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A CASE STUDY OF THE CARMICHAEL COAL MINE FROM THE PERSPECTIVES OF
CLIMATE CHANGE LITIGATION AND SOCIO-ECONOMIC FACTORS

Sandra Cassotta, Vladimir Pacheco Cueva & Malayna Raftopoulos

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1

INTRODUCTION

In 2010, Adani Mining Pty Ltd (Adani) proposed the development of what would become one of Australia's most controversial mining projects. Known as the 'Carmichael Coal Mine' (sometimes referred in the Australian media as the 'Adani Mine' or 'Adani project'), the project has a predicted lifetime of 60 years and estimated life cycle production of 2.3 billion tonnes of thermal coal. Due to its enormous scale, and despite its potential economic and social effects (including fiscal income), the project has met fierce opposition because of its potential environmental and social impacts. It is estimated that the burning of coal from the mine will generate 4.6 billion tonnes of greenhouse emissions. These emissions are over 0.5 per cent of the remaining carbon budget which has been set to limit global temperature rises to 2°C above pre-industrial levels.¹ As such, the Carmichael Coal Mine project, which was initially projected to become one of the largest coal mines in the world, has found itself the object of an increasing amount of climate change litigation in Australia's courts. By 2020, the reputation of the Adani Group was so compromised that the company decided to change its name to 'Bravus Group' after mistakenly thinking that Bravus meant 'brave' or 'courageous' in classical Latin.² In reality, as explained by an article in *The Guardian* 'Bravus' means 'crooked' or 'deformed', 'mercenary' or 'assassin' in that language.³

By using the Carmichael Coal Mine as a case study, the purpose of this paper is to explore and analyse climate change litigation in a systemic legal and socio-economical approach. It will focus on the current challenges and potentials of the Australian legal framework and the jurisprudence of climate change litigation. The aim is to advance toward a more conscious global approach to designing regulations that can consider and balance direct economic benefits for the local economy, and global environmental concerns and global common vision about how to manage mining developments and energy challenges. The research question seeks to identify in the Carmichael Coal Mine case what are the legal elements of regression and advancement in climate change litigation that enable economic and social contributions against climate change impacts.

When examining this particular mining project, the authors will consider global concerns highlighted, for example, by the Paris Agreement and the International Panel of Climate Change (IPCC) concerning greenhouse emissions or by the United Nations Development Programme's (UNDP) Agenda 2030 relating to access to reliable source of energy for the population. This approach is to provide substantive guidance, especially in relation to how the local regulators and policy makers should proceed if they are to succeed in managing and regulating these projects when faced with climate change litigation. In that sense, climate change litigation can serve as a catalysing factor to facilitate the transition from fossil fuel to renewable energy. However, as will be explained later, at present Queensland is not ready to balance climate change damages with short-term monetary returns.

1 Joint Report to the Land Court of Queensland on 'Climate Change – Emissions', *Adani Mining Pty (Adani) v. Land Services of Coast and Country Inc. & Ors.* by Chris Taylor 1-16.

2 M Philpott, 'Adani Mining Changes Name to Bravus After 10 Years in Australia', *ABC News* (5 November 2020) <<https://www.abc.net.au/news/2020-11-05/adani-changes-name-to-bravus-mining-and-resources/12851592>>.

3 Naaman Zou, 'Crooked Not Courageous: Adani Renames Australian Group Bravus Mistaking it for 'Brave' *The Guardian* (5 November 2020) <<https://www.theguardian.com/business/2020/nov/05/crooked-not-courageous-adani-renames-australian-group-bravus-mistaking-it-for-brave>>.

2

THE BACKGROUND OF THE CARMICHAEL COAL MINE PROJECT

Australia is one of the most vulnerable continents to the impacts of climate change and is at the same time the location of the largest coal developments, thus making it the scene of numerous juridical reviews concerning coal mining projects and climate change

litigation. The Carmichael Coal Mine, located in Queensland, is only one example of climate change litigation processes in Queensland. Queensland jurisdictions, by means of merit review and judicial review, had to face numerous obstacles against coal mining project proposals in order to evaluate the approaches taken by tribunals and courts to the environmental assessment of coal projects.

The Carmichael Coal Mine is one of those difficult cases with massive environmental, climate and Indigenous rights implications, making it especially valuable for analysis. In particular, the focus is on all the legal elements of the approval process, how social actors contest them and how these are linked to economic and social considerations.

Although none of the challenges presented in this article have succeeded in stopping the Carmichael Coal Mine project, the authors are able to identify some elements of advancement and regression in the climate change litigation's process. These elements allow for new legal paths to blocking future project approvals in the mining sector if such projects pose threats to the environment and/or aggravate climate change.

In 2010, the Adani Group proposed the Carmichael Coal Mine project in Queensland's Galilee Basin. It involves a Greenfield open-cut coalmine, an underground coal mine, associated mine processing facilities and a 388 Km railway, linking the mine with the coal port at Abbott Point, near the town of Bowen.^{4,5}

The process of approval of the project was an exhausting experience from 2010 to the Queensland Coordinator-General's recommendation to approve the project in early 2014, after numerous approval processes and court proceedings.⁶ The Carmichael Coal Mine case involved numerous objections in climate change litigation and on a number of different grounds, including impacts on the Doongmanbulla

Spring Threatened Ecological Community, threatened species like the Black-throated Finch, and the mine's contribution to climate change. In addition, the economic feasibility of the project was among the objects of litigation. Climate change arguments of the Carmichael Coal Mine case (as in other cases considered by the Australian jurisprudence) build on scientific expertise related to climate change impacts and on joint expert reports, such the report of Dr Meinshausen's carbon budget model.⁷ According to this joint expert report, the carbon budget available after 2015 has been depleted to 850 billion tonnes of carbon dioxide, with exploitation of all known coal reserves having the potential to contribute 4,000 to 7,000 billion tonnes of carbon dioxide.

The 'Green Gas Protocol', is an international accounting for GHGs⁸ which categories GHGs emission into three categories: Scope 1 emission that are direct greenhouse gas emission from a project; Scope 2 emissions that are indirect greenhouse gas emission from the generation of purchased electricity; and Scope 3 emissions that are all other indirect greenhouse gas emissions resulting from a company's activities. This expert group reported that over its lifetime, the proposed Carmichael Coal Mine project will account for 0.53-0.56 per cent of the global carbon budget. The expert report also calculated GHGs emissions on a cumulative emission basis, including Scope 3 emissions, and concluded that the potential of emissions from the Carmichael Coal Mine project will be the highest of the world.

This report was accepted by Queensland Land Court, and thus determined an important advancement in the capacity of the Courts to take science into consideration in the legal reasoning by recognizing the concept of 'cumulative emissions'.⁹ This is the

4 N McNamara and W Crane 'Public Participation and the Adani Syndrome' (2018) 35(3) Environmental and Planning Law Journal Volume 327.

5 Another proposal exists for a 189 Km railway line if the line connection goes to Goonyella Railway line, rather than going directly to Abbot Point terminal.

