



## **GAS-TASTROPHE: the climate impact of the Government's strategic gas basins**

February 2020

### **KEY FINDINGS**

Prime Minister Scott Morrison is pushing to open up new gas basins by subsidising the development of five strategic basins with an allocation of \$28.3 million for the Beetaloo, North Bowen, Galilee, Gunnedah and Perth basins. These are significant gas basins, containing large volumes of gas, spread across Australia.

This analysis shows that if the gas from these five basins is extracted and burnt it will:

- Cancel out the emission savings from the Government's flagship climate policies five times over.
- Emit over three times Australia's annual emissions.
- Represent the equivalent of a third of Australia's Paris Agreement Carbon Budget for 2021-2030.

If these basins are opened up they will also have a significant climate impact from flaring and fugitive emissions, which has been under-accounted and is driving up our national emissions, but analysis of these emissions is outside the scope of this analysis.<sup>1</sup>

In addition to their climate impacts, the gas from these basins is expensive, with the estimates for extraction ranging from \$6.91-9.87 per gigajoule (GJ), well above the Government's target of \$4-6 per GJ.<sup>2</sup>

### **THE MORRISON GOVERNMENT'S GAS PLANS**

The Prime Minister announced a number of subsidies, regulatory moves and foreshadowed future support for the gas industry on the 15th of September.<sup>3</sup> These announcements were then reflected in the federal budget.<sup>4</sup> Funding announced included \$28.3 million over three years from 2020-21 to establish five strategic basin plans to "unlock" key gas basins. The first strategic basin plan was released for the Beetaloo basin in January 2021.<sup>5</sup> The plan intends to accelerate the

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<sup>1</sup> More on the overall climate impacts of gas in the Climate Council report "Passing Gas: Why Renewables are the Future," available [here](#).

<sup>2</sup> Core Energy Resources, 'Gas Reserves and Resources Cost Estimates', November 2019. Available [here](#).

<sup>3</sup> Prime Minister of Australia, 15 September 2020, 'Gas-Fired Recovery', available [here](#).

<sup>4</sup> Budget, 2020-21, Budget Measures, Budget Paper 2, p 116.

<sup>5</sup> Unlocking the Beetaloo: the Beetaloo Strategic Basin Plan, available [here](#).

opening up of the basin, with the government providing an additional \$50 million in public money to subsidise exploration in the Beetaloo Basin and \$173 million for roads in the basin.<sup>6</sup>

These announcements and the opening up of new gas basins were largely drawn from the recommendations of the Manufacturing Working Group of the National Covid-19 Coordination Commission (the Covid Commission).<sup>7</sup>

### **THE FIVE “STRATEGIC BASINS”**

The government has identified that work will start with the Beetaloo Basin in the Northern Territory, followed by the North Bowen and Galilee basins in Queensland. These are the only three basins that have been named by the Prime Minister but the policy is also reported to include the Gunnedah Basin in New South Wales and the Perth Basin in Western Australia.<sup>8</sup>

The **Beetaloo Basin** is a prospective ‘shale gas resource’ in the Northern Territory, covering 28,000 square kilometres of Aboriginal and pastoral land. There are multiple companies interested in fracking for oil and gas, including Origin, Santos, Falcon oil, Empire Energy and Hancock’s Jacaranda Minerals.

The **North Bowen Basin** is located in central Queensland, stretching from inland of Bowen to south of Mackay. The main companies interested in the area are Blue Energy and Arrow Energy. Exploration permits are also held by Westside, CH4, Eureka Petroleum, Bow CSG.<sup>9</sup>

The **Galilee Basin** is further inland from the Bowen Basin in central Queensland. Companies with exploration permits include Eureka Petroleum and Capricorn Energy.<sup>10</sup>

The **Gunnedah Basin** is in central-west NSW, stretching from Quirindi through Gunnedah to Narrabri, covering rich farming country and state forest. Santos’ Narrabri Gas Project is the main development proposed for the basin and they have identified seven other potential gasfields in the region.

The **Perth Basin** has both onshore and offshore areas in south-west WA, stretching from south of Perth to Carnarvon. The main companies interested in the area are Beach Energy, Strike Energy, Norwest Energy, Warrego Energy, Mitsui and Vintage Energy. Nev Power, the chair of the Covid Commission, is on the board of Strike Energy.

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<sup>6</sup> As reported in the ABC news, 15 January 2020, available [here](#).

<sup>7</sup> As set out in the leaked interim report. The final report has been with the government since the end of May and has still not been made public.

