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Verification Report

VS-3365383

Verification of the Greenhouse Gas Declaration

Energy efficiency improvement of the Nimr produced water disposal system

according to

**ISO 14064 Part 2
and**

**Austrian 'Kraftstoffverordnung'
dated 24/June/2020**

implementing

**COUNCIL DIRECTIVE (EU) 2015/652 of 20 April 2015 laying down
calculation methods and reporting requirements pursuant to Di-
rective 98/70/EC of the European Parliament and of the Council re-
lating to the quality of petrol and diesel fuels**

Date: 2021-03-15

Our reference:
IS-US1-RGB

Report No. VS-3365383-1

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27 Pages.
Page 1 of 27

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Table of contents

1. Abbreviations.....	3
2. Scope of the verification	4
3. Project details.....	4
4. Verification approach.....	5
4.1. Contract review	5
4.2. Assessment team.....	5
4.3. Preparation of the assessment.....	5
5. Means of Verification	8
5.1. Document review.....	8
5.2. Remote audits	8
5.3. Onsite visit.....	8
5.4. Sampling	8
5.5. Follow-up of revisions.....	8
5.6. Technical review.....	8
6. Observations and findings	9
6.1. General information.....	9
6.2. Legal requirements.....	9
6.3. Data quality	9
6.4. Baseline scenario and additionality	9
6.5. Monitoring procedures.....	10
6.6. Social and environmental issues	10
6.7. Findings	10
6.8. Recommendations for improvements	10
7. Verification decision.....	10
Annex.....	I
A. Checklist of the verification assessment plan	I
B. List of findings	I
C. Document list.....	I
D. List of interviewed persons.....	II
E. Accreditation certificate of Verification Body	IV



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1. Abbreviations

CDM	Clean Development Mechanism
CO ₂	Carbon Dioxide
DAkKS	German Accreditation Body (Deutsche Akkreditierungsstelle)
DIN	German Institute for Standardization (Deutsches Institut für Normung)
EIA	Environmental Impact Assessment
EN	European Norm
FQD	Fuel Quality Directive
GHG	Greenhouse Gas
ISO	International Standard Organisation
KVO	Kraftstoffverordnung
LNG	Liquified Natural Gas
NGL	Natural Gas Liquids
PDD	Project Design Document
TÜV SÜD	TÜV SÜD Industrie Service GmbH
UER	Upstream Emission Reduction



2. Scope of the verification

TÜV SÜD Industrie Service GmbH (in the following referred to as TÜV SÜD) is an accredited verification body according to German Institute for Standardization (DIN) European Norm (EN) International Standard Organisation (ISO) 14065 for the validation and verification of greenhouse gas assertions according to ISO 14064 Part 1 and ISO 14064 Part 2. TÜV SÜD performed a verification of the Greenhouse Gas (GHG) Declaration for the project: Energy efficiency improvement of the Nimr produced water disposal system in order to confirm compliance of the GHG Declaration with the requirements of ISO 14064 Part 2 Austrian Kraftstoffverordnung (KVO) dated 24/June/2020 implementing COUNCIL DIRECTIVE (EU) 2015/652 of 20 April 2015 laying down calculation methods and reporting requirements pursuant to Directive 98/70/EC of the European Parliament and of the Council relating to the quality of petrol and diesel fuels.

TÜV SÜD included all tasks and aspects as specified in § 19b of KVO and provides all required information through this verification report. The main objective of this activity is the use of the verification report by the client when applying for crediting of certified upstream emission reductions of this project activity at the Austrian authority.

TÜV SÜD nominated a verification team fulfilling the internal qualification criteria based on ISO 14064 Part 3, ISO 14065 and ISO 14066. The specification of the competence criteria according to IAF MD14:2014 is applied here. The verification process involved an in-depth review of the original set of documentation and records as well as background research regarding applied technologies, legislation and benchmarks. The verification process follows the requirements of the accreditation ordinance 2018/2067 (formerly 600/2012). Following a strategic analysis and the determination of assessment risks a detailed audit plan has been developed. Due to travel restrictions in the COVID-19 crisis the verification included two remote audits and further meetings, including all required project participants via Microsoft Teams. Moreover, the project applicant has sought for the approval by the Austrian authority ("BMK" Ministry for Environment) to conduct remote audits for UER validations & verifications until 31st March 2021.