6 McNamara and Crane (n 4) 328.

7 Chris Taylor and Malte Meinshausen, Joint Report to the Land Court of Queensland on 'Climate Change Emissions' – Adani Mining Pty Ltd (Adani) v Land Services of Coast and Country Inc. and Ors (2014) 8.

8 The Greenhouse Protocol is a widely used Protocol in international accounting for green gas emissions. For more details on the Protocol and Scope 3, see <<https://www.ghgprotocol.org>>.

9 Adani Mining Pty Ltd v Land Services of Coast and Country Inc. [2015] QLC 48, [429]. The concept of cumulative emissions will be further analysed in section 2.4.2.

‘cumulative capacity’ and ‘long terms effects’ of GHGs emissions and their capacity to cause environmental harm, as defined in the Australian legislation in particular the Mineral Resource Act (MRA)¹⁰ and the Environmental Protection Act (EPA).¹¹

The Carmichael Coal Mine case has gone through numerous judicial reviews of government decision-making since 2010 until now. Courts examined the lawfulness rather than reconsidering the substance or merits of the decision. The case is selected because it is very significant in terms of the development of the jurisprudence in climate change litigation as it allows the identification of relevant factors when making mining project approval decisions.

2.1 The Regulatory Framework for Mining in Queensland

Australian law deals with climate change impacts to the environment in a fragmented manner. There is no specific legislation. In order to fill this gap, climate change litigation in the mining sector has engaged in a range of specific legal frameworks mostly focusing on elements of environmental impact assessment under environmental protection, planning legislation and approvals of licenses of coalmines within the statutory context. Since Australia is a federation of states and territories, these elements are pertinent to the state level, with federal legislation engaging only in matters of national environmental significance, such as threats to Commonwealth-listed threatened species. This section will focus on the statutory context of this federation, specifically the legal framework where the process of approval of a mining project in this jurisdiction takes place, including how matters of climate change that arise in the assessment of the mining approval processes can be covered.

Environmental assessment, planning legislation and approval of licenses for coalmines in Queensland, applicable to the Carmichael Coal Mine case, involve four main statutory instruments necessary for a

resource title or a mining tenure and an environmental authority:

- 1) The Mineral Resource Act 1989 (Qld) (MRA);
- 2) The Environmental Protection Act 1994 (Qld) (EPA) that provides an environmental authority to be requested;
- 3) The State Development and Public Works Organization Act 1971 (Qld) (SDPWOA) for large scale projects;
- 4) The Environmental Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act), which implies a scheme of adaptive management.

The MRA has a mineral exploitation focus and does not tackle environmental protection. The MRA has objectives such as encouraging and facilitating mining projects, ensuring a financial return to the State and developing an administrative framework that accommodates mining projects. In contrast, the EPA is focused on environmental protection.

The SDWPA facilitates and assesses large mine project proposals, which means that under this act, mining projects will undergo an assessment process that includes the production and public notification of an Environmental Impact Assessment (EIS).¹²

The EPBC implies a scheme of adaptive management, which is a technique of natural resource management that demands participatory objective settings, ongoing monitoring, and iterative decision-making. It is best suited to projects with high uncertainty about an ecosystem and when the impact of decisions may be irreversible.

This act presents an advancement in terms of effectiveness of environmental protection because adaptive management hitherto has been applied in

¹⁰ Mineral Resource Act 1989, Queensland.

¹¹ Environmental Protection Act 1994, Queensland.

¹² Most major projects will in practice also be declared as ‘coordinated projects’ under the SDPWOA and a proponent is able to apply for such a declaration, which if made will entail for the Coordinator-General the dual roles of facilitating and assessing the large mine project proposals.

Australian decisions only in circumstances where the strategy was already prescribed through approval conditions and EIA, rather than where the court itself determined that it was appropriate, which proves that there is a willingness in the judiciary to engage in an analysis of adaptive managements programmes.¹³

Adaptive management is also strongly coupled with environmental law in the application of the Precautionary principle, which states: 'where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing costs-effective measures to prevent environmental degradation'.¹⁴

However, both under EPBC and the EPA there is no specific mention of GHGs emission. The MRA focuses on mineral exploitation rather than protecting the environment and the Coordinator-General conditions under the SDPWO are inconsistent with the possibility to take climate change impacts considerations into courts, especially with regard to the possibility to demonstrate the causality link or causation, which is the link existing between an individual mining project and the impact on climate change.¹⁵ The lack of specific reference to GHGs emissions under the EPBC and EPA means that consideration to climate change in an environmental context involves the adaptation of principles only concerned with direct local impacts in their decision-making rather than about the multi-various causes and in particular, global consequence of climate change.

The gaps present in the statutory framework of the process of approval of a mining project including climate change components are not the only hurdles in climate change litigation in Australia. The big elephant in the room is in the decision-making process for challenging major mining projects in Queensland

that is rather unusual if compared to other jurisdictions.¹⁶

Under the EPA, the Land Court must consider different factors, which gives more weight to environmental protection considerations.¹⁷ In contrast, under the MRA, the Land Court must also take into account and is also supposed to consider other elements and be able to weigh economic and social considerations against environmental protection goal achievements.¹⁸

What is unusual in the Queensland system is that the Land Court determination is not binding on government and the effect is only a mere 'recommendation'. This means that the Court may recommend approval or refusal of a project with or without additional conditions imposed.

2.2 Climate Change Science and Australian Responsibility to Climate Change

Climate change has proven to be an intractable problem for the past twenty years, despite numerous meetings in the global United Nations Framework Convention on Climate Change (UNFCCC).¹⁹ Under the Kyoto

13 C Slattery, 'Canary in the Coal Mine: Why the Approval Conditions for the Carmichael Mine Reveal the Need to Amend the EPBC Act to Incorporate Adaptive Management Principles' (2016) 33 *Environmental and Planning Law Journal*, 428.

14 *SHCAG Pty Ltd v Minister for Planning and Infrastructure* (2013) NSWLEC 1031, 86.

15 The concept of 'causation' or 'causality link' will be further analysed in section 2.4.1.

16 It is unusual compared to other jurisdictions whereby a final decision is first made whether to approve a mine, with this decision then able to be appealed or judicially reviewed, rather than the court making a recommendation to a final decision-maker. J Bell-James and S Ryan, 'Climate Change Litigation in Queensland: A Case Study in Incrementalism' (2016) 33(6) *Environmental and Planning Law Journal* 581.

17 Under the EPA, the Land Court considers a number of factors, including: Principles from the Intergovernmental Agreement on the Environment, including the Precautionary principle, intergenerational equity, and conservation of biological diversity and ecological integrity; any relevant environmental impact assessment impact study, assessment report; the character, resilience and values of the receiving environment; all submissions made by the applicant and submitters; the financial implications as they would relate to the type of activity or industry carried out, or proposed to be carried out, under the instrument and the public interest. See the *Environmental Protection Act 1994*, 1994 (Qld) s 191, 191 (g).

18 *Mineral Resource Act 1989* (Qld) s 269 (4).

19 *UN Framework Convention on Climate Change*, New York, 9 May 1992, 1771 UNTS 107.

Protocol,²⁰ the parties are required to account for GHGs emission and industrialized nations are committed to emissions reduction targets.

