By mid-June, if everything goes as expected, Adani Australia will receive the final environmental approvals for its proposed Carmichael coal mine and rail line development.

Newspaper reports based on briefings from Adani suggest that, once the approvals are in place, the company could begin digging "within days".

On Friday the Queensland government approved Adani’s plan to protect a rare bird, apparently leaving it with just one final regulatory hurdle: approval for its plan to manage groundwater.

Its billboards in Brisbane read: "We can start tomorrow if we get the nod today".

But several big obstacles remain. Even after governments are out of the way, it will have to deal with markets and companies that aren’t keen on the project.

Obstacles aplenty

First up, there’s the problem of access to Aurizon’s rail line. Adani originally planned to build its own 388km railway from the Galilee Basin to its coal terminal at Abbot Point.

However, in the scaled-down version of the project announced last year, Adani plans to build only 200km of track, before connecting to the existing Goonyella line owned by the rail freight company Aurizon.

That requires an agreement of access pricing and conditions. Aurizon is legally obliged to negotiate with Adani, but has shown itself to be in no hurry to reach a deal.
Then there’s insurance.

Faced with rejection by every major bank in the world, Adani announced it would fund the project from its own resources.

But now insurers, including nearly all the big European firms and Australia’s own QBE, are saying the same sort of thing as the financiers.

Without insurance, the project can’t proceed, and the pool of potential insurers is shrinking all the time.

**Not particularly financial**

But the most fundamental problem may lie within the Adani group itself. The $2 billion required for the project will ultimately come, in large measure, from chairman Gautam Adani’s own pocket.

With an estimated wealth of $7 billion, he can certainly afford to pay if he chooses to.

But it would represent a huge bet on the long-term future of coal-fired electricity, at very bad odds.

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**PHOTO:** A substantial amount of the cost of the A$2 billion project is expected to come from chairman Gautam Adani’s pocket.

(Four Corners: Stephen Long)

In my analysis of the original Carmichael mine proposal in 2017 I concluded that the profit from operating the coal mine would be around $15 per tonne.

A recent analysis of the revised project by David Fickling for Bloomberg yielded a marginally more favourable estimate of $US16 per tonne, or $US160 million a year for the initial output of 10 million tonnes per year.

That’s a small return on $2 billion, before considering overheads and depreciation.

**It’d need a long life...**

Such an investment could only be profitable on the basis of a mine with a long life and substantial potential for future expansion. How likely is that?

When the start of construction was re-announced last November, it was suggested the coal might be shipped by 2021. With six months’ delay, and the insurance problem noted already, 2022 seems like the earliest possible date.
But by that time, the current construction pipeline for coal-fired plants in India will have been worked through, and very few new ones will be being commissioned.

A mere eight gigawatts of new coal-fired power was commissioned in 2017-18, partly offset by 3.6GW of coal-fired power stations that closed down.

The Indian government has stated that no new coal plants will be needed after 2022, or 2027 at the latest.

A race to the bottom

In these circumstances, newly opened coal mines will be able to sell coal only if they can displace existing suppliers. This suggests prices will have to fall to a level sufficient to ensure further closures of existing mines. Such a fall would erode or eliminate Adani's already thin margins.

By 2030, with the project still in its relatively early stages, most developed countries will have stopped using coal-fired power.

The others will be moving fast in that direction. So far under President Trump, the United States has closed 50 coal-fired power stations, and will almost certainly never build another.

The only glimmer of hope for coal has been in less developed countries in Asia. But over the course of this year, even these hopes have dimmed.

Major banks in Japan and Singapore have withdrawn from funding new coal projects, following the lead of the global banks based in Europe and the US.

That leaves South Korea and China as potential sources of funding. Korea is already phasing out coal-fired power domestically and its banks are being pressured to divest globally.

The option of relying solely on China is problematic to say the least.