Following the audits, a list with required documents and open points was provided to the client who subsequently revised the documentation and clarified open points. The revised documentation underwent a further review before issuing this final verification report. The final verification report itself has undergone an independent review by a technical reviewer (another TÜV SÜD lead auditor), who has not been part of the verification for final approval of the report.

The verification statement provides a reasonable level of assurance. When verifying baseline data, a 2% materiality threshold has been applied in analogy to the validation assessment of the project.

The verification has been carried out in the period from 15th Jan 2021 until 15th March 2021.

3. Project details

The project Energy efficiency improvement of the Nimr produced water disposal system consists of:

The project is to improve the energy efficiency of the Nimr produced water disposal system by implementing a GHG project located at Oman. The project, an ecological wetland facility solution, allows to treat up to 115,000 m³/day (design maximum) from the Nimr production in an energy efficient and environmentally friendly manner.

The produced water is moved through three different process stages (oil separation, reed beds, evaporation ponds) without external energy by gravity, using the vertical gradient of



the local topography, for final disposal. And the expected emission reduction is 122,124 tCO₂e annually.

The project is situated at: N 18.666667°, E 55.759722°

The project applicants are: OMV Downstream GmbH
Trabrennstraße 6-8
A-1020 Wien

The project proponents are: Bauer Nimr LLC

Contact person: Tobias Danz
phone: +43 1 40440-23735
email: tobias.danz@omv.com

Final version of the project documentation:

Monitoring report, version 02.1, 10/March/2021
(MR4_Nimr_phase1and2_10032021.pdf)
Emission reduction calculation, version 01, 14/Jan/2021
(MR4_UER_calculation_Nimr_phase1and2_14012021.xls)

Applied Clean Development Mechanism (CDM) methodology: AM0020 Version 2.

Verified upstream emission reductions: 99,909 tCO₂e

4. Verification approach

4.1. Contract review

There is a framework agreement between the client OMV Downstream GmbH and TÜV SÜD Industrie Service GmbH for validation and verification services for upstream emission reduction projects. The framework agreement is based on a time expenditure calculation which ensures that the necessary personnel and time resources are available for the work. The scope of accreditation of TÜV SÜD as accredited validation and verification body covers all relevant scopes (for this project CDM scopes 3) of this project activity and TÜV SÜD has access to auditors covering the required competences in the sectors related to this activity. The client confirmed the independence of the verification team members and TÜV SÜD in writing.

4.2. Assessment team

The assessment team consists of the following team members:

Lead auditor:
Jiang Zhe, Eric Scopes: 1, 2, 3, 10, 13

Country expert:
Rengaraj, Arun

4.3. Preparation of the assessment

The project developer has been requested to submit the project documentation and scanned copies of relevant evidences before starting the remote audit. By reviewing and evaluating these documents a strategic and risk analysis has been performed.



The audit team assessed the likely nature, scale and complexity of the verification tasks. The audit team considered all preliminary information on the project, such as project boundaries, sources and sinks and the required materiality threshold. It identified and analysed the inherent risks and control risks to develop an assessment plan which allows to reduce all assessment risks and to enable a statement at a reasonable level of assurance that the project complies with the requirement of the referenced standards and regulations. In addition, background information has been collected by internet research and consulting a local expert seeking information regarding Oman specifics on energy generation, its environmental legislation, legislation and common practise regarding flaring, benchmarks, information regarding the project proponents' activities as well as on the project.

The following table presents the areas of concerns, where needs for further investigation beyond the document review have been identified, the associated risks which might result in non-compliance and the initially selected assessment methods. This list has been prepared before drafting a detailed schedule for the first remote audit, which was finally shared with the project proponents and their contracted partners for ensuring appropriate arrangements with regard to the auditing.

