

31<sup>st</sup> January 2023

## QUARTERLY ACTIVITIES REPORT FOR PERIOD ENDING 31 December 2022

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**Top End Energy Limited** ("TEE or "the Company") (ASX:TEE) is pleased to present its quarterly activities report for the quarter ended 31 December 2022.

### HIGHLIGHTS

- First independently assessed Prospective Resources on the Company's 100% owned permit in Queensland – Coolibah conventional gas prospect with mean Prospective Resources of 715 bcf as assessed by Discover Geoscience.
- Preparations ongoing for the acquisition of up to 120km of new 2D seismic in Q1 2023 to further mature and de-risk Devonian aged reservoir targets including the Coolibah prospect.
- Positive second on country meeting with native title holders of EP 258 in the Northern Territory, targeting near-term grant.
- Preparations ongoing for 2023 work program on EP 258 subject to grant.
- The Company has secured an application for a 100% interest in Area L22-6, a 6,300km<sup>2</sup> area containing the untested and historically overlooked basin margin extension to the proven Amadeus Basin in the Northern Territory<sup>1</sup>.
- Ongoing study into natural Hydrogen prospectivity across the Company's existing portfolio.
- The Company remains well-funded to deliver its near-term activities.

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<sup>1</sup> Post quarter-end, the Company was notified that it had been successful in its application for Area L22-6 as part of the Western Australian (WA) Government Petroleum Acreage Release 2P/2022.

## ATP 1069 (QUEENSLAND)

ATP 1069 is a granted hydrocarbon permit located 130km north-west of Charleville in Central Queensland, covering an area of approximately 4,185km<sup>2</sup>. The Company holds a 100% ownership interest in the Permit.

The Company has identified multiple plays across the Permit and intends primarily to pursue potential conventional natural gas prospectivity in the deeper Adavale Basin towards the southern part of the Permit. The Gilmore gas field, situated 50 km west of the Permit, has demonstrated commercial conventional gas production from the Lissoy Sandstone and Log Creek Formation of the Adavale Basin. Initial seismic interpretation suggests these formations may be present within ATP 1069, but no wells have been drilled to these depths on the Permit. The Company's ongoing and intended 2023 work program is targeted to further increase the chance of geological success of the Coolibah conventional gas prospect and ultimately refine drilling locations for a potential exploration well.

The Permit is strategically located in proximity to existing infrastructure and the east coast gas market, which is forecast to face significant near-term supply shortfall. Strong support for natural gas is expected in light of sustained underinvestment in supply, ongoing international geo-political tensions and a refocusing on security of energy supply.

The following Prospective Resources at the Coolibah Prospect have been independently assessed by Discover Geoscience ("Discover"):

Coolibah Prospect (100%) <sup>2</sup>	PMean	P10	P50	P90
Gas in Place (bcf)	1,951	4,140	1,288	400
Prospective Resources (bcf) <sup>3 4</sup>	715	1,573	491	150