<sup>8</sup> Sydney Morning Herald, “Morrison to back construction of new gas-fired power station,” available [here](#).

<sup>9</sup> Exploration permit information derived from Queensland Government’s GeoResGlobe, available [here](#).

<sup>10</sup> Exploration permit information derived from Queensland Government’s GeoResGlobe, available [here](#).

## COST, SIZE AND EMISSIONS

The gas from these basins is expensive to extract. Analysis commissioned by the Australian Energy Market Operator (AEMO) has cost estimates for gas from the Beetaloo, North Bowen, Galilee and Gunnedah basins ranging between \$6.91-9.87 per gigajoule (GJ).<sup>11</sup> The Covid Commission’s manufacturing taskforce report recommended opening up new gas basins in order to drive down gas prices to a range of \$4-6/GJ for consumers and manufacturing.<sup>12</sup> The cost estimates show that these lower target prices will not be achieved by opening up the new gas basins as even the lowest end of the cost projections is higher than the targeted cost.

State	Basin	Cost (AUD/GJ)	2C (PJ)	Potentially recoverable prospective (PJ)	Mt CO2-e
Queensland	North Bowen (Moranbah)	6.91	5,548		311
	Galilee Basin	7.28-9.87	2,417		136
Northern Territory	Beetaloo Basin	7.28-9.87	6,999		393
NSW	Gunnedah Basin	7.28-9.87	971		54
WA	Perth Basin - shale			12149.5	682
	Perth Basin - tight			465.1	26

Table 1: size, cost and carbon emissions from the five strategic basins. The cost and 2C figures are from a Core Energy Resources report commissioned by AEMO,<sup>13</sup> and the prospective figures for the Perth Basin are from Geoscience Australia.<sup>14</sup>

These are significant gas resources with the basins on the east coast and the NT containing 15,935 petajoules (PJ) of 2C, contingent, gas reserves that are potentially recoverable.<sup>15</sup> The Perth Basin in WA holds 12,615 PJ of ‘potentially recoverable’ gas resources, assuming there is a 5% recovery rate for the listed prospective gas resources.<sup>16</sup> **Combined, this makes for a total**

<sup>11</sup> Core Energy Resources, ‘Gas Reserves and Resources Cost Estimates’, November 2019. Available [here](#). Cost estimates were not available for the Perth Basin.

<sup>12</sup> As set out in the leaked report, available [here](#).

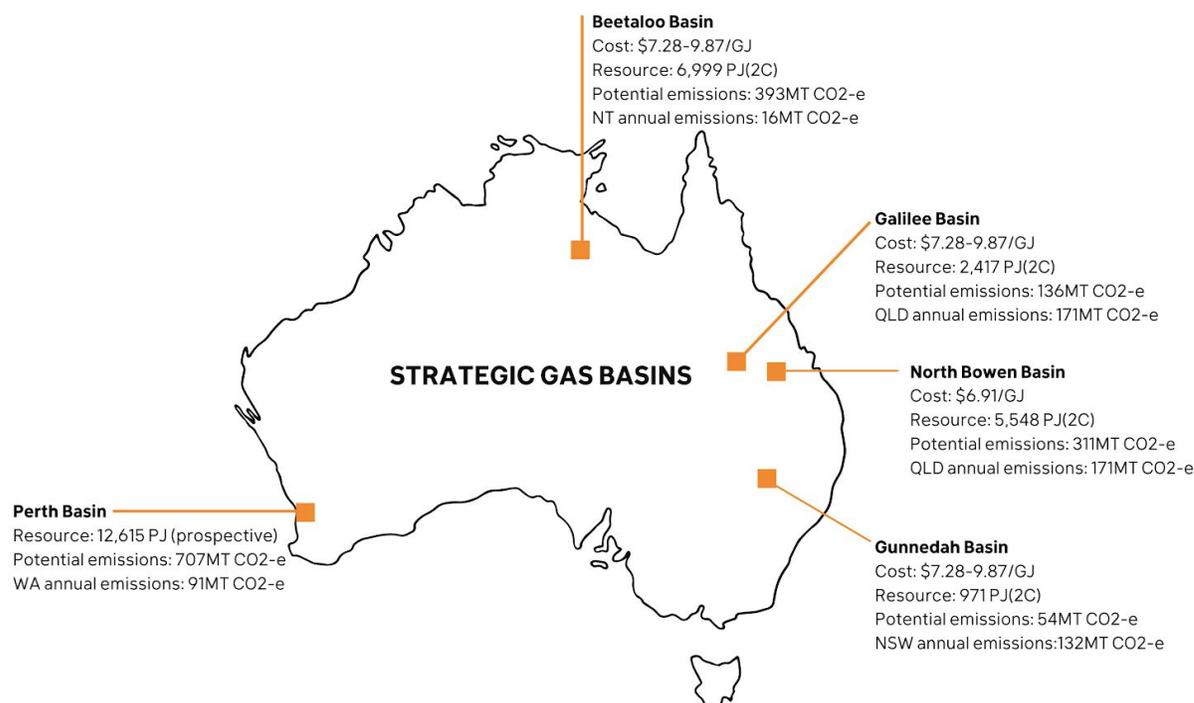
<sup>13</sup> Core Energy Resources, ‘Gas Reserves and Resources Cost Estimates’, November 2019. Available [here](#).