Progress has been made with the signature of the Paris Agreement²¹ to which the parties, including Australia, a signatory party, agreed to limit global warming to below 2°C, and now with a new aspirational goal of 1.5°C. However, at the event, Australia defended its rights to adjusting its targets even though these are currently not ambitious enough to stay under the 1.5°C or 2°C limit.²²

There is undeniable consensus and scientific evidence that climate change represents a serious, global threat and it is extremely likely that human influence has been the dominant factor, as found by the Intergovernmental Panel on Climate Change (IPCC).²³ Negative impacts have already been observed to water quality, ecosystems shifts, crop yields and an increase in climate related extreme events, such as heat waves, droughts, floods, cyclones and wildfires.²⁴ In October

2018, the IPCC released a report that warned of severe and catastrophic consequences if urgent action is not taken to limit temperature rises to 1.5°C.²⁵ Without any doubt 'urgent action' includes the elimination or significant reduction of coal combustion.

However, in response to climate change agreements, in Australia, the Morrison Coalition Government²⁶ announced that its focus remained on ensuring energy prices remain low and only two days before the May 2019 Australian Federal election was called, he gave final approval to what is one of the largest coal mines of the world, the Adani Carmichael Coal Mine.²⁷

The current scientific understanding of climate change, quantification of emissions as proposed from the Carmichael Coal Mine project, and the contribution of those emissions to climate change has been prepared and documented in a joint expert report on greenhouse gas and climate change issues for the Land Court of Queensland hearing of objections to granting the mining lease (ML) and environmental authority (EA) applications for the mine and rail components of the project. Even with a reduced timeframe scale, Carmichael Coal Mine project is one of the largest coalmines in the world and presents a serious impact on the global temperature rising to 2°C above pre-industrial levels.

The crucial question is how the tribunals and courts deal with this evidence when deliberating on legal issues and if the way they deal with scientific evidence actually facilitates the transition away from fossil fuels. From an analysis of the jurisprudence of other cases, such

20 Kyoto Protocol to the United Nations Framework Convention on Climate Change, Kyoto, 11 December 1997, 2303 UNTS 162.

21 Paris Agreement, Paris, 12 December 2015, in Report of the Conference of the Parties on its Twenty-First Session, UN Doc FCCC/CP/2015/10/Add.1.

22 Jillian Button and Hamish McAvaney 'The Big Picture: Australia's Commitments under the Paris Agreement' Allens Insight (Melbourne, 26 May 2020) < <https://www.allens.com.au/insights-news/insights/2020/05/climate-change-guide/the-big-picture-australias-commitments-under-the-paris-agreement/> >. 23 Intergovernmental Panel on Climate Change (IPCC), 'Summary for Policymakers' in TF Stocker and others (eds), IPCC, Climate Change 2013: The Physical Science Basis. Contribution of Working Group 1 to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (CUP 2013) 17.

23 Intergovernmental Panel on Climate Change (IPCC), 'Summary for Policymakers' in TF Stocker and others (eds), IPCC, Climate Change 2013: The Physical Science Basis. Contribution of Working Group 1 to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (CUP 2013) 17.

24 Intergovernmental Panel on Climate Change (IPCC), 'Summary for Policymakers', IPCC, Climate Change 2014: Impacts, Adaptation, and Vulnerability, Part A: Global and Sectoral Aspects, Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (CUP 2014).

25 Intergovernmental Panel on Climate Change (IPCC), Global Warming of 1.5°C. An IPCC Special Report on the Impacts of Global Warming of 1.5 above pre-industrialized Levels and related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development and Efforts to Eradicated Poverty (World Meteorological Organization 2018).

26 The 'Coalition' is made up of two of Australia's main conservative parties: The National Party and the Liberal Party. The Coalition's historic contender in the Australian political scene is the Labour Party.

27 V McGinnes and M Raff 'Coal and Climate Change: A Study of Contemporary Climate Litigation in Australia' (2020) 37(1) Environmental and Planning Law Journal 91.

the 2012 Wandoan Mine Case²⁸ and the 2014 Hancock Coal Case,²⁹ various objectors question both threatening climate change predictions and optimistic predictions of economic benefits. The Carmichael Coal Mine case is one of these.³⁰ It is important to observe that climate arguments build upon the jurisprudence from reports produced by experts on climate change impacts, who produced the joint expert report mentioned above, which in turn relies on Meinshausen's carbon budget model.

Calculated on a cumulative basis, which would include Scope 3 emissions, potential emissions of the Carmichael Coal Mine are among the highest in the world. The expert report underlines that these cumulative emissions will matter for the long-term.

The argument was accepted by the Land Court in 2015 when deliberating on the *Adani Mining Pty Ltd v Land Services of Coast and Country Inc. (2015)*, QLC 48 (429), which represents a significant step of progression in climate change litigation as the Land Services Court and Supreme Court of Coast and Country Inc. (LSCC). They argued that the cumulative emissions from the mine should be considered and that these cumulative emissions will have a global effect on the environment. This effect will cause environmental damage within the definition of the EPA and could pave the way for future Australian responsibility for climate change.

2.3 Legal Elements of the Approval Process in Climate Change Litigation: Advancements and Regressions

Climate change litigation plays a fundamental role in cases where governments are weak in taking action against climate change impacts. In the last decade, in Queensland there has been a significant amount of public interest litigation opposing government

approvals for new mining activities, albeit not successful, in stopping the activity.

This section analyses the legal elements determining causes of approval or rejection of the Carmichael Coal Mine case. It investigates if those legal elements were based on climate change argumentation and if those elements can be discerned as signs of regression or advancement in climate change litigation. Climate change litigation can demonstrate that there are weaknesses not only in the laws but also in the legal reasoning and legal interpretation made by the judges. Both the jurisprudence and the law can be key factors in pushing the mining sector to improve its performance and to increase awareness and responsibility from polluters.

From an analysis of selected relevant case law of the Carmichael Coal Mine case,³¹ it is possible to unfold the legal elements of the approval process and how those elements have been contested by court's reasoning. In particular, five elements were decisive in climate change litigation of the Carmichael Coal Mine case:

- 1) Causation;
- 2) Cumulative emissions;
- 3) Precautionary principle;
- 4) Market Substitution Agreement (MSA) and
- 5) Public interest.

The next sections will focus on each of these five legal elements in detail.

28 *Xstrata Coal Queensland Pty Lrd v Friends of the Earth – Brisbane Co-Op Ltd* (also referred as the 'Wandoan Mine Case'), [2012] QLC 13, [600].

29 *Hancock Coal Pty Ltd v Kelly (No 4)* (also referred as 'Alpha Coal Case'), [2014] QLC 12.

30 The economic impact of the Carmichael Coal Mine case will be considered in section 4.

31 Key case law in Queensland Courts concerning climate change litigation of the Coal Mine case examined in the following sections are: *Adani Mining Pty v Land Services of Coast and Country Inc. & Ors.* [2015] QLC 48 (15 December 2015); *Land Services of Coast and Country Inc. v Chief Executive, Department of Environment and Heritage Protection & Anor* [2016] QSC 272; in the Federal Courts: *Australian Conservation Foundation Incorporated v Minister for the Environment and Energy* [2017] FCAFC 134 (25 August 2017); as well as native title litigation: *Burrabungba v State of Queensland* [2017] FCAFC 133 (25 August 2017); *Burrabungba v State of Queensland* [2016] FCA 984 (19 August 2016); *Adani Mining Pty Ltd and Another V Adrian Burrabungba, Patrick Malone and Irene White on behalf of the Wangan and Jagalingou People* [2015] NNTA 16 (08 April 2015).