To sum up, unless current trends change dramatically, the economic life of the Carmichael mine is unlikely to be more than a decade — nowhere near enough to recover a $A2 billion investment.

Explaining Adani

So what could be going on? Perhaps Gautam Adani is willing to lose a large share of his wealth simply to show he can't be pushed around. Alternatively, as on numerous previous occasions, his promises of an imminent start to work may prove to be baseless.

The third, and most worrying, possibility is that the political pressure to deliver the promised Adani jobs will lead to a large infusion of public money, all of which will be lost.

The $900 million Adani sought from the Northern Australia Infrastructure Facility in 2017 would be enough to keep the project going for a couple of years, without the need for Mr Adani to risk his own money. It now appears that a similar sum might be sought from the Export Finance and Insurance Corporation.

All this is speculation. Assuming the approvals come through by the Queensland premier's self-imposed deadline of June 13, we will find out soon enough whether something happens, or whether something else will stay in the way.

John Quiggin is professor of economics at the University of Queensland. This article originally appeared on The Conversation.
Why Adani's planned Carmichael coalmine matters to Australia - and the world

Proposals for one of the world's largest mines in Queensland threaten not only the Great Barrier Reef, but also global efforts to reduce carbon emissions

Michael Slezak
Wed 16 Aug 2017 08.49 AEST

Adani's proposed Carmichael coalmine in Queensland would be the largest Australia has ever seen and the federal and state governments are keen to offer it financial support.

What will the extent of the project be?
Adani has said that over a 60-year lifetime, the company expects to extract 2.3bn tonnes of coal, which would make it equivalent to the biggest mine in the US.

It is proposed to have six open-cut pits as well as five underground mines, with a disturbance area more than 30km long.

The company initially obtained approval to remove 60m tonnes of coal each year, but has scaled back its ambition to an initial production rate of 25m tonnes a year.
But building the mine would have a much wider indirect effect. Carmichael would be the first mine in the giant untapped Galilee coal basin. The infrastructure that would be built to allow extraction of coal from the Carmichael mine could serve at least 10 more. If all the mines mooted for the basin were built and reached their proposed maximum output at the same time, they would be producing 330m tonnes of coal a year - more than Australia’s entire coal industry does now.

Industry consultant Wood Mackenzie has estimated that about half that might actually be extracted in any one year.

The government’s Northern Australia Infrastructure Fund is considering an A$900m subsidised loan and Matt Canavan, who was responsible for that fund until stepping aside as resources minister last month, has repeatedly stated his strong support for the project.

The Queensland state government has made a deal with Adani, offering it a break on its royalty payments for the coal it extracts - but the details are secret.

**Why are people so opposed to it?**

A wide range of groups are opposed to the project for different reasons.

**Climate:** If the mine does extract all the coal Adani says it plans to, the average emissions from burning that coal will amount to about 77m tonnes of CO2 each year.

And if the mine reaches its touted peak production rate of 60m tonnes a year, it will be responsible for more than 120m tonnes of CO2 emissions in those years - more than the annual emissions of many countries.

If the mine goes ahead and that leads to the development of other mines in the basin, their potential combined maximum output would result in more than 705m tonnes of CO2 being emitted each year. That’s about 1.3 times Australia’s total current emissions. If even half that were produced it would result in emissions larger than those of most nations.

If the world wants to have a 50% chance of keeping global warming at less than 2C above pre-industrial levels, 88% of the world’s known coal reserves need to stay in the ground. In the Asia-Pacific region, more than 90% of coal needs to stay in the ground, according to research published in Nature.

Coal burned in other countries is not counted in Australia’s emissions - coal from Carmichael would be exported to India - but many scientists and commentators have pointed out that producing those emissions runs counter to Australia’s commitment in the Paris climate agreement to work to keep global warming at “well below” 2C.

**Water:** Among the most pressing environmental concerns with the Carmichael mine, aside from climate change, is its reliance on water, a precious resource in Australia. Coal mining uses a lot of water for everything from cooling cutting equipment in underground mines through to transporting coal as a slurry in pipelines. About 250 litres of freshwater is used for each tonne of coal produced.

In April the Queensland government granted Adani a highly unusual water licence to extract unlimited amounts from a water body that feeds into the underground Great Artesian Basin.

Adani itself has estimated it will use 12bn litres of water a year - or 13 Olympic swimming pools a day. The licence acknowledges this will “have an impact on the underground water levels in the region of the mine” both during and after the mine’s planned years of operation.
As that water level drops, farmers’ bores could run dry and unique ecological communities in the region that rely on the natural springs may be destroyed. Environmentalists and farmers have complained that there are no “trigger thresholds” that will force mining to stop if Carmichael uses too much water.

**Impacts on the Great Barrier Reef:** Environmental groups have worked hard to link the development of the Carmichael mine to the destruction of the reef. Over the past two years, half the coral on the reef has been killed in bleaching events caused by rising water temperatures, mostly a result of climate change.

Scientists have said that for coral reefs to have any chance of a future, global warming must be stopped at 1.5C. Even if that could be achieved, coral reefs would be severely degraded.

So to the extent that coal from the mine contributes to global warming, it is a threat to the reef. But the mine will also have a more direct impact, since the coal will be exported to India via a shipping terminal on the Queensland coast at Abbot Point, opposite the reef, increasing the risks of collisions, spills and excessive coal dust harming corals.

The terminal will be expanded to accommodate coal from the Carmichael mine, which will involve dredging. This is notoriously problematic for surrounding coral, since it stirs up sediment, which degrades water quality and starves coral of sunlight.

**Adani’s reputation:** A report by Environmental Justice Australia detailed a long list of allegations of environmental damage caused by Adani Enterprises and its subsidiaries around the world. And a more recent report by the same group detailed evidence in support of allegations of illegal business dealings, which EJA says points to involvement in large-scale illegal mineral exports and violations of Indian environmental laws that harmed the environment and communities.

**What is the support for the mine based on?**
The most common reason given by Australian politicians for supporting the Carmichael mine is jobs - but other arguments are raised in support of it too.

**Jobs:** Queensland’s unemployment rate is at 6.4%, and higher in some regional areas. So 10,000 jobs, as Adani, Australian prime minister Malcolm Turnbull and others have said the project will provide, are a strong motivation to support the project.

But that “10,000 jobs” figure is pulled from Adani’s publicity material, and is contradicted by testimony in a Queensland court, given by consultants for Adani. Jerome Fahrer from ACIL Allen Consulting submitted an analysis on behalf of Adani estimating the project would create just 1,464 jobs.

And that figure is an estimate over the lifetime of the project, assuming it reaches maximum capacity, extracting 60m tonnes of coal a year.

But according to Wood Mackenzie, the jobs in Queensland would come at the expense of mining jobs elsewhere. In a report for the Infrastructure Fund, which has coal investments in the neighbouring state of New South Wales, it found coal-producing basins in NSW and southern Queensland would cut their production by more than a third, due to a drop in coal prices, if Carmichael opened. It also found 10 new projects that would otherwise go ahead in NSW would no longer be profitable.

**Alleviating poverty:** Australian ministers have argued that coal from Adani’s Carmichael mine will help lift people in India out of poverty, since it will be used to generate electricity in a...
country where many people have no access to power.

Australia’s minister for the environment and energy, Josh Frydenberg, has said the mine will help “lift hundreds of millions of people out of energy poverty, not just in India but right across the world”.

It is true that about 75m rural households and 6m urban households in India have no power. But burning more coal won’t help the vast majority of those people, since they don’t have a connection to the electricity grid.

Access to the grid is too expensive for most of those people, making off-grid renewable generation a much more realistic option for alleviating energy poverty. The Indian government is aware of this, with plans to stop importing coal altogether. And its energy policies have been driving the cost of solar to record lows.

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