**Table 1: Coolibah Prospective Resources independently assessed by Discover**

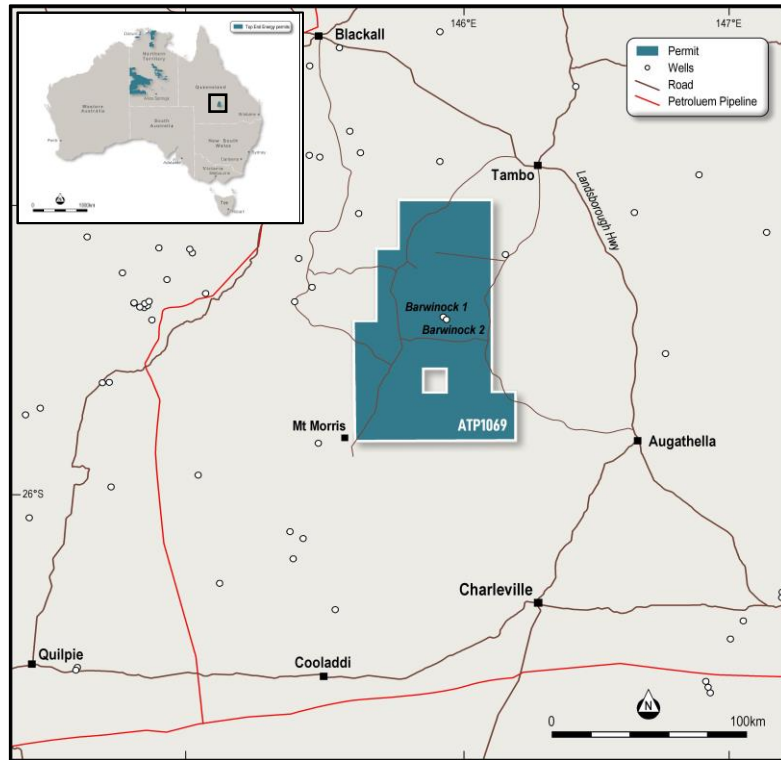
In accordance with requirements under the *Petroleum and Gas (Production and Safety) Act 2004* ("P&G Act"), the Company is preparing to relinquish a portion of the permit. The proposed blocks and sub-blocks for relinquishment will not impact the

<sup>2</sup> Please see ASX announcement "Certified Prospective Resource & Operational Update" (29 November 2022); the Company is not aware of any new information or data that materially affects the information included in the ASX announcement and all material assumptions and technical parameters underpinning the estimates in the ASX announcement continue to apply and have not materially changed.

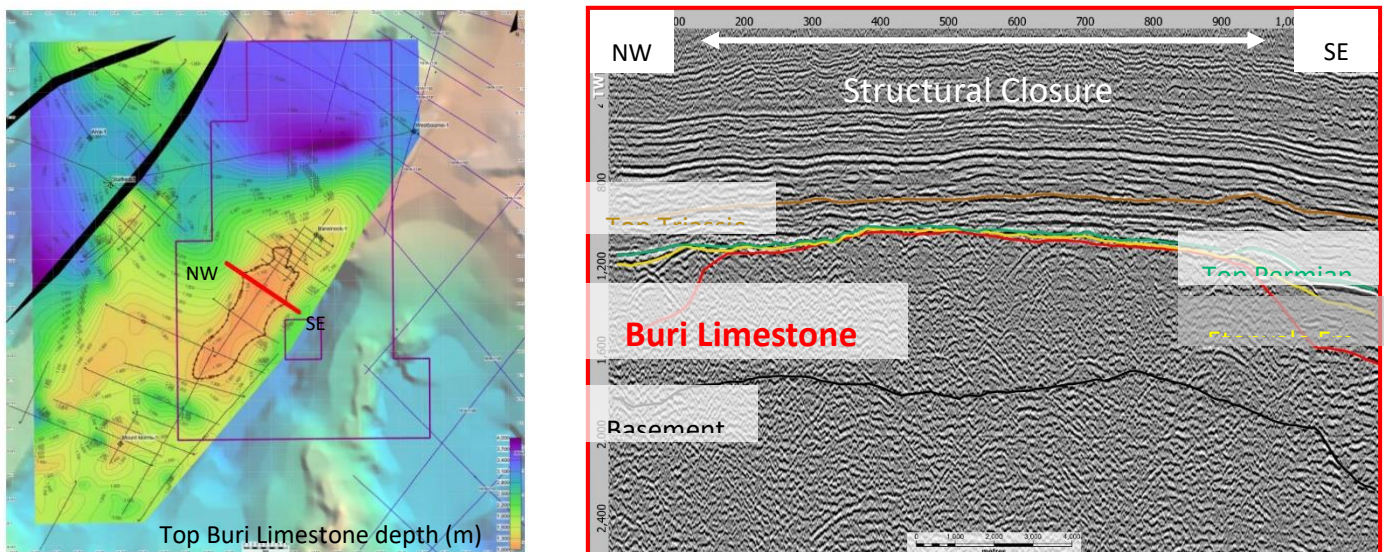
<sup>3</sup> The estimated quantities of hydrocarbons that may potentially be recovered by the application of a future development project relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration, appraisal and evaluation is required to determine the existence of a significant quantity of potentially recoverable hydrocarbons.

<sup>4</sup> The Prospective Resource estimates have been prepared using the probabilistic method and are presented on an unrisked basis. In a probabilistic resource distribution, P90 (Low), P50 (Best), P10 (High) estimates represent the 90%, 50% and 10% probability respectively that the quantity recovered will equal or exceed the estimate assuming a success case in the prospect.

Company's primary intended work activities for the permit, which are focused on progressing the Coolibah prospect to drill-ready status.



**Figure 1: TEE's 100% owned permit in Queensland (ATP 1069)**



**Figure 2: The Coolibah prospect on ATP 1069**

Key activities undertaken on ATP 1069 during the quarter included:

- The Company completed its initial prospectivity review of the permit, focusing on conventional gas prospectivity of the under-explored Adavale Basin. The assessment resulted in the identification of the Coolibah conventional gas prospect. The Coolibah prospect is a large structural feature (~278km<sup>2</sup>) identified from geological and geophysical studies focussed on assessing the conventional gas potential of Devonian aged formations including the Buri Limestone. The Buri Limestone is of equivalent age to the producing formation of the nearby Gilmore Gas Field.
- An independent Prospective Resource assessment for the Coolibah prospect was completed by Discover Geoscience, with a PMean estimate of 715 bcf.
- The Company refined the scope of the intended infill seismic acquisition of up to 120km of new 2D lines to focus on the Coolibah Prospect. The objectives of the infill seismic campaign will be to reduce subsurface geological risk by:
  - assessing the likely distribution and quality of hydrocarbon reservoirs and confirmation of a structural closure with sealing capacity; and
  - identifying possible drilling locations for an exploration well to be drilled later in 2023.

## **TG PROJECT (NORTHERN TERRITORY)**

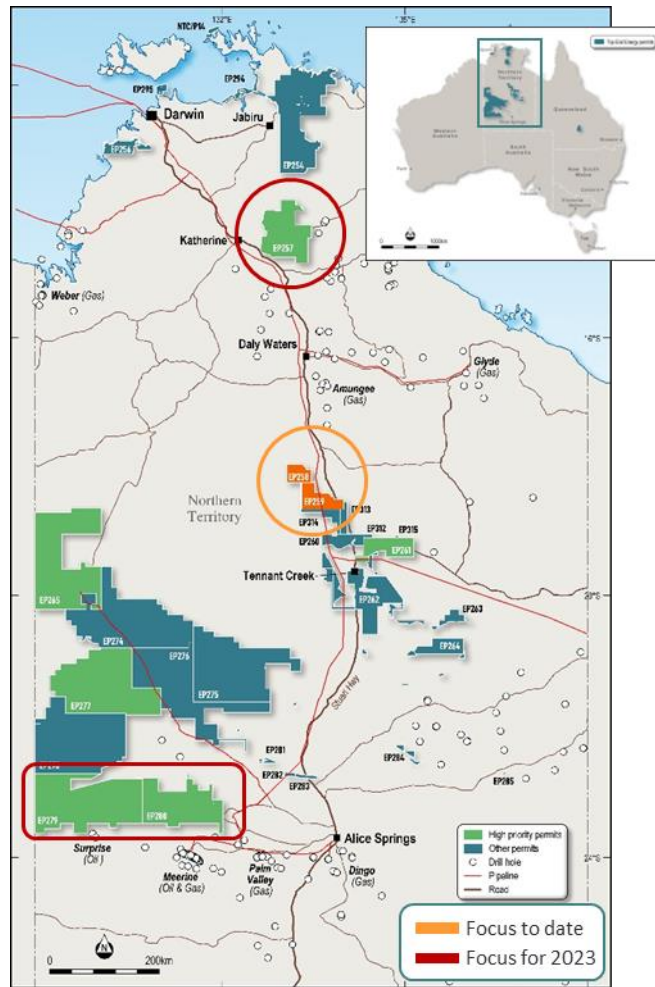
The Company holds a 50% beneficial interest in 30 exploration permit ("EP") applications across the Northern Territory ("NT"), covering ~160,000 km<sup>2</sup>. The Company has prioritised key permits based on initial technical assessments of the available data. Of these key permits, the Company is engaging with the Northern Land Council ("NLC"), native title holders and traditional owners to reach exploration agreements ahead of the formal grant and work program approvals for EP 258 and potentially EP 259.

EP 258 and EP 259 are located on the edge of the Greater McArthur Basin, south of discoveries within the Velkerri and Kyalla Shales and the conventional Moroak and Bessie Creek Sandstone reservoirs. Although there are no seismic data on the permits, seismic lines ending north of the permits suggest that both the conventional Bessie Sandstone and unconventional Velkerri Shale may be present within the deeper basin sections of the permits. The Velkerri Shale is a shale gas target for operators such as Santos, Tamboran Resources and Empire Energy across the Beetaloo sub-basin.

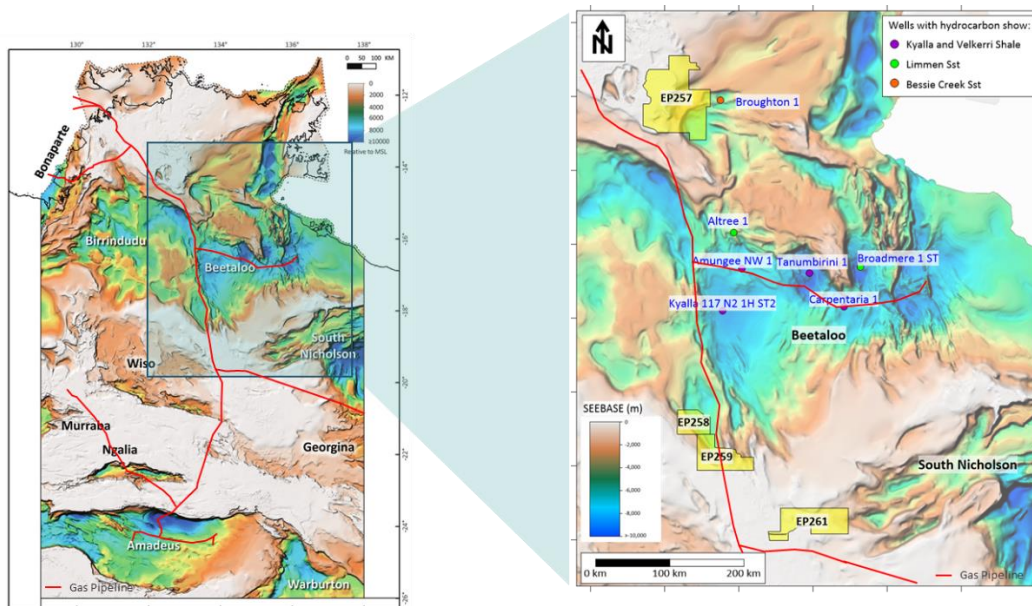
The primary objective of the intended initial exploration activities, subject to receiving formal grant of permits, is to confirm the presence of the conventional Bessie Sandstone and unconventional Velkerri Shale formations.

While EP 258 and EP 259 are the near-term focus in the NT, the Company also continues to pursue other prioritised permit applications. In addition to achieving grant of the existing priority permits, it will also commence native title proceedings for EP 257 in the McArthur Basin and EP 279 and EP 280 in the Amadeus Basin.

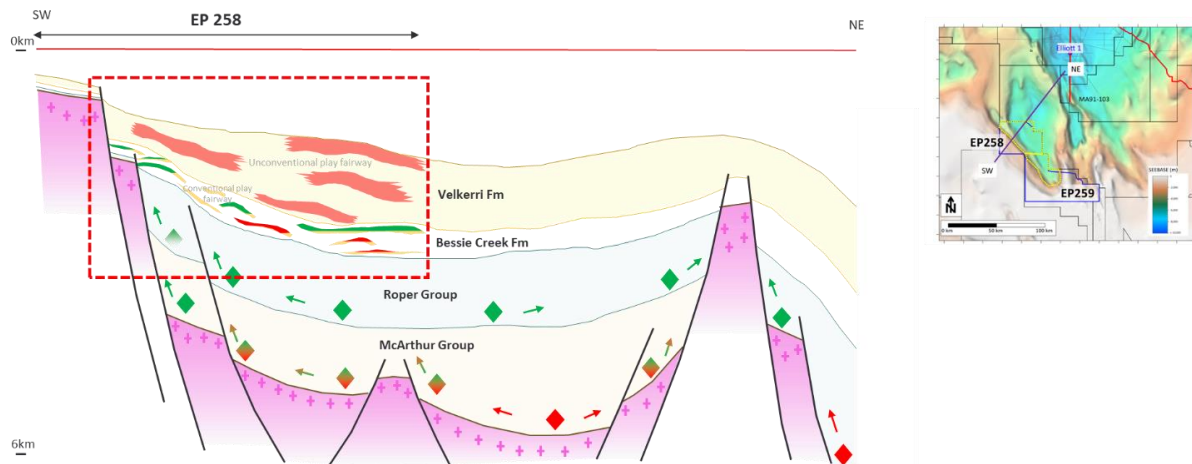




**Figure 3: TEE's portfolio in the NT and prioritised permit applications**



**Figure 4: TEE's key permits in the Greater McArthur Basin**



**Figure 5: Regional schematic highlighting the potential of the untested southern margin of the Greater McArthur Basin and EP 258**

Key activities undertaken on the TG Project during the quarter included:

- A second on country meeting ("OCM") with the native title holders of Exploration Permit (EP) 258 was held in Tennant Creek. The purpose of this meeting was for native title holders to decide whether to agree to the terms of the proposed exploration agreement ancillary to an agreement under section 31(1)(b) of the Native Title Act (the "Exploration Agreement").
- Heading into the meeting, the Company had reached an agreed position with representatives of the Northern Land Council (NLC) on the in-principle terms of the Exploration Agreement subject to instruction from native title holders, and amended for feedback from the native title holders following the first OCM in September.
- All key decision makers from the native title holder group were in attendance at the November OCM and feedback from the NLC was positive. Despite not proposing changes to the Exploration Agreement nor having any queries for the Company in relation to proposed exploration activities on the permit, certain key decision makers who were unable to attend the first OCM have ultimately requested more time to consider the Exploration Agreement. The execution of the Exploration Agreement by the native title holders is the key pre-requisite for achieving formal grant of the permit.
- The Company continued to progress key approvals and access agreements required for the Company to undertake the planned acquisition of up to 150km of 2D seismic survey.

## CLEAN ENERGY

In line with TEE's stated intentions to leverage its existing footprint and explore complimentary clean energy solutions, the Company continues to assess the potential for natural Hydrogen and Helium across the existing portfolio.

During the previous quarter, the Company commissioned Cryptid Energy Consultants to undertake an initial study to assess the potential for natural Hydrogen. The Company's portfolio has been tiered into priority areas and will be addressed in phases, with the initial focus being the McArthur Basin margin assets. Basin margins where deep seated faults exist, may be conduits for natural Hydrogen migration, providing the opportunity for Top End to explore for natural Hydrogen and hydrocarbons concurrently. This study is expected to be completed in the March quarter. The Company is also actively assessing new business opportunities in the natural Hydrogen and Helium space.

## PLANNED ACTIVITIES FOR Q1 2023

During the March quarter, the Company intends to undertake the following activities on its assets:

- Approval of the Later Work Program for activities intended to progress the Coolibah prospect to drill-ready status, and relinquishment of a portion of ATP 1069 in accordance with the Company's obligations under the P&G Act.
- Formerly engage a seismic contractor for the planned 2D infill seismic acquisition over the Coolibah prospect on ATP 1069 and finalise land access agreements with relevant landowners.
- Target resolution of the native title holders of EP 258 to enter the proposed Exploration Agreement, which remains agreed with the NLC subject to instruction.
- Target execution of the Section 31 Deed between the NT Government, the native title holders of EP 258 and the Company, ahead of formal grant of the permit.
- Subject to approval from the native title holders of EP 258, the Company intends to undertake an archaeological survey and ecological and environmental baseline monitoring studies on EP 258, as required by both the proposed Exploration Agreement and the EMP for the planned 2D seismic acquisition.
- Subject to formal grant of the permit, the Company will also further consider a gravity gradiometry survey to refine the final location of the intended 2D seismic acquisition on EP 258 and assist in potential drilling target identification.
- Continue engagement with the respective land councils to progress the Company's other prioritised permit applications in the NT, specifically EP 258 and EP 257 in the McArthur Basin and EP 279 and EP 280 in the Amadeus Basin.

- Initiate native title engagement under the expedited procedure to progress Area L22-6 in WA to grant status and refine initial exploration work program.
- Completion of the initial study assessing the potential for natural hydrogen on the Company's McArthur Basin margin assets.
- Continue pursuing corporate development opportunities to complement the Company's existing assets and strategic objectives.

## CORPORATE

- The Company held its Annual General Meeting ("AGM") during the quarter. All resolutions put to shareholders at the AGM were passed and decided by way of a poll.
- 500,000 unlisted options with an exercise price of \$0.30 and expiry date of 30/11/2025 were issued to Dr Michael Fischer. The options were issued in accordance with the terms of Dr Fischer's Letter of Appointment in respect to his appointment as a Non-Executive Director of the Company.
- As per ASX Listing Rule 5.4.1, there were no substantive oil and gas exploration activities undertaken during the quarter.
- As per ASX Listing Rule 5.4.2, there were no substantive oil and gas production and development activities undertaken during the quarter.
- Section 6.1 of the Appendix 5B provides for an amount paid to related parties of circa \$115k being circa \$106k for directors' fees and salaries (including accrued fees from prior quarter) and circa \$9k for rent of the corporate office.
- The Company remains well-funded with cash of circa \$4.3m at 31 December 2022.
- In accordance with Listing Rule 5.4.4, as the 31 December 2022 quarter was in a period covered by a 'use of funds' statement in the IPO Prospectus, below is a comparison of the Company's actual expenditure to 31 December 2022 against the estimated expenditure in the 'use of funds' statements:



Use of Funds (A\$) <sup>5</sup>	Per IPO Prospectus (2-year period)	Investment Since Listing
Exploration Budget - ATP 1069 <sup>6</sup>	2,808,000	121,452
Exploration Budget - TG Project <sup>7</sup>	1,000,000	407,557
Project generation and feasibility – Green Energy and / or Carbon Abatement Projects <sup>8</sup>	450,000	11,570
Corporate and administration costs <sup>9</sup>	1,463,250	1,059,147
Expenses of the Offer <sup>10</sup>	778,206	567,826
Unallocated Working capital	465,544	-
<b>Total funds</b>	<b>6,965,000</b>	<b>2,167,552</b>

<sup>5</sup> The Company remains on track in terms of meeting its business objectives in accordance with the proposed use of funds.

<sup>6</sup> The funds spent by the Company relate to seismic reprocessing and interpretation activities and the planning and preparation of the future work program, with completion of G&G studies and a potential seismic acquisition of up to 120 km to be undertaken in H1 2023. Limited funds have been spent on the permit to date given the Company's focus on better understanding prospectivity potential following the Company's acquisition of the asset earlier in 2022; the Company anticipates expenditure to increase significantly in the coming quarters as it pursues more capital-intensive exploration activities on the permit.

<sup>7</sup> The funds spent by the Company relate to progressing application grant for prioritised permits, including attending on-country meetings with the native title holders of EP 258, preparation for the H1 2023 work program (including environmental management plan preparation and approvals) and corporate overhead allocation.

<sup>8</sup> Preliminary expenditure on exploring opportunities for green energy and / or carbon abatement projects have been included in "Corporate and administration costs".

<sup>9</sup> Includes legal, consulting, accounting, audit and directors' fees, new business costs and other general corporate costs. The Company has incurred costs in relation to project due diligence, progressing its business activities and indirect administrative costs in preparation of the IPO Prospectus.

<sup>10</sup> Expenses of the offer totalled \$1,064,387. Additional legal, consulting, accounting and audit costs were incurred between the IPO Prospectus dated 24 November 2021 and the completion of the IPO in April 2022 as a result of the Company having to issue a replacement prospectus and a supplementary prospectus. The Company continues to expect the IPO funds raised to enable two years of full operations.

## 2022 DECEMBER QUARTER – ASX ANNOUNCEMENTS

This Quarterly Activities Report contains information extracted from the following ASX market announcements:

Northern Territory Update	4 October 2022
Queensland Update	7 November 2022
Certified Prospective Resources & Operational Update	29 November 2022
2022 Annual General Meeting Presentation	29 November 2022
Results of 2022 Annual General Meeting	29 November 2022
Issue of Options, and Change of Directors Interest Notice	6 December 2022
Successful Award of WA Amadeus Basin Acreage	24 January 2023

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This release is authorised by the Board of Directors of Top End Energy Limited

For further information contact:

**Oliver Oxenbridge**

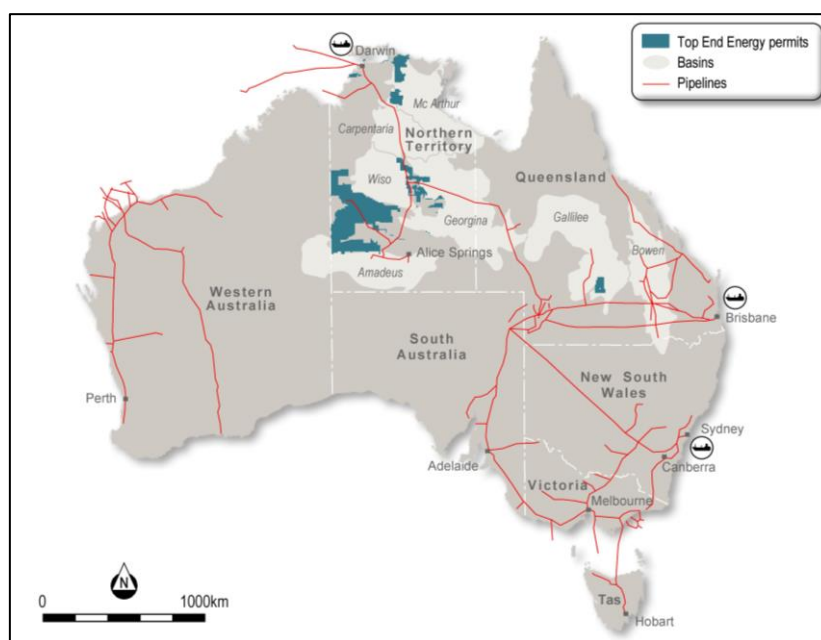
Managing Director

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## ABOUT TOP END ENERGY

Top End Energy aims to be a leading Australian diversified energy provider at the forefront of the energy transition. Combining an attractive portfolio of granted and in-application petroleum permits in Queensland and the Northern Territory, with intentions to pursue complementary clean energy solutions and achieve a target of net zero (Scope 1 & 2) emissions.

The Company currently holds interests in circa 166,000 km<sup>2</sup> (gross) granted and in-application permits, with prioritised permits in proximity to existing pipeline infrastructure. The Company's near-term activities are focused on working towards de-risking the prospectivity potential the Company has identified across these assets.



**Figure 6: TEE's asset portfolio**

For further information on Top End Energy Limited please visit [www.topendenergy.com.au](http://www.topendenergy.com.au)

### Appendix 1: Tenement Schedule (ASX Listing Rule 5.4.3)

Petroleum tenements held by the Company and its subsidiaries at the end of the quarter and their location.

Permit / Application <sup>11</sup>	Location	Interest %	Holder
ATP 1069	Queensland	100	Tomorrow Energy Corporation Pty Ltd
EP(A) 254	Northern Territory	50	NT Gas Aust Pty Ltd
EP(A) 256	Northern Territory	50	NT Gas Aust Pty Ltd
EP(A) 257	Northern Territory	50	NT Gas Aust Pty Ltd
EP(A) 258	Northern Territory	50	Territory Gas Aust Pty Ltd
EP(A) 259	Northern Territory	50	Territory Gas Aust Pty Ltd
EP(A) 260	Northern Territory	50	Territory Gas Aust Pty Ltd
EP(A) 261	Northern Territory	50	Territory Gas Aust Pty Ltd
EP(A) 262	Northern Territory	50	Territory Gas Aust Pty Ltd
EP(A) 263	Northern Territory	50	Territory Gas Aust Pty Ltd
EP(A) 264	Northern Territory	50	Territory Gas Aust Pty Ltd
EP(A) 265	Northern Territory	50	NT Gas Aust Pty Ltd
EP(A) 274	Northern Territory	50	NT Gas Aust Pty Ltd
EP(A) 275	Northern Territory	50	NT Gas Aust Pty Ltd
EP(A) 276	Northern Territory	50	NT Gas Aust Pty Ltd
EP(A) 277	Northern Territory	50	NT Gas Aust Pty Ltd
EP(A) 278	Northern Territory	50	NT Gas Aust Pty Ltd
EP(A) 279	Northern Territory	50	NT Gas Aust Pty Ltd
EP(A) 280	Northern Territory	50	NT Gas Aust Pty Ltd
EP(A) 281	Northern Territory	50	NT Gas Aust Pty Ltd

<sup>11</sup> The Company's petroleum tenements in the Northern Territory are permit applications. Grant of applications is subject to reaching agreements with traditional owners and native title holders pursuant to the Aboriginal Land Rights (Northern Territory) Act 1976 (Cth) and the Native Title Act 1993 (Cth)



EP(A) 282	Northern Territory	50	NT Gas Aust Pty Ltd
EP(A) 283	Northern Territory	50	NT Gas Aust Pty Ltd
EP(A) 284	Northern Territory	50	NT Gas Aust Pty Ltd
EP(A) 285	Northern Territory	50	NT Gas Aust Pty Ltd
EP(A) 294	Northern Territory	50	NT Gas Aust Pty Ltd
EP(A) 295	Northern Territory	50	NT Gas Aust Pty Ltd
EP(A) 312	Northern Territory	50	Territory Gas Aust Pty Ltd
EP(A) 313	Northern Territory	50	Territory Gas Aust Pty Ltd
EP(A) 314	Northern Territory	50	Territory Gas Aust Pty Ltd
EP(A) 315	Northern Territory	50	Territory Gas Aust Pty Ltd
NTC/P(A) 14	Northern Territory	50	NT Gas Aust Pty Ltd

The Company neither acquired nor disposed of any petroleum tenements in the quarter. No farm-in or farm-out agreements were entered into during the quarter.

After quarter-end, the Company was notified by the Government of Western Australia Department of Mines, Industry Regulation and Safety that its application for Area L22-6 as part of the Western Australian (WA) Government Petroleum Acreage Release 2P/2022 had been successful. The Company holds its interest in Area L22-6 through Tomorrow Energy Corporation Pty Ltd, a wholly owned subsidiary of Top End Energy Limited.

## Appendix 2: Summary of cash expenditure per project

Project	Cash Expenditure A\$'000
Exploration Budget - ATP 1069	83
Exploration Budget - TG Project	223
Green Energy and / or Carbon Abatement Projects	7