

4 November 2021

## 154% Increase in 2P Developed Reserves Reported in Independent Audit of ADX Austrian Fields <sup>note 1</sup>

### Key Points:

- An independent audit of developed reserves has been completed for ADX' Zistersdorf and Gaiselberg fields ("Fields") in the Vienna basin, Austria by RISC Advisory Pty Ltd ("RISC").
- RISC has conducted an independent audit of ADX' developed reserves for the Fields at 1 July 2021, including production forecasts, cost estimates and project economics ("RISC CPR").
- A summary of the findings of the RISC CPR are summarised as follows:
  - 1P (Proven) developed reserves estimate of **1,190,000 barrels of oil equivalent** - an increase of 215% compared to a previous Field audit announced on 5 November 2020 (refer table 1);
  - 2P (Proven + Probable) developed reserves estimate of **1,850,000 barrels of oil equivalent** - an increase of 154% compared to a previous Field audit announced on 5 November 2020 (refer table 1); and
  - The estimated Net Present Value of the 1P and 2P reserves respectively is EUR 5.7 million (*approximately A\$ 8.7 million*) and EUR 15.9 million (*approximately A\$ 24.4 million*).
- The increase in the audited reserves is based on recompletion opportunities accessing behind pipe reserves in existing wells identified from an ADX full field geological and reservoir simulation model as well as better than forecast Field production performance since the previous independent audit.

**ADX Executive Chairman, Mr Ian Tchacos, said,** *"The RISC CPR results confirm that the developed Reserves and production potential of ADX' Gaiselberg and Zistersdorf fields significantly exceed previous expectation. Ongoing field performance and ADX' technical studies which have been supported by RISC indicate that substantial behind pipe potential in existing wells can be accessed at low cost to increase reserves, future production and value from the fields. While the assets are mature, they are very well maintained with adherence to the highest environmental and emission standards. The assets also provide the opportunity to create further value for shareholders and provide environmental benefits through the future deployment of the Vienna Basin Hydrogen Production and Storage project, there by delivering value from the Vienna Basin Fields for many years to come."*

Note 1: Proved and Probable developed producing and developed non-producing reserves.

ADX Energy Ltd (**ASX Code: ADX**), is pleased to advise the results of the competent person's report undertaken by independent consultants RISC ("RISC CPR"). RISC was engaged to audit the developed Reserves held by the ADX Energy Ltd Group ("ADX") at the Zistersdorf Field and Gaiselberg Field in the Vienna Basin, Austria ("Fields") in which ADX holds at a 100% operated interest.

The effective date of the RISC CPR is 1 July 2021. The developed Reserves have been classified as producing and non-producing. The developed producing Reserves comprise oil and gas quantities from existing producing wells and non-producing developed Reserves are from behind pipe reservoirs in existing wells which will become producing reserves once these wells have been perforated to access and produce intersected oil and gas.

A comparison of the RISC CPR assessment to the previous CPR assessment with an effective date of 31 December 2019, reported on 5 November 2020 is shown below in Table 1. The equivalent previously reported reserves adjusted to 1 July 2021 are calculated by deducting production from 31 December 2019 to 1 July 2021. A positive variance of 215% and 154% respectively is estimated for the 1P and 2P developed reserves categories between the RISC CPR reserves announced in this release and the ADX previously reported CPR on 5 November 2020. The RISC CPR net present values ("NPV") are shown for future Field cash flows for the corresponding reserves cases. All Reserves are based on PRMS Reserves classifications refer below.

**Table 1:** Shows RISC CPR versus Previous CPR Reserves Comparison for ADX Fields

	1P Developed Producing and Non-Producing Reserves (BOE)	2P Developed Producing and Non-Producing Reserves (BOE)	3P Developed Producing and Non-Producing Reserves (BOE)
Reserves @ 31/12/2019 (Previous CPR)	540,000	890,000	1,510,000
LESS Production (18 months)	162,000	162,000	162,000
Previous reported reserves @ 1 July 2021	378,000	728,000	1,348,000
<b>RISC CPR reserves @ 1 July 2021</b>	<b>1,190,000</b>	<b>1,850,000</b>	
<i>Reserves increase</i>	<i>215%</i>	<i>154%</i>	
<b>RISC CPR NPV<sub>g</sub> (million)</b>	<b>EUR 5.7</b>	<b>EUR 15.9</b>	

Notes:

1. ADX holds a 100% working interest in the fields
2. The notional reference point for reserves is the permit boundary or export line inlet.
3. Deterministic evaluation methods have been used.
4. Associate gas resources includes inerts sold with the gas.
5. There is no fuel & flare consumption for the Fields.
6. BOE means barrels of oil equivalent including solution gas
7. Conversion factors are 1.124 m<sup>3</sup>/tonne oil, 165.4 sm<sup>3</sup> gas per boe and a gas Higher Heating Value of 40.7 MJ/sm<sup>3</sup>
8. Oil price forecast of US\$65/bbl (€55/bbl) flat from 2021 onwards.
9. Gas pricing forecast - summer price forecast is €0.14/m<sup>3</sup> and the winter price is €0.16/m<sup>3</sup>
10. Corporate income tax rate in Austria of 25% has been applied.
11. A currency conversion of 1.18 Euro per US\$ is used

## ***PRMS 2018 Reserves Classifications used in this Release***

**1P** Denotes low estimate of Reserves (i.e., Proved Reserves). Equal to P1.

**2P** Denotes the best estimate of Reserves. The sum of Proved plus Probable Reserves.

**3P** Denotes high estimate of Reserves. The sum of Proved plus Probable plus Possible Reserves.

1. **Developed Reserves** are quantities expected to be recovered from existing wells and facilities.
  - a. *Developed Producing Reserves* are expected to be recovered from completion intervals that are open and producing at the time of the estimate.
  - b. *Developed Non-Producing Reserves* include shut-in and behind-pipe reserves with minor costs to access.
2. **Undeveloped Reserves** are quantities expected to be recovered through significant future investments.

A. **Proved Reserves** are those quantities of Petroleum that, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be commercially recoverable from known reservoirs and under defined technical and commercial conditions. If deterministic methods are used, the term “reasonable certainty” is intended to express a high degree of confidence that the quantities will be recovered. If probabilistic methods are used, there should be at least a 90% probability that the quantities actually recovered will equal or exceed the estimate.

B. **Probable Reserves** are those additional Reserves which analysis of geoscience and engineering data indicate are less likely to be recovered than Proved Reserves but more certain to be recovered than Possible Reserves. It is equally likely that actual remaining quantities recovered will be greater than or less than the sum of the estimated Proved plus Probable Reserves (2P). In this context, when probabilistic methods are used, there should be at least a 50% probability that the actual quantities recovered will equal or exceed the 2P estimate.

C. **Possible Reserves** are those additional Reserves that analysis of geoscience and engineering data suggest are less likely to be recoverable than Probable Reserves. The total quantities ultimately recovered from the project have a low probability to exceed the sum of Proved plus Probable plus Possible (3P) Reserves, which is equivalent to the high-estimate scenario. When probabilistic methods are used, there should be at least a 10% probability that the actual quantities recovered will equal or exceed the 3P estimate. Possible Reserves that are located outside of the 2P area (not upside quantities to the 2P scenario) may exist only when the commercial and technical maturity criteria have been met (that incorporate the possible development scope). Standalone Possible Reserves must reference a commercial 2P project.

## ***Scope of RISC CPR***

RISC conducted an independent audit of ADX’ field evaluations, including production forecasts, cost estimates and project economics. Production from existing wells is classified as Developed Producing. Production from planned recompletion of the existing wells to new intervals is classified as Developed Non-Producing.

