merits of these projects but is instead a probabilistic model of their likelihood to be delivered as currently scheduled. Projects are categorised in a sliding scale, Green - most likely, through to Red - least likely. Figure 1 breaks down Infrastructure Partnerships Australia's forecast expenditure model of the energy pipeline using the Plausibility Matrix.

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Figure 1: Forecast expenditure on ANZIP projects by Energy Infrastructure Plausibility Matrix category



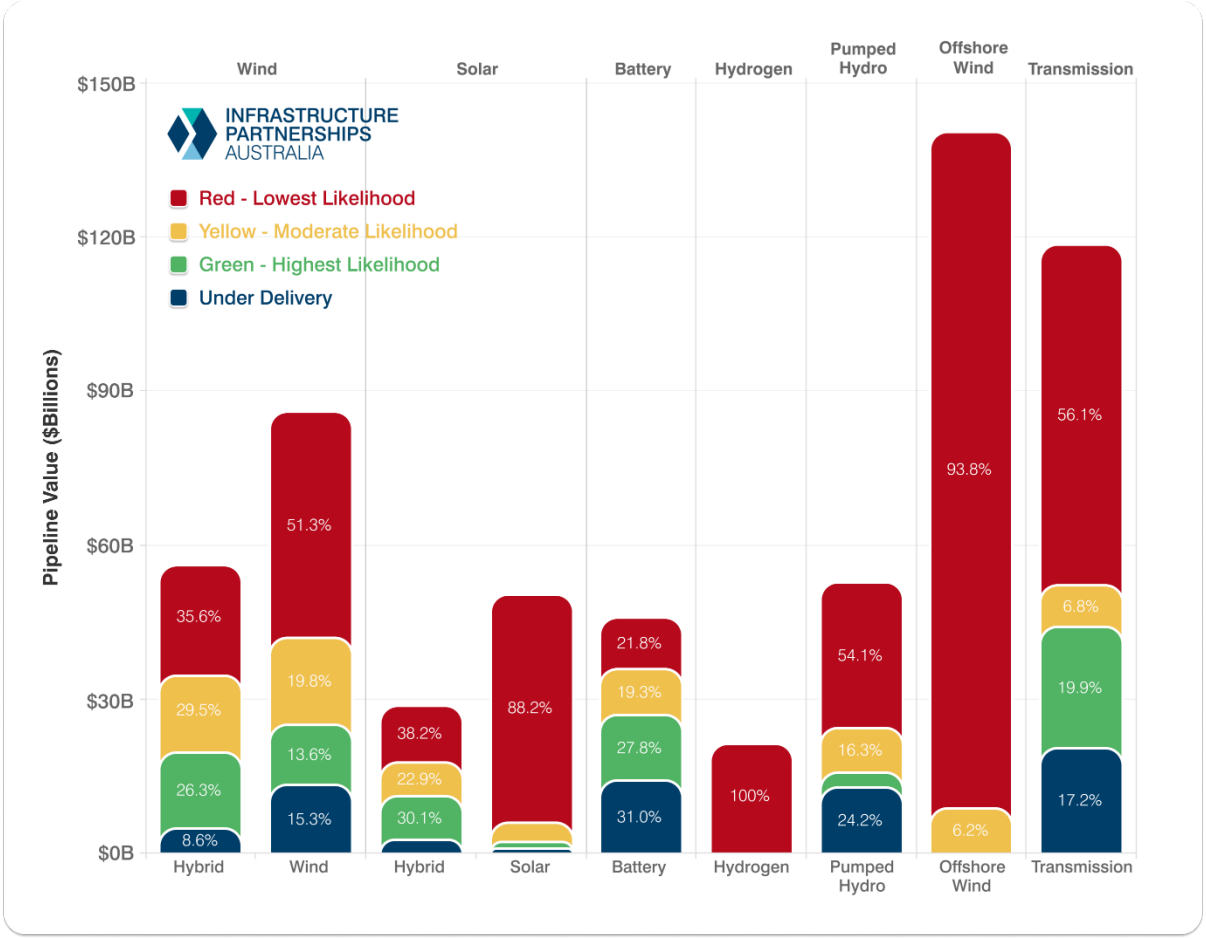
Source: Infrastructure Partnerships Australia

Applying the Matrix to the energy pipeline on ANZIP finds 18 per cent of projects are under delivery, 24 per cent of not-yet-delivered projects are Green, 25 per cent are Yellow, and 33 per cent are Red. It is expected that as time passes some projects will progress towards delivery, moving through the colour scale, while others will not progress and eventually exit the pipeline.

ASSET CLASS DYNAMICS

The energy pipeline currently totals 298 projects worth $599 billion. The bulk of the pipeline by value is made up of onshore wind, offshore wind, transmission and solar projects, with pumped hydro and chemical battery projects the next largest asset classes. The forces at play governing this market are far from uniform, with different asset classes being impacted in distinct ways. Figure 2 shows the energy pipeline by asset class and Plausibility Matrix categorisation.

Figure 2: ANZIP projects by asset class and Energy Infrastructure Plausibility Matrix category



Source: Infrastructure Partnerships Australia

Of the asset classes assessed for plausibility, chemical batteries have the greatest proportion of projects Under Delivery and the second highest proportion of projects categorised as Green. The Plausibility profiles of standalone solar and hybrid solar projects tell a markedly different story, with standalone projects far less likely to meet their construction schedules than those projects that also include the flexibility of a battery. Plausibility challenges are also observed in standalone wind projects with over 70 per cent of the pipeline assessed as Yellow or Red.

The results of this matrix should come as no surprise. Unlike the transport boom of the last 15 years which saw the delivery of singular projects solving singular problems – there can only be one road linking Point A to Point B – the energy pipeline often involves multiple proposals, of varying qualities, attempting to solve variants of a singular problem – there are many possible options for generating power in a wide geographic region. Consequently, something akin to an artificial oversupply of notional projects is created in the pipeline as multiple solutions jockey to solve a finite problem. During this process a wide range of potential projects must be considered while their merits are assessed, which leads to turnover in the pipeline, as projects which don't pass the test are removed.

This turnover is represented by the 22 energy projects removed from ANZIP so far this year. Some of these projects were deemed non-financially viable in the case of hydrogen, some offshore wind projects ran into unforeseen challenges, while other projects were simply left to wither on the planning vine as it became apparent to the proponent that their project may not be the winning solution to a particular problem.

The energy transition was never going to be a seamless journey, with plenty of bumps expected along the way. Fortunately, Australia possesses the necessary skills, expertise and capital required to navigate these issues. Infrastructure Partnerships Australia will continue to keep our members updated across these challenges by providing analysis of the pipeline and hopefully reporting green shoots of improved conditions as we develop solutions at scale to solve the transition.

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