2.3.1 Causation

The concept of ‘causation’ or ‘causality link’ refers to the link established between an individual mining project and its impact on the climate. Although the effect of thermal coal as a major source of GHGs emission has been proven and assessed in solid, scientific studies and scientific papers, including the previously mentioned Meinshausen 2009 paper,³² proving causation has been the eternal conundrum in courts, representing a sign of regression for a long time in climate change litigation in the Australian courts proceedings in the sense that the legal reasoning of the courts has systematically denied such a causality link.

In the Carmichael Coal Mine case during the jurisdictional review process, where landholders, environmentalist and indigenous groups were challenging the grant of the mining leases, the causality link was not accepted.³³ The Queensland Land Court’s recommendation in the December 2015 case found that coal would come from elsewhere in the event of refusal.

Similarly, the Federal Court of Australia, in its judgement of the 25 August 2017 of the Judicial Review of the Australian Conservation Foundation Incorporated v Minister for the Environment and Energy [2017] FCAFC 134, did not consider causation on the ground that there is no such direct consequence between emissions and proposed actions,³⁴ and even if the actions were not taken, pollution would be caused by ‘someone else’.³⁵

However, the case does represent a considerable sign of advancement in law and also an important shift in the Australian jurisprudence because in reality, it could be advocated that ‘half a victory’ with regards to causation was achieved anyway. It was the first time

that climate change science was taken into consideration in courts and even if causation was not accepted, what was accepted was the existence of cumulative emissions from the mine to be considered³⁶ global effect on the environment and cause environmental damage within the definition of the EPA. The concept of ‘cumulative emissions’ will be analysed in the next section.

2.3.2 Cumulative Emissions

A significant advancement occurred in the Carmichael Coal Mine case due to the procedural shift by the Land Court to use joint expert reports and accept the existence of cumulative emissions and not merely annual emissions, which means that the effect of those emissions caused by coal would matter for long-term climate change. Cumulative Scope 1 and 2 emissions were even described in the Carmichael Coal Mine case as not negligible. The decision did not attribute responsibility for the impacts of Scope 3 emissions to the proponent but the Court accepted the existence of cumulative emissions and therefore de facto an equivocal link between GHGs emissions and climate change and that a single project can be considered as significant in a global context in a physical cause and effect sense.³⁷

However, the strong hurdle in the legal thinking of courts is that even though the defence does not deny a climate change contribution, the legal thinking is based on the argument that ‘if mining is not conducted with the project then someone else will do it’, in what is defined as ‘market substitution agreement’ defence. The second argument for the defence was that mining would determine significant economic benefits and jobs.³⁸ The Courts’ reasoning is based on a finding that if, in fact, global emissions are not increased, there is no impact that constitutes or causes environmental harm. The future will tell.

32 See (n 10) section 2.

33 Adani Mining Pty Ltd v Land Services of Coast and Country Inc. [2015] QLC 48.

34 Australian Conservation Foundation Incorporated v Minister for the Environment and Energy [2017] FCAFC 134.

35 *ibid* paragraph 48.

36 Adani Mining Pty Ltd (n 9) [429].

37 *ibid*.

38 The Adani’s EIS had estimated that the mine would generate over 10,000 jobs. It was revealed at a trial thought expert modelling that this figure was in fact more likely to be 1,206 jobs in Queensland, as part of a total 1,464 jobs in Australia.

2.3.3 Precautionary Principle

During the referrals, the Land Court conducts a hearing with applicants in proportion to the number of parties objecting, for example to a mining lease. When doing so, Land Court takes into consideration the EPA that considers a number of principles of environmental law, amongst which the Precautionary principle.³⁹ In order to prevent serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.⁴⁰

In the Adani Carmichael Coal Mine Case in Queensland, the Federal Court decision in the *Australian Conservation Foundation Inc. v Minister for the Environment (ACF)*⁴¹ rejected the argument of the applicant that the Minister failed to take into account the Precautionary principle. The court explained that the application of the principle requires two conditions precedent: a) a threat of serious or irreversible environmental damage; and b) scientific uncertainty as to the environmental damage. The legal court reasoning is that if there is not a threat of scientific or irreversible damage, the precautionary principle is not triggered.⁴²

The rejection of taking the Precautionary principle as a legal argument to stop the mining lease in the Adani Carmichael Coal Mine Case above into consideration may be due to the way this principle is applied in Australia. When applying the precautionary principle in the Australian context, one must be mindful to frame their consideration in scientific uncertainty rather than uncertainty generally. If the court reasoning considers that if there is, in fact, incontrovertible evidence that a mine will open overseas directly in response to the rejection of a mine in Australia and this mine will produce coal at an identical rate and over identical timeframes, then there is an argument that

there is no threat of serious and irreversible damage caused by allowing the Australian mine to proceed.⁴³

There is an evident sign of regression in the way the court interprets the climate change component, as it is not possible to predict the future of the coal market for the duration of the mining lease, which in turn means that it cannot be proven on the balance of probabilities that the impacts of a mine will be cancelled out by a theoretical alternative mine.

If the court reasons in ‘scientific terms’⁴⁴ and what is assessed is the amount of GHGs emissions that will certainly enter into the atmosphere, then a logical conclusion is to simply accept that there is indeed a threat of serious and irreversible damage and the lack of certainty as to the state of the coal market should not be used as a reason to postpone measures to prevent environmental harm.

In the Adani Carmichael Coal Mine Case, the Federal Court decision, in the *Land Services of Coast and Country Inc. v Chief Executive, Department of Environment and Heritage Protection & Anor* [2016] QSC 272 rejected the precautionary principle and the application of the ‘standard criteria’ because the possible economic benefits that the project would be able to provide were deemed more important.⁴⁵ Hence, it could be assessed that that in this judgement, economic considerations and ‘scientific reasons’ were determinant to rejecting the applicant’s contention.

2.3.4 Market Substitution Agreement

The Market Substitution Agreement (MSA) is the dilemma of Queensland climate change litigation. Queensland’s courts have systematically accepted the

³⁹ Environmental Protection Act (EPA), 1994 (Qld) s 191 (g).

⁴⁰ N De Sadeleer, ‘Environmental Principles: From Political Slogans to Legal Rules’ (Oxford University Press 2002) 221.

⁴¹ *Australian Conservation Foundation Inc. v Minister for the Environment* (2016) 251 FCR 308.

⁴² *ibid* [184].

⁴³ J Bell James and B Collins, ‘If We Don’t Mine Coal, Someone Else Will: Debunking the Market Substitution Assumption in Queensland Climate Change Litigation’ (2020) 37(2) *Environmental and Planning Law Journal*, 183.

⁴⁴ Or referring to ‘scientific uncertainty’ rather than ‘uncertainty generally’ as previously mentioned in this section.