Area of concern	Risk	Assessment method
Applicability / boundaries	The project could have been implemented to meet legal requirements Potential physical losses of associated gas (non-CO ₂) to be considered within boundaries	Discussion and review of legal requirements
Start date of the project activity	Non-compliance with Fuel Quality Directive (FQD), i.e. project start before 2011	Type plates, interviews and document review
Project lifetime; expected reductions	Inappropriate forecasts	Interviews and document review
Double-counting issues / leakage	Measuring of gas quantities at the wrong positions, so that a too high a quantity is counted.	On-site inspection and document review
Correctness of underlying data	Use of inappropriate measuring devices and analysis methods	On-site inspection and document review
Baseline scenarios	Data of pre-project scenario Life-time of pre-project equipment Remaining evidences Description of alternative scenario as given by the project design document (PDD)	Audit Interviews
Calculations	Mistakes in calculation approach, default values or in excel sheets for calculation	Comparison with requirements and review of the calculations
Emission reduction forecast	Appropriate consideration of the associated amount of gas and the oil production activities	Interviews and comparison with empirical values
Environmental impacts	Compliance with national legislation	Interview and consultation of local expert
Inclusion of legal requirements	Project is mandatory according to local legal requirements	Interview and consultation of local expert
Inclusion in national climate change policy	Double-counting	Interviews and document review



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Area of concern	Risk	Assessment method
Monitoring plan	Completeness: procedures, measurements, sampling, quality assurance, data storage	Document review
Quality assurance / quality control	Data quality of baseline and project emissions Risk of data losses by monitoring approach	Interviews and document review

For further preparation of the audits the verification checklist of ISO14064 Part 2 activities has been amended by FQD-specific aspects. The checklist is filled with information collected and verified during document reviews as well as audits and indicates any findings. It is attached to this report as Annex A.



5. Means of Verification

5.1. Document review

In the course of the verification, the documents mentioned in the checklist for the individual topics were reviewed and evaluated. The list of documents is compiled in annex C.

5.2. Remote audits

Due to the Covid-19 pandemic a travel of the lead auditor to the location was not possible. For that reason, the audit team in agreement with the project participants decided to have a remote audit via Microsoft Teams and an on-site audit by a local expert. The remote audit took place on 18th Jan and 24th Feb 2021, respectively.

At the end of the remote audits a list with needed evidence documents and open points was provided to the project proponents indicating the need for further clarifications, additional proofs or identified non-compliances which require the revision of documents and calculations.

The proofs (records, databases, documents) that have been checked during the strategic analysis, during and after remote audits and are listed in Annex C.

Annex D to this report provides a list of persons that took place during the remote audits and in additional meetings.

5.3. Onsite visit

Due to travel restrictions in the COVID-19 crisis the verification included two remote audits and further meetings, including all required project participants via Microsoft Teams. Moreover, the project applicant has sought for the approval by the Austrian authority ("BMK" Ministry for Environment) to conduct remote audits for UER validations & verifications until 31st March 2021.

5.4. Sampling

All supporting documents were completely assessed. The raw data from the flow meters of the produced water, daily production reports and monthly production reports have been completely assessed.

5.5. Follow-up of revisions

After the delivery of requested further evidences and the revision of the project documentation addressing the identified non-compliances, a further round of desk reviews has taken place, assessing these submissions. The final assessments regarding the closure of findings is documented under the finding list, attached as Annex B to this report.

5.6. Technical review

Before the report was approved, an internal review had been conducted by a lead auditor assigned to it by the verification body who was not himself a member of the assessment team. The main focus of this process is the assessment of the completeness and traceability of the verification carried out on the basis of the internal and external verification report. If necessary, the assessment team will be asked to catch up on missing test steps or to correct or supplement the test report to increase transparency.

For this project the technical review has been conducted by:

Norbert Kraus Scopes: 1, 3, 4, 5, 7, 8, 9, 10, 11, 12, 16

6. Observations and findings

6.1. General information

All information regarding the project proponent and involved partners, organisational arrangements, the facility, the authorisation and technical features have been proven to be correct. All information in the final version is complete.

The project boundaries are clearly defined within the project document and covered the injection pumps connected with the deep-water wells, on four sites, for final disposal and the wetland facility phase 1 and 2 (controlled and directly attributable to the project) and the PDO power grid (related and directly attributable to the project). Instead of using energy to dispose water in deep geological layers, the oil-contaminated water is treated by a unique wetland solution in an energy-efficient manner. It is clearly related to upstream activities, the project qualifies in principle as upstream emission reduction project.