The CPR provides an independent audit of the reserve and resource evaluation conducted by ADX including:

- 1P and 2P developed producing reserves;
- 1P and 2P developed non-producing reserves from upward recompletion of wells;
- 2C contingent resources if applicable; and
- Project economics and NPV.

RISC has also provided an assessment in relation to the validity ADX simulation case forecasts.

### ***Comparison of RISC CPR results and ADX Reservoir Simulation Model***

ADX provided RISC with their full field geological and history matched dynamic models for the Neogene Sarmatian reservoirs in the Gaiselberg and Zisterdorf oil fields. This included the production history to end April 2021, the forecast schedule of workovers and activities, and forecasts for the smaller Gaiselberg and Zisterdorf reservoirs.

The RISC CPR is based on a review of new work undertaken by ADX as follows:

- both historical and ongoing field and well production data;
- a reprocessed 3D data seismic dataset, revised petrophysics and the extensive field well data base incorporated into a 3D geological model for the field;
- a history matched reservoir simulation model; and
- the utilisation of a reservoir simulation model to forecast future production and reserves estimates (ADX Simulation Model).

Table 2 below shows a breakdown of producing versus producing and non-producing reserves as well as a comparison. Non producing or behind pipe reserves comprise approximately 50% of the reserves and represent a significant value driver for Field cash flow and economics.

**Table 2:** Shows a breakdown of RISC CPR and ADX Simulation Model Results

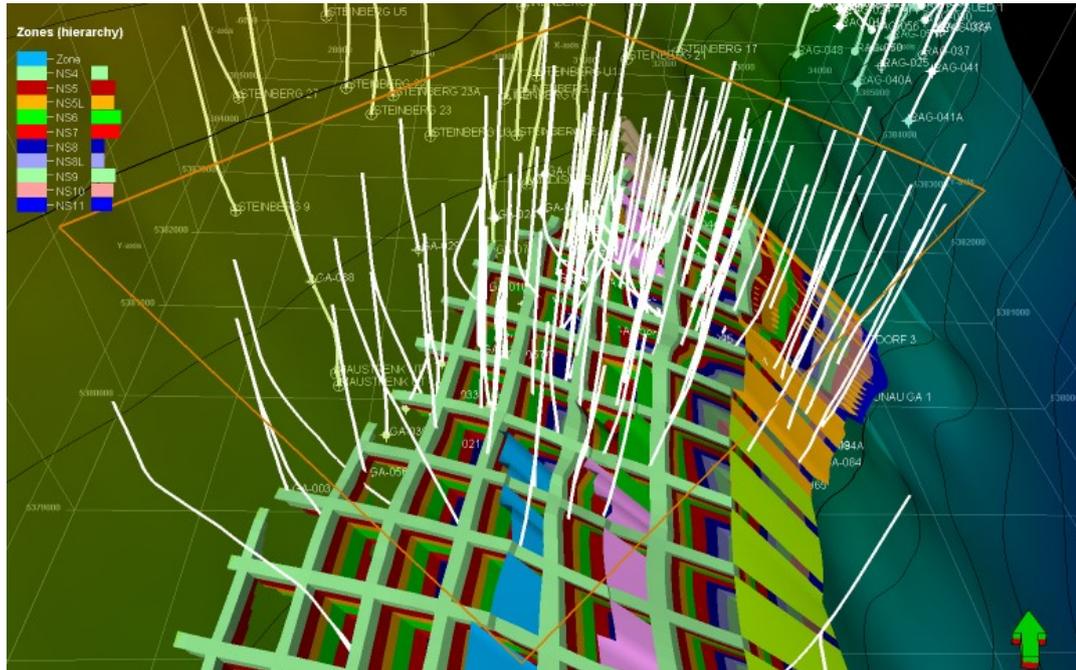
	1P Reserves (RISC)	2P Reserves (RISC)	ADX Simulation Model Results <sup>(Note 1)</sup>
Developed producing	440,000	960,000	1,760,000
Developed non-producing	750,000	900,000	1,460,000
<b>Total Developed</b>	<b>1,190,000</b>	<b>1,850,000</b>	<b>3,220,000</b>
Economic Life (Producing / Producing + non-producing)	2028/2039	2036/2041	2049/2055
<b>NPV <sub>8</sub> (Euro million) <sup>Note 2</sup></b>	<b>5.70</b>	<b>15.90</b>	<b>25.90</b>

Note 1: RISC consider the ADX simulation model is fit for purpose and useful for quantifying recompletion opportunities. RISC consider the simulation forecast to be a high case unless validated by further performance and an intermediate case is used as 2P.

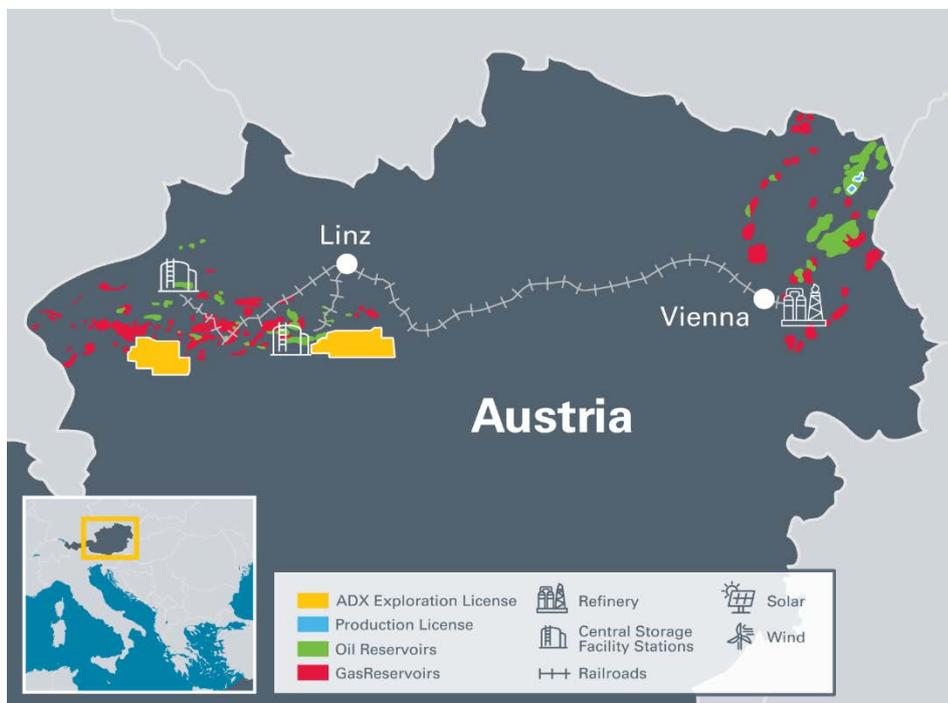
Note 2: NPV shown are post tax and based on an oil price of US\$ 65 per barrel flat from 2021 onwards. NPV shown are discounted at 8% real (approximately 10% nominal). NPV shown does not necessarily equate to fair market value.

### ***Field Depletion Strategy***

The Fields consist of approximately 50 multi stacked sandstone hydrocarbon bearing reservoirs. The oil bearing intervals have largely been developed from the bottom up. The main drive mechanism is edge water supplemented with water injection. ADX have identified at least 32 recompletions of the existing wells to further develop the different zones.



**Figure 1:** Gaiselberg field structural model showing main Neogene Sarmatian oil producing reservoir units. The reservoirs are bounded by the regional scale Steinberg fault at the base, and there are intra field faults modelled, both of which are shown. The field is well appraised with a large number of production wells drilled and production performance data since 1938. The Gaiselberg field production license outline is shown in orange. Some of the ADX Zistersdorf field “RAG” wells can be seen to the north of the Field model



**Figure 2:** Map showing ADX production and exploration licenses in Austria including the Gaiselberg and Zistersdorf fields in the Vienna Basin (white outlined areas in the North Eastern part of the prolific Vienna Basin)

ADX Simulation Model estimates consist of developed producing resources and developed non-producing resources from well re-completions to shallower zones. The majority of re-completions will occur within the next 10 years however the last re-completion is scheduled for 2042. Re-completing wells to access shallower zones would not be done before production from the current zone has declined. This explains the extended re-completion timing in the ADX Fields.

RISC concurs that behind pipe opportunities add significant reserves to the Fields. The ADX Simulation Model case represents a substantial upside opportunity which can be accessed at relatively low cost. RISC has commented that should the ADX depletion strategy be implemented and simulation history match be validated by production actuals and results from key workovers, the additional volumes forecast in the ADX Simulation Model could potentially be moved to a 2P reserves classification in subsequent reserves assessments.

Prior production wells have produced for over 60 years in the Gaiselberg and over 30 years in Zistersdorf field. The age of wells recompleted in 2040 would be less than these historic well lives. Therefore, well integrity is not expected to be an issue. Despite the extended period before some well re-completions, RISC considers that the resources meet the reserve classification.

**For further details please contact:**

Paul Fink

Chief Executive Officer

+61 (08) 9381 4266

[paul.fink@adx-energy.com](mailto:paul.fink@adx-energy.com)

Ian Tchacos

Executive Chairman

+61 (08) 9381 4266

[ian.tchacos@adxenergy.com.au](mailto:ian.tchacos@adxenergy.com.au)

**Authorised for lodgement by Ian Tchacos, Executive Chairman**

## Persons compiling information about Hydrocarbons.

Pursuant to the requirements of the ASX Listing Rule 5.31, the unaudited technical and reserves information contained in this release has been prepared under the supervision of Mr Paul Fink. Mr Fink is Technical Director of ADX Energy Ltd, is a qualified geophysicist with 23 years of technical, commercial and management experience in exploration for, appraisal and development of oil and gas resources. Mr. Fink has consented to the inclusion of this information in the form and context in which it appears. Mr. Fink is a member of the EAGE (European Association of Geoscientists & Engineers) and FIDIC (Federation of Consulting Engineers).

## Reporting Standards

Reserves and resources are reported in accordance with the definitions of reserves, contingent resources and prospective resources and guidelines set out in the Petroleum Resources Management System (PRMS) prepared by the Oil and Gas Reserves Committee of the Society of Petroleum Engineers (SPE) and reviewed and jointly sponsored by the American Association of Petroleum Geologists (AAPG), World Petroleum Council (WPC), Society of Petroleum Evaluation Engineers (SPEE), Society of Exploration Geophysicists (SEG), Society of Petrophysicists and Well Log Analysts (SPWLA) and European Association of Geoscientists and Engineers (EAGE), revised June 2018.

## RISC Independence

RISC has no pecuniary interest, other than to the extent of the professional fees receivable for the preparation of this report, or other interest in the assets evaluated, that could reasonably be regarded as affecting our ability to give an unbiased view of these assets. RISC makes the following disclosures:

- RISC is independent with respect to ADX and confirms that there is no conflict of interest with any party involved in the assignment;
- Under the terms of engagement between RISC and ADX, RISC will receive a time-based fee, with no part of the fee contingent on the conclusions reached, or the content or future use of this report. Except for these fees, RISC has not received and will not receive any pecuniary or other benefit whether direct or indirect for or in connection with the preparation of this report;
- Neither RISC Directors nor any staff involved in the preparation of this report have any material interest in ADX or in any of the properties described herein.

RISC has conducted an independent audit of the developed Reserves and consented to the inclusion of information specified as RISC audited values in this release.

## About RISC

RISC is an independent advisory firm offering the highest level of technical and commercial advice to a broad range of clients in the energy industries, worldwide. RISC has offices in London, Perth, Brisbane and South East Asia and has completed assignments in more than 90 countries for over 500 clients and have grown to become an international energy advisor of choice.

## END OF THIS RELEASE