⁴⁵ *Adani Mining Pty Ltd (n 9)* [625]: ‘Although there will be environmental damage caused by the mine, I consider that the adverse consequences are outweighed by the benefits that will flow from the development of the mine’.

MSA as an argument to dismiss climate change impacts because of mining leases. The argument was also defined as ‘no net impact’ or as the ‘drug dealer’s defence’ by Readefern.⁴⁶ The argument sustaining the MSA is essentially that there will be no net increase for GHGs in the atmosphere because of any one project because if the market demand for coal is not met by the proposed mine, then it will be extracted somewhere else.⁴⁷ The MSA has been used for example in the *Adani Mining Pty v Land Services of Coast and Country Inc.*⁴⁸ by the Land Court as a legal element in rejecting the negative impact of coal and no increase of GHGs emissions in mine where approved.

Even if there has been a sign of progression in the climate change litigation with regards to the fact that single projects are significant in a global context and the cumulative effect has been accepted,⁴⁹ the major obstacle has remained the MSA. The MSA is not a concept unique to Queensland but a concept that argues that a rejection of a particular mining project in a given location will make no difference to global GHGs and climate change because other coal mining projects will result in equal emissions and will be developed anyway somewhere else.

This is merely an assumption that is ‘market-driven’. However, MSA is wrong on several grounds as it is contrary to basic economic principles and even if a court cannot accept that the MSA is wrong, it should accept that it is uncertain.⁵⁰ Also the unethical component could be considered because even though MSA has been defined as the ‘drug dealer’s defence’, which compares mining activity to a criminal activity, it would not be acceptable that a criminal would find the way to avoid responsibility completely by arguing that should the activity be removed from the market, another criminal would do it.

In that sense, a sign of advancement in climate change litigation would be to ‘neutralise’ the MSA by instilling in the legal reasoning of the courts the use of the Precautionary principle as a counter argument, specifically on insisting on the uncertainty of the MSA and basing the legal reasoning on ‘standard criteria’. In that sense, when making an objection decision regarding an environmental authority, the Land Court must consider a number of factors, amongst which the standard criteria that are mentioned in the EPA and include the Precautionary principle as set out by the IGAE and mentioned in the previous section. However, there is still the hurdle that when applied in the Australian context, the Precautionary principle is based on scientific uncertainty understood in a ‘narrow vision’ and not scientific uncertainty in general or in a broader and holistic perspective.

The notion of scientific uncertainty should be rethought because scientific uncertainty means a scale of values, rather than one specific one relating to climate change impact. Scientific uncertainty in ‘general means’ means that we are not sure in terms of economic benefits for example or we are not sure about the results of scientific proofs ‘in general’ not only related to climate change science but also in terms of economy, sociology, health, etc. and the interactions of these impacts amongst each other. Nowadays it is impossible to consider climate science physical impacts in an isolated way but rather it is the ‘cascading effects’ between the physical world, chemical world, biological world and human societies in general that have to be considered by observing the multiple intersections existing between physical changes, ecosystem, economy, sociology in the human system. This is the broad, scientific concept of general uncertainty that should be considered in line with the contemporary scientific findings assessed from the IPCC and other relevant institutions and not the old narrow ‘mediaeval’ scientific uncertainty that the Australian courts only consider at present in climate change litigation.

For that reason, the MSA can be neutralised by arguing that it is not in line with basic economic principles and economic provisions. In case of threats of serious and irreversible damage, the lack of certainty as to the state of future coal markets should not be used as an element of the legal reasoning to postpone measures to prevent environmental damage.

46 The Guardian, ‘Is it Un-Australian to Be Driving on with Fossil Fuel Expansion Plans?’ 14 April 2014. See also, McGinnes and Raff, ‘Coal and Climate Change: A Study of Contemporary Climate litigation in Australia’, (2020) 37 *Environmental Planning Law Journal* 1.

47 *ibid.*

48 *Adani Mining Pty Ltd (n 9)* [452].

49 See previous section 2.3.2 on ‘Cumulative emissions’.

50 James and Collins, ‘If we Don’t Mine Coal, Someone Else “Will”’: Debunking the “Market Substitution Assumption” in Queensland Climate Change Litigation’ (2020) 37 *Environmental and Planning Law Journal* 167.

2.3.5 Public Interest

In *Adani Mining Pty Ltd v Land Services of Coast and Country Inc. (Adani)*⁵¹ public interest was taken into consideration and has represented an element of advancement in terms of climate change litigation since the Land Court has accepted that climate change considerations form a part of the ‘public interest’ under Queensland law. However, the legal element of public interest was not sufficiently strong to win against the MSA arguing that GHGs emissions would be emitted anyway from other projects and sources. Even though Scope 3 emissions were found to be important to consider under the public interest concept, there is still progress to be made in the court reasoning in weighing ethical and economic considerations against public interest. At a federal level, it is clear that litigation concerning the Carmichael Coal Mine case has demonstrated the weak relevance of this concept. The case was undermined by the strong economic and social interests and has become politicised by other factors rather than environmental and human protection goal achievements, probably also by the lesser relevance accorded to this concept in Australian law.

3 CLIMATE CHANGE LITIGATION LINKED WITH AN ECONOMIC, SOCIAL, PUBLIC PARTICIPATION AND STAKEHOLDERS APPROACH

Climate change litigation has served to shed light on the connection with environmental law to both economic and social benefits, which is essential to understand economic consequences. This linkage has proven useful to understand the economic benefits of the mining projects. In the Carmichael Coal Mine case, the promise of economic profits was heavily stated:⁵² the estimation of the number of future jobs the mine would have generated was over 10,000 jobs.

However, as it will be demonstrated in section 4, the estimation was overstated and the existence of certain economic voids in different sectors was later established and proved.

In the Carmichael Coal Mine case, it was the balance between public interest and economic and social factors that was important to strike and even though climate or environmental impacts had been ascertained, it was the relevance of economic benefits that was decisive in the approval of this mining project.⁵³

In the case *Adani Mining Pty v Land Services of Coast and Country Inc. of 2015*⁵⁴ the Land Court of Queensland acknowledged that the economic benefits were overestimated. However, this was not enough for the Court to warrant a refusal of the project because of the prevalence of the MSA in the case in point. This is clearly a sign of regression in climate change litigation and contradicts the science that emissions would have an impact because of the cumulative effect. The refusal to take established science into consideration and let the MSA prevail can also be considered as a climate injustice issue because of the global impact that these emissions could have in the rest of the world, especially in developing countries nearby. In addition, climate injustice is tangible with the refusal or systematic undermining behaviour of courts allowing climate-scepticism to prevail over science and law and destroying the credibility of climate scientists and their arguments in the process of litigation.

The participation of stakeholders in this process has been identified as a strong sign of advancement in the process of approval in mining projects. In the Carmichael Coal Mine case, the relevance of stakeholders’ participation reveals the need to incorporate adaptive management principles linked to public participation. This suggests considering stakeholders as a tool of success in climate change litigation processes in connection to mining lease court cases.⁵⁵ Stakeholders are an important factor that can

⁵¹ *Adani Mining Pty Ltd v Land Services of Coast and Country Inc.* [2015] QLC 48.

⁵² The economic and social approach of the Carmichael case is examined in section 5.

⁵³ *Adani Mining Pty Ltd (n 9)* [575], [586].

⁵⁴ *ibid.*

⁵⁵ C Slattery ‘Canary in the coal mine: why the approval conditions for the Carmichael Mine reveal the need to amend the EPBC Act to incorporate adaptive management strategies’ (2016) *Environmental and Planning Law Journal* 33.

influence climate change litigation as limited opportunities for stakeholders' involvement challenges the legitimacy of the approval conditions and undermines the transparency in the environmental decision-making processes.

4 ECONOMIC FACTORS TO TAKE INTO ACCOUNT IN THE CASE OF CARMICHAEL COAL MINE

In 2013, an Australian government approved independent scientific body completed a report for a number of Queensland Government agencies in relation to the Carmichael mine's supplementary EIS. Amongst the various questions posed to the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (IESC), the agencies wanted to know what 'additional measures and commitments [are] required to monitor, mitigate and manage impacts resulting from changes to surface or groundwater resources?' Amongst other things, the authors of the report recommended:

A Mine Void Management Plan, (...) would be expected to be developed prior to completion of mining in the first pit (...). In the Final Void Management Plan, the proponent should demonstrate that impacts to water resources are mitigated and managed in perpetuity.⁵⁶

This piece of advice is in line with the best practice notion that successful mine closure results in few or

no negative legacies.⁵⁷ However, Currell et al. point out that the IESC recommendation, as sage as it may be is not binding and companies are 'not required to resolve all technical and scientific issues identified in the committee's advice'.⁵⁸ Furthermore, they argue that in Australian mine approval processes, it is common to omit remediation/mitigation strategies 'if the proposed mine has a more serious impact than is currently modelled'. What is concerning about this warning is that in repeated instances Australian government regulators, make no attempt at preventing adverse outcomes in the mining sector and this behaviour pervades thinking not just in relation to environmental issues but also those of a financial and economic nature.

It is for this reason that a number of economists and journalists interested in this project have drawn similarities between the physical voids that will need to be created to extract the resource and the 'economic voids' that are likely to appear once production starts. These commentators have identified four different types of economic voids: mining royalties, tax, employment and public debt. Below, each one will be examined in detail.

4.1 Mining Royalties

Queensland's Mineral Resources Act (1989) and Mineral Resources Regulation (2013) stipulate that coal mining be subject to royalty payments based on a sliding scale of from 7 per cent to 15 per cent depending on the market value of a tonne of coal.⁵⁹ Even though this requirement may seem simple, it was the Office of the State Revenue's Royalty Ruling MRA001.2, (issued in

⁵⁶ IESC, Advice to Decision Maker on Coal Mining Project – IESC 2013-034. Carmichael Coal Mine and Rail Project – EPBC 2010/5736. Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (Canberra, 2013) <www.iesc.environment.gov.au/projectadvice/advice-decision-maker-coal-mining-project-iesc-2013-034>.

⁵⁷ P H Whitebread-Abrutat, A D Kendle and N J Coppin, 'Lessons for the Mining Industry from Non-mining Landscape Restoration Experiences' in M Tippet, A B Fourie and C Digby (eds), Proceedings Eight International Conference on Mine Closure (Australian Centre for Geomechanics 2013) 625-40.

⁵⁸ Currell, M.J., Werner, A.D., McGrath, C., Webb, J.A., Berkman, M. 'Problems with the application of hydrogeological science to regulation of Australian mining projects: Carmichael Mine and Doongmabulla Springs', *Journal of Hydrology*, (2017) 681.

⁵⁹ The rate calculation depends on the average price per tonne of coal sold, disposed of or used in a given period by a particular mining operation. See Royalty Ruling MRA001.2 Determination of coal royalty.

2019) that finally clarified a number of issues related to calculating the appropriate value of coal at the relevant taxing point and the ability to claim deductions for particular 'allowable' expenses. Before then, these issues were resolved on an ad hoc basis. However, given the enormity of Adani's initial proposal, corporate tax advisors, such as PwC and civil society organisations, raised, as early as 2013, the need to clarify coal royalty rules, thus opening up the path for what is now MRA001.2.⁶⁰

Legal clarifications aside, the issue of royalty revenues arising from Carmichael's operation needs further examination. In 2018, one of Adani's public statements said, 'The Carmichael project will pay billions of dollars in royalties'.⁶¹ This is not likely to occur, given that the market value of thermal coal (Carmichael's primary product) is expected to remain at around its current international value of USD \$8 per tonne (where the 7 per cent royalty rate applies). Carmichael's export target of 27 million tonne per annum (mtpa) is likely to yield AUD \$125m annually, a significant figure when compared to 2018's coal industry contributions of AUD \$538m but much lower than the one Adani claims because, at that market value, it will take 8 years before it reaches the 1 billion mark.⁶² One can argue that however much the company inflates its royalty payments, it will still make some payments, thus debunking the economic void claim. However, in mid-May 2015, an Australia Broadcasting Corporation⁶³ investigation found that the after some

high level political debate in the state's cabinet, the Queensland Government announced a seven-year royalty deferral for Adani valued at AUD \$320 million.⁶⁴

This together with the three years it will take to construct the mine means that the State will not receive royalties for a total of 10 years from the start of the project, which represents a significant loss of revenue for the public.

4.2 Tax

Non-renewable resources contribute approximately 10 per cent of Australia's GDP⁶⁵ and yet the country's taxation regime at the federal level does not include taxes specifically designed for profits derived from the mining sector.⁶⁶

The taxes that currently apply to mining operations are the same that apply to other sectors: corporate

60 Judy Sullivan and James O'Reilly, 'State Taxes Uncertainty in Royalty Regimes and Disputes Process – The Need for Legislative Reform' PwC Energy and Mining Tax Update (Edition 1, December 2013) 4 <<https://www.pwc.com.au/tax/assets/mining-energy-tax-update-dec13.pdf>>.

61 Adani Australia, Did You Know Adani's Carmichael Mine will Generate Billions of Dollars for the Government? (2018) <<https://www.youtube.com/watch?v=8S5cqxGONz4>>.

62 T Buckley and S Nicholas, 'Conflating Queensland's Coking and Thermal Coal Industries' Institute for Energy Economics and Financial Analysis (Cleveland OH, May 31, 2019) <https://ieefa.org/conflating-queenslands-coking-and-thermal-coal-industries_june-2019/>.

63 Mark Willacy, 'Queensland Government Offers Adani Mining Group a 'Royalties Holiday' that could Cost State \$320 million' ABC News (Brisbane, 18 May 2017) <www.abc.net.au/news/2017-05-18/queensland-government-gives-adani-royalties-holiday/8536560>.

64 Queensland Government, 'Palaszczuk Government Welcomes Royalties Agreement with Adani' (Media Statement, The Queensland Cabinet and Ministerial Directory, 31 May 2017) <<http://statements.qld.gov.au/Statement/2017/5/31/palaszczuk-government-welcomes-royalties-agreement-with-adani>>.

65 Minerals Council of Australia, 'Submission to Senate Economics References Committee Inquiry into Corporate Tax Avoidance' (Minerals Council of Australia, Canberra, 2015) 2.

66 In 2012, the Rudd Labour government introduced the Minerals Resource Rent Tax (MRRT) to tax profits derived from iron ore and coal mining at a rate of 30 per cent but the Abbot Coalition government repealed the tax in 2014. It did not apply to companies making less than AUD \$75m of MRRT mining profits per year. Companies making more AUD \$75m were entitled to an 'extraction allowance' of 25 per cent therefore the effective rate was 22.5 per cent. Any MRRT paid was deductible for income tax purposes. Because mining companies used various tax minimisation schemes, the MRRT tax never raised the desired revenue for the government. In the first six months after its introduction, it had only raised AUD \$126 million against a full year forecast of AUD \$2 billion. See P Guj, 'Mineral Royalties and Other Mining Specific Taxes' (International Mining for Development Centre 2012). See also <<https://www.news.com.au/finance/business/rio-pays-no-mining-tax/news-story/a9829f30fb4d9a0df0589-d85a40ae5d8>> and <<https://www.sbs.com.au/news/swan-reveals-mining-tax-revenue>>.

income taxes (top rate of 30 per cent) and various withholding taxes. Despite the existence of these taxes, large mining companies are notorious for paying little or no tax at all in Australia. This is due to the provisions in the tax code that allow companies to offset large accumulated losses against past and future profits, claim expenses such as depreciation, research and development and debt financing amongst others. The sector also benefits from tax incentives and concessions such as the fuel tax. In addition, mining companies make full use of tax minimisation schemes involving overseas subsidiaries registered in tax havens or low tax jurisdictions.⁶⁷ In 2018, the Australian Taxation Office (ATO) questioned both BHP and Rio Tinto for selling iron ore to their Singapore subsidiaries (where the corporate tax is 17 per cent) at one price and then reselling for a higher price to their final clients.⁶⁸ This practice is known as trade misinvoicing and multinational companies commonly use it to avoid capital controls, claim tax incentives and evade or minimise taxes. Money laundry operations also use the same technique.⁶⁹

For its part, Adani has promised a contribution of AUD \$22 billion in taxes to government over the life of the mine.⁷⁰ However, during a 2015 trial in the Queensland Land Court, company representatives admitted that the figure is more likely to be AUD \$16.8 billion.⁷¹ In addition, following the lead of other large conglomerates in Australia, the company

has set up a corporate structure designed to minimise tax paid in Australia. Indian and Australian media investigations have been unable to decipher the complex corporate web created by Adani but it is clear that subsidiaries exist in Singapore, Mauritius, the British Virgin Islands and the Cayman Islands, the latter three being well established tax havens. These media reports suggest that the company may end up paying a fraction of the stated billions in tax, a situation that, if it occurs, will leave a large void in the government's revenue expectations in years to come.⁷²

4.3 Employment

Adani's original 60 mtpa proposed mine⁷³ together with the operation and expansion of the company's terminal at Abbot Point Port and construction of the 388 km freight rail line connecting the mine with the port, would have required a large labour force in a region in Queensland that depends heavily on natural resource extraction.⁷⁴ And Adani's public announcements early in the project proposal phase matched high expectations by claiming that the company would generate '10,000 direct and indirect

67 M West, 'Australia's Top 40 Tax Dodgers 2020: Fossil Fuels Dominate Once More' Michael West Media (21 January 2020) <www.michaelwest.com.au/australias-top-40-tax-dodgers-2020-fossil-fuels-dominate-once-more/>.

68 Emma Alberici, 'Why Many Big Companies Don't Pay Corporate Tax' ABC News (Wednesday 14 February 2018) <www.abc.net.au/news/2018-02-14/why-many-big-companies-dont-pay-corporate-tax/9443840>.

69 Global Financial Integrity, 'Trade Misinvoicing' <<https://gointegrity.org/issue/trade-misinvoicing/>>.

70 Leith van Onselen, 'Adani White Elephant Won't Even Pay Australian Tax', *MacroBusiness* (3 October 2017) <www.macrobusiness.com.au/2017/10/adani-white-elf-phant-wont-even-pay-australian-tax/>.

71 Michael West, 'Adani Mining Feels Heat Over \$14b Galilee Basin Coal Mine Gap' *Brisbane Times* (28 April 2015) <www.brisbanetimes.com.au/business/adani-mining-feels-heat-over-14b-galilee-basin-coal-mine-gap-20150427-1mud1h.html>.

72 Lisa Cox 'Uncertainty over Massive Queensland Mine after Election Shock and Concerns Over Indian Company' *The Sydney Morning Herald* (6 February 2015) <www.smh.com.au/business/uncertainty-over-massive-queensland-mine-after-election-shock-and-concerns-over-indian-company-20150206-137mbi.html>.

73 A project of those dimensions would have made Carmichael, the second largest producer of thermal coal in the world after Peabody Energy's North Antelope Rochelle mine in the USA (107 mtpa)⁷⁴ and dwarfed Australia's current largest thermal coal operation, BHP Billiton's Mount Arthur Mine (15 mtpa). Josh Robertson, 'What we Know about Adani's Carmichael Coal Mine' ABC News (Friday 26 April 2019) <www.abc.net.au/news/2019-04-26/what-we-know-about-adanis-carmichael-coal-mine-project/11049938>.

74 Charis Chang, 'The Hunt for Adani's 10,000 Jobs Brings Up 'Zero Results' NEWS.com.au (Sydney, 27 September 2017) <www.news.com.au/finance/business/mining/the-hunt-for-adanis-10000-jobs-brings-up-zero-results/news-story/7532705440f71254b658b320d91ed02e>.

jobs' over the life of the mine.⁷⁵ However, during a court case in 2015, Adani's economist, citing the company's latest economic assessment said the project would generate 1,464 direct and indirect jobs in Australia in the first 30 years from the start of the mine.⁷⁶ Since then, the proposed rail link has decreased in length and the revision calls for a 200km rail line that would make use of an existing line owned by Aurizon.⁷⁷ In the revised proposal, the mine itself is expected to produce an estimated 10mtpa of coal based on an investment of AUD \$2 billion for the life of the mine and not the original AUD \$16 billion.⁷⁸

In the absence of any regulation ensuring that companies keep their employment promises during the operational stages, the challenge is to rely on mechanisms that maximise employment for the local population.⁷⁹ It is also important that during the proposal phases, companies rely on economic modelling that does not inflate employment figure. As it stands, this project has already created a large void in terms of the employment expectations it originally raised.

4.4 Public Debt

Australia's biggest bank, the Commonwealth Bank was adviser to the project until 2015 when it withdrew. Since then Adani has had difficulties securing a bank that would support the project.⁸⁰ The Queensland Government offered AUD \$900m in the form of a low interest loan but then retracted it in 2017.⁸¹ The last possibility for external funding came in the form of the Northern Australia Infrastructure Facility (NAIF) that would have made AUD \$1b available but it was also blocked (West, 2017).⁸²

These setbacks and financier's concerns over the long-term feasibility of coal projects,⁸³ decreasing world coal prices and the company's human rights record in India,⁸⁴ means the company has some way to secure Carmichael's finances but options are still available. In the period 2018-19 the Indian state of Gujarat saved Adani's troubled 4GW Ultra Mega Power Plant at Mundra in the Gulf of Kutch by renegotiating its purchase agreement allowing it to increase its power tariff by 30 per cent for the next 30 years.⁸⁵ At the

75 This figure originates from consulting firm GHD in a report commissioned by Adani. Rod Campbell, 'Fact Check: Will Adani's Coal Mine Really Boost Employment by 10,000 Jobs?' *The Australian Business Review* (Sydney, 31 August 2015) <www.theaustralian.com.au/business/business-spectator/fact-check-will-adanis-coal-mine-really-boost-employment-by-10000-jobs/news-story/903c1932738b1d1a1763c74e45f4d7c7>.

76 J Fahrer, 'Carmichael Coal and Rail Project Economic Assessment Expert Report' Report to Land Court Of Queensland (Brisbane 2015).

77 Rod Campbell, 'Fact Check: Will Adani's Coal Mine Really Boost Employment by 10,000 Jobs?' *The Australian Business Review* (Sydney, 31 August 2015) <www.theaustralian.com.au/business/business-spectator/fact-check-will-adanis-coal-mine-really-boost-employment-by-10000-jobs/news-story/903c1932738b1d1a1763c74e45f4d7c7>.

78 Josh Robertson, 'What we Know about Adani's Carmichael Coal Mine' ABC News (Friday 26 April 2019) <www.abc.net.au/news/2019-04-26/what-we-know-about-adanis-carmichael-coal-mine-project/11049938>. The projected production in the latest proposal is 40mta.

79 One such mechanism is the Impact Benefit Agreement (IBA). Currently, local level governments and indigenous landowners use these agreements in their dealings with mining companies but federal and state governments can also use them. So far, the Bravus Group has not entered into an IBA with any entity.

80 Michael West and Lisa Cox, 'Adani and Commonwealth Bank Part Ways, Casting Further Doubt on Carmichael Coal Project' *The Sydney Morning Herald* (Sydney, 5 August 2015) <www.smh.com.au/business/companies/adani-and-commonwealth-bank-part-ways-casting-further-doubt-on-carmichael-coal-project-20150805-gisd1l.html>.

81 M Tahara-Stubbs, 'Adani Claims Financial Close on Carmichael Coal Mine' *Project Finance* (London, 18 July 2018).

82 Michael West 'EFIC may Finance Adani Coal Mine' *Michael West Media* (23 May 2017) <<https://www.michaelwest.com.au/report-efic-may-finance-adani-coal-mine/>>.

83 As of 2019, over 100 globally significant financial institutions have divested from thermal coal, including 40 per cent of the top 40 global banks and 20 globally significant insurers. Tim Buckley, 'Over 100 Global Financial Institutions Are Exiting Coal, With More to Come' *Institute for Energy Economics and Financial Analysis* (Cleveland OH, 27 February 2019) <https://ieefa.org/wp-content/uploads/2019/02/IEEFA-Report_100-and-counting_Coal-Exit_Feb-2019.pdf>.

84 Environmental Justice Australia 'The Adani Group's Environmental and Human Rights Record' *The Adani Brief Update* (Environmental Justice 2019).

85 This effectively is a taxpayer-funded subsidy to the company that consumers will have to pay via increased electricity tariffs in Gujarat.

same time, the Government of India awarded the company a Special Economic Zone tax exemption for 10 years and the State Bank of India provided a US \$1.5 billion loan to the Adani Group. What this means is that the company has enough political influence to maintain Indian government support. In Australia, there is the possibility that the Federal Government may lend AUD \$1b at a discounted 3 per cent annual rate for 30 years via the Export Finance and Insurance Corporation to build the railway link between the mine and the port.⁸⁶

Despite its recent good fortunes in India and the promise of public money from Australia, the company remains highly indebted. A 2015 report by Credit Suisse, placed Adani in a category of Indian corporates with 'high exposure to [fluctuating prices of] commodities' whose foreign currency debt servicing 'continues to be of concern'.⁸⁷ In a later report, Credit Suisse warned that Adani's listed companies' debt to Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA) ratios were high in 2017 and would take years to decrease.⁸⁸

Providing taxpayer's funds to a company with such high levels of indebtedness carries an equally high level of financial risk. The Bravus Group may decide, in future, to write off incurred losses and abandon the project altogether leaving a large void of debt that all Australians would have to pay over the next 30 years without realising any of the supposed benefits.

Apart from current concerns with the Bravus Group's misleading the public in terms of the abovementioned economic factors, we also need to take into account

Australia's economic resilience to climate change. This resilience depends, largely, on government investment on climate change mitigation and this, in turn, depends on current government revenues. Therefore, every dollar that ends up in the above-mentioned 'void' is not just a financial loss but also a lost opportunity to invest in measures that will strengthen Australia's chance to mitigate the worst effects of climatic change.

5 CONCLUSION

The main findings were ascertaining the current status in terms of advancement and regression in climate change litigation, as well as outlining the regulatory framework for mining projects in Australia. Despite the initial potentials in terms of job opportunities, financiers have recognized that investing in coal has a number of risks that are primarily linked to climate science, climate policy pressures, competition from renewable energies producers, the use of public funds, the evasion or minimization of tax and royalties and making employment promises. The Australian federal and state governments should seriously consider enacting laws and policies that prevent companies from using tax minimization schemes, both domestic and off-shore. These laws should also limit the use of royalty dispensation schemes. Employment levels should be negotiated by using Impact Benefit Agreements, involving the impacted indigenous communities surrounding a mining project and the state so that job numbers at that level are also maintained at a certain level. When deliberating on legal issues relating to mining leases approvals, Courts and tribunals still do not take into account scientific evidence, which will have a repercussion on the transition away from fossil fuel. However, at least, climate change litigation has been crucial to insist on weighing the economic and social contributions against climate impacts. The current Australian regulatory framework need to shift towards a more just, modern and ethical system by including scientific findings and scientific uncertainty in a broader, holistic regulatory vision or at least more in line with the current Anthropocene Era that we are living in.

86 Tim Buckley 'The Fix Is In: Adani Hooks India's Poor and Australia's Taxpayers' Michael West Media (29 May 2019) <www.michaelwest.com.au/the-fix-is-in-adani-hooks-indias-poor-and-australias-taxpayers>.

87 A Gupta, K Shah and P Kumar, The Adani Group (India Corporate Health Tracker: Sector Review. Credit Suisse Equity Research, 16 February 2017) 9 <https://research-doc.credit-suisse.com/docView?language=ENG&format=PDF&sourceid=mb1ast&-document_id=x754328&serialid=z1xSn4xZTOJ CZ921-PyMcyqKWxHK%2Bd2Zxu-0xhtt2oXt0%3D>.

88 According to the report, the EBITDA rates in 2017 were: Adani Power: 8.1, Adani Ports & SEZ: 4.1, Adani Enterprises: 8.6 and Adani Transmission: 5. See Gupta, Shah and Kumar, *ibid*.

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