6.2. Legal requirements

The project itself is in compliance with the host country's legislation. All licenses have been given by the host country environmental authority on the basis of the application which also covered an environmental impact assessment (EIA). There are no specific regulations about taxes or fines with regard to using intensive energy to dispose water in deep geological layers.

6.3. Data quality

Data used to calculate the emission reductions and to fix ex-ante parameter has been verified along this verification. All required data is considered being accurate and complete. The calculation is based on reproducible data.

The requirement on conservativeness is achieved by using approved standards and tools, which ensure a transparent assessment of information provided. Furthermore, the wetland plantation will produce an additional biomass stock and opportunities for further renewable energy projects (e.g. through bio-digester, bio-briquetting and improvement of soil humus etc.), which has not claimed by project in conservative manner.

The project owner calibrated electricity meters and flow meters at per calibration procedures and data is stored electronically. A clear procedure is established that ensure responsibility and accountability for all parameters that are required to be monitored, measured and reported.

Thus, there is a low risk of inappropriate data quality and missing reproducibility.

6.4. Baseline scenario and additionality

The PDD describes correctly the baseline scenario. The continuation of the recent practice of continuously using intensive energy to dispose water in deep geological layers, is the most likely scenario in the absence of the project activity.

The relevant pumping and auxiliary equipment would operate without need for refurbishment beyond 2020 and the wastewater production will not decrease, hence they will continue to treat



oil contaminated water in a similar amount as in the baseline. Thus, the forecasts are deemed reasonable.

The most likely reference case without the implementation of the project (as per the requirement of the KVO) is using intensive energy to dispose water in deep geological layers, which is still applied for any excess produced water. The treatment technologies have not changed to the baseline scenario assumed at validation.

6.5. Monitoring procedures

The monitoring procedures are in compliance with the applied CDM methodologies and enable delivering data at a quality comparable to the requirements under the European Emission Trading Scheme. Where applicable, the requirements of the Monitoring Regulation 2018/2066 (formerly 601/2012) are met. All data which require metering are clearly identified and according arrangements have been made.

6.6. Social and environmental issues

A health, safety and environmental impact assessment has been conducted and provided to the audit team. The assessment concluded that all potential risks associated with the project can be controlled or reduced to non-significant levels. The EIA has been approved by the respective authority.

A stakeholder survey has been conducted for the project and provided to the audit team. There is no negative opinion on the project activity.

6.7. Findings

A detailed finding list is provided as Annex B to this report. Most of the issues were related to the project boundary and data monitoring and analysis.

During this monitoring period, the amount of GHG emission reductions achieved is 99,909 tCO₂e is lower than estimates as 122,124 tCO₂e from the registered UER PDD. All findings have been closed before finalising the verification.

The PDD version 1.1 from 02/08/2019 was submitted at the beginning of the verification process. The project is implemented according to the project design and no change and deviations have been made during this monitoring period.

6.8. Recommendations for improvements

None

7. Verification decision

TÜV SÜD has undertaken the verification of the GHG declaration the project Energy efficiency improvement of the Nimr produced water disposal system to be implemented by the project proponent Bauer Nimr LLC based on the requirements of ISO 14064-2 "Specification with guidance at the project level for quantification, monitoring and reporting of GHG emissions reductions or removal enhancements" and the KVO.

The project encompassed the energy (electricity) consumption of pumps used by the deep well disposal scheme of Nimr oil field in Oman. Instead of using energy to dispose water in deep well,



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the oil-contaminated water is treated by a unique wetland solution with the vertical gradient of the local topography to avoid any electricity consumed.

To arrive at the final verification conclusions and opinion, TÜV SÜD carried out desk reviews, background investigations, two remote audits taking into account the specific requirements of the KVO.

Through the verification process, the verification team identified different clarification requests and two corrective action requests. The project proponents have taken actions to address these findings and submitted to TÜV SÜD the revised GHG declaration, (Monitoring report) version 02.1 dated 10/March/2021 in combination with the emission reduction calculation version 01 dated 14/January/2021 and any other supporting evidences. All findings have been appropriately closed before the issuance of this verification report.