<sup>14</sup> Geoscience Australia, Energy Resources Assessment - Gas, 2018, Gas Data. Available [here](#).

<sup>15</sup> Geoscience Australia defines contingent resources as: “resources that are potentially recoverable but not yet considered mature enough for commercial development due to technological or business hurdles”, available [here](#).

<sup>16</sup> Geoscience Australia defines prospective resources as: “quantities of petroleum which are estimated, as of a given date, to be potentially recoverable from oil and gas deposits identified on the basis of indirect evidence but which have not yet been drilled,” available [here](#).

resource of 28,550 PJ.<sup>17</sup> In comparison, in 2018-19 Australia used 1,167 PJ of gas domestically.<sup>18</sup>



The emissions potential of these basins is calculated from the size of the gas resource, using the Intergovernmental Panel on Climate Change (IPCC) emissions factors for combustion, assuming that the gas is extracted and burnt.<sup>19</sup> While the Prime Minister has said opening up these basins is to get more gas into the east coast gas market,<sup>20</sup> even if this gas is exported, these emissions will still occur when the gas is burnt.

**The total emissions potential from the five gas basins is 1602Mt of carbon dioxide equivalent (Mt CO<sub>2</sub>-e). This is over three times Australia’s annual emissions or 513Mt CO<sub>2</sub>-e.<sup>21</sup> It represents the equivalent of a third of what Australia has set as the “carbon budget”, or emissions that can be produced in the next decade to still meet the government target.<sup>22</sup>**

<sup>17</sup> Gas resource figures are from Core Energy & Resources, “Gas Reserves and Resources and Cost Estimates” 2019 report, available [here](#).

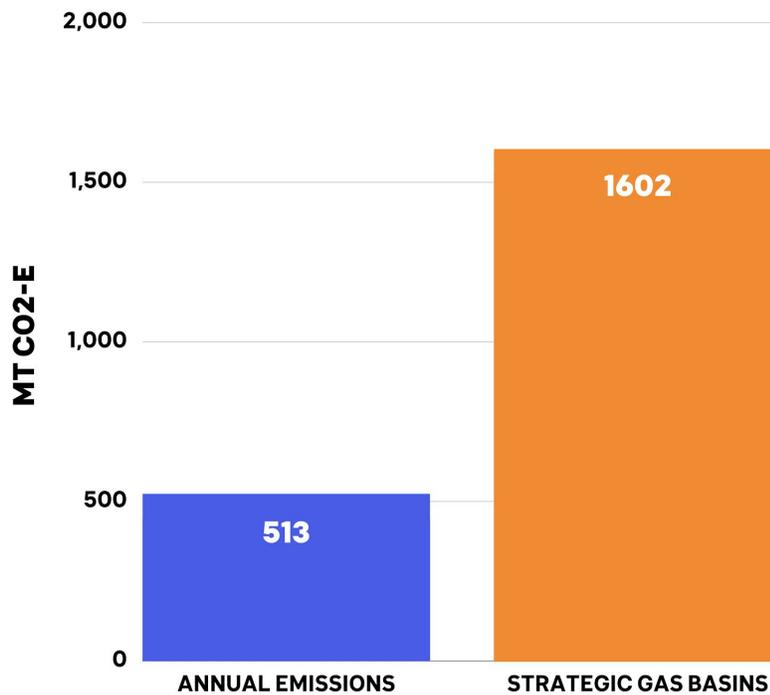
<sup>18</sup> This excludes LNG plant own use. Australian Energy Statistics 2020: Energy Update Report, p9. Available [here](#).

<sup>19</sup> Emissions potential of the gas basins was calculated using the IPCC default emissions factors for combustion for Natural Gas as set out in *2006 IPCC Guidelines for National Greenhouse Gas Inventories - Volume 2 Energy*, Table 1.4

<sup>20</sup> Prime Minister of Australia, 15 September 2020, ‘Gas-Fired Recovery’, available [here](#).

<sup>21</sup> Australia’s annual emissions, June 2020, available [here](#).

<sup>22</sup> Australia’s Carbon Budget for 2021-2030 from Department of the Environment and Energy, 2020, Australia’s Emissions Projections 2020, available [here](#).



### NEGATING EMISSION REDUCTION POLICIES

The Morrison Government's climate policies are “highly insufficient” and Australia’s Paris agreement target is weak and not in line with limiting global warming to 1.5°C.<sup>23</sup> The push to open up these new gas basins will create an even larger task to reduce Australia’s emissions.

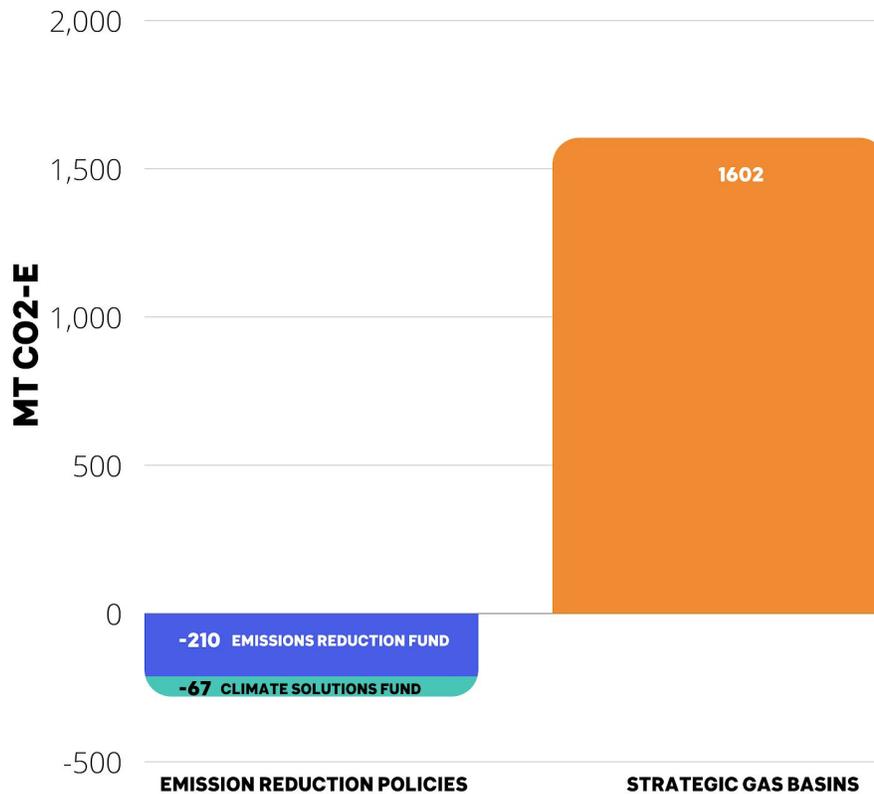
The Morrison Government’s flagship climate policy is the “Climate Solutions Fund”, announced in 2019 with a budget of \$2 billion. Emissions projections from 2020 estimate that this fund will result in a reduction of 67 Mt CO2-e over the period from 2021-2030. In addition, there is the “Emissions Reduction Fund” which at a cost of \$2.55 billion is projected to reduce emissions by 210 Mt CO2-e over the same period.<sup>24</sup>

The emissions from extracting and burning the gas in the five strategic gas basins will wipe out the emission savings from the Government’s flagship climate policies five times over.

<sup>23</sup> Climate Analytics, 2020, Scaling up Climate Action in Australia, available [here](#).

<sup>24</sup> Australia’s Emissions Projections 2020, p 73, available [here](#).

## CANCELLING OUT MORRISON'S CLIMATE POLICIES



### CONCLUSION AND RECOMMENDATIONS

If the five strategic gas basins are exploited, it will contribute significantly to climate change at a high cost. These basins will wipe out emission reductions that have come at a cost of \$4.5 billion. Opening up these gas basins makes the task of reducing Australia's carbon emissions harder, and is inconsistent with the goals of the Paris Agreement.

The Morrison Government should:

1. Not provide any additional subsidies to support the opening up of new gas basins or associated infrastructure.
2. Ensure climate impacts are taken into consideration when providing public funding.
3. Reduce gas demand by providing support for households and businesses to upgrade from gas appliances to efficient electric alternatives.
4. Investigate alternative renewable energy and manufacturing options for these regions.