The verification team is of the opinion that the GHG declaration of the project: Energy efficiency improvement of the Nimr produced water disposal system with verified revision is in accordance with all the relevant GHG program requirements as well as the host country's national requirements and achieved the verified upstream emission reduction of

81,409* tCO₂e

in the period from

01/01/2020 to 31/12/2020

and will contribute to the sustainable development of the host country. Therefore, TÜV SÜD hereby certifies that the GHG declaration (Monitoring report) version 02.1 dated 10/March/2021, of the proposed upstream emission reduction project Energy efficiency improvement of the Nimr produced water disposal system of the project proponent Bauer Nimr LLC is in accordance with the above stated requirements.

* To avoid the double-counting and misuse, the verification team declared that the verified upstream emission reductions of 79,909 tCO₂e is from the total emission reductions achieved 99,909 tCO₂e for the project "Energy efficiency improvement of the Nimr produced water disposal system" in the 4th monitoring period from 01/01/2020 to 31/12/2020.

Report No VS 3365383-1: 81,409 tCO₂e (reported here)

Report No VS 3365383-2: 18,500 tCO₂e

A handwritten signature in blue ink, appearing to read 'Jung'.

Lead Auditor

A handwritten signature in blue ink, appearing to read 'N. Krauss'.

Technical Reviewer

A handwritten signature in blue ink, appearing to read 'Allend'.

Verification body



Annex

A. Checklist of the verification assessment plan

Verification of UER Project	3365383
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Document check - contents of the GHG declaration according to 14064-2
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Subject / context	Content - in keywords	Audit result
1) The GHG report contains the name of the project proponent.	Energy efficiency improvement of the Nimr produced water disposal system	ok
2) A brief description of the GHG project, including size, location, duration and types of activities	The project purpose is to improve the energy efficiency of the Nimr produced water disposal system by implementing an ecological wetland facility solution (= GHG project) located at Oman. The project, an ecological wetland facility solution, allows to treat up to 115,000 m ³ /day (design maximum) from the Nimr production in an energy efficient and environmentally friendly manner. And the expected emission reduction is 122,124 tCO ₂ e annually. The project was implemented in two phases, where under phase 1 all process stages were established and under phase 2 the reed bed area was extended from 234 ha to 351 ha. The phase 1 was completed on the 15/01/2011 and phase 2 on the 07/10/2012, respectively.	ok
3) A GHG statement(s), including a statement of GHG emission reductions and removal enhancements stated in units of CO ₂ e, e.g. tonnes of CO ₂ e	Amount of GHG emission reductions achieved during this monitoring period 99,909 tCO ₂ e.	ok
4) A statement describing whether the GHG statement has been verified and/or validated, including the type of verification or validation and level of assurance achieved.	The validation report is available. Verification will be done by TÜV SÜD naming the level of assurance with 2 %.	ok
5) A list of all relevant GHG sources and sinks controlled by the project, as well as those related to or affected by the project, including the defined criteria for their selection for inclusion in quantification.	GHG sources include the injection pumps connected with the deep-water wells, on four sites, for final disposal and the wetland facility phase 1 and 2 (controlled and directly attributable to the project) and the PDO power grid (related and directly attributable to the project).	ok



<p>6) A statement of the aggregate GHG emissions and/or removals of GHG for the GHG project that are controlled by the project proponent, stated in unit of CO₂e, e.g. tonnes of CO₂e, for the relevant time period (e.g. annual, cumulative to date, total)</p>	<p>Estimated UERs in 2020: 122,124 t CO₂e</p>	<p>ok</p>
<p>7) A statement of the aggregate GHG emissions and/or removals by GHG quality assurance system for the GHG baseline scenario, stated in units of CO₂e, e.g. tonnes of CO₂e, for the relevant time period.</p>	<p>Amount of GHG emission reductions achieved during this monitoring period 99,909 tCO₂e.</p>	<p>ok</p>
<p>8) A description of the GHG baseline scenario and demonstration that the GHG emission reductions or removal enhancements are not over-estimated.</p>	<p>In the baseline scenario, the total produced water is moved into deep water wells via injection pumps for final disposal. These injection pumps consume a high amount of fossil fuel-based grid electricity, which causes a significant amount of CO₂ emissions.</p> <p>The requirement on conservativeness is achieved by using approved standards and tools, which ensure a transparent assessment of information provided. Furthermore, the wetland plantation will produce an additional biomass stock and opportunities for further renewable energy projects (e.g. through biodigesters, bio-briquetting and improvement of soil humus etc.), which has not claimed by project as well.</p>	<p>ok</p>
<p>9) A general description of the criteria, procedures or good practice guidance used as a basis for the calculation of project GHG emission reductions and removal enhancements.</p>	<p>The baseline scenario of the project is the same as the scenario existing prior to the start of implementation of the project. The calculation is aligned with the criteria and procedures of the approved UNFCCC CDM methodology AM0020/version 2 "Baseline methodology for water pumping efficiency improvements" and the associated UNFCCC CDM tools: Tool 05 V3, Tool 07v7.</p>	<p>ok</p>
<p>10) A statement on uncertainty, how it affects the GHG statement and how it has been addressed to minimize misrepresentation.</p>	<p>The project owner calibrated electricity meters and flow meters at per calibration procedures and data is stored electronically. A clear procedure is established that ensure responsibility and accountability for all parameters that are required to be monitored, measured and reported. Thus,</p>	<p>ok</p>



	there is a low risk of inappropriate data quality and missing reproducibility.	
11) The date of the report and the time period covered	24/02/2021, 01/01/2020-31/12/2020	ok
12) As applicable, an assessment of permanence	The project is planned for 2 years, but extendable	ok
13) An evidence of the appointment of the authorized representative on behalf of the project proponent, if different from the proponent.	OMV Downstream GmbH	ok
14) If applicable, the GHG programme(s) to which the GHG project subscribes.	CDM methodology AM0020v2 and Austrian Kraftstoffverordnung 2012/Slovak	ok
15) If required by intended users, changes to the project or monitoring system from the project plan and assessment of its conformity to criteria, applicability of methodologies and any other requirements.	In addition to its core market in Austria, OMV Downstream GmbH is also obliged under the FQD in other EU Member States (in particular Germany, Slovakia, Czech Republic, Hungary, Slovenia, Romania & Bulgaria). Since the exact demand of UERs in the individual Member States will only be fully known after the compliance year 2020, OMV Downstream GmbH reserves the right to submit the UER projects Shaya Saipu Energy partly or entirely in one or more EU Member States.	ok
Checklist Verification of UER Project		
Project documentation	Result of the verification	Audit result
Is the project objective clearly defined?	The project purpose is to improve the energy efficiency of the Nimr produced water disposal system by implementing an ecological wetland facility solution (= GHG project) located at Oman. The project, an ecological wetland facility solution, allows to treat up to 115,000 m ³ /day (design maximum) from the Nimr production in an energy efficient and environmentally friendly manner. And the expected emission reduction is 122,124 tCO ₂ e annually.	ok
Is the method to be used appropriate for the project?	CDM AM0020v2, ISO 14064-2 and Austrian Kraftstoffverordnung 2012, and Annual GHG Report to Slovak Hydrometeorological Institute (Slovenský hydrometeorologický ústav SHMÚ)	ok
Are there any requirements differing from the level of security?	No	ok
Is misuse of the GHG declaration and the val./ver. confirmation excluded?	The monitoring report with final verification report will be submitted to authorities.	ok



Is the plant not part of the European emission trading scheme?	No, the plant is located in Oman.	ok
Are the project boundaries clear?	Project boundary encompasses the injection pumps connected with the deep-water wells, on four sites, for final disposal and the wetland facility phase 1 and 2 (controlled and directly attributable to the project) and the PDO power grid (related and directly attributable to the project).	ok
Periods of practical project implementation	For 4th monitoring period: 01/01/2020-31/12/2020	ok
Unique location reference (4 digits)	The geographical location of the project (water intake) is N18.666667, E55.759722.	ok
Is public funding, if so to what extent, used for the project?	According to validation report no.	ok
Are public subsidies for financing used?	According to validation report no.	ok
Is public funding for investment safeguards used?	According to validation report no.	ok
Does the working environment and site conditions give rise to risks? Are management systems installed at the operator's organization?	For risks see risk analysis. Management systems are in place according to monitoring report and PDD.	ok
Have control procedures been installed? Is there information on successful external or internal inspections and audits?	A clear procedure is established that ensure responsibility and accountability for all parameters that are required to be monitored, measured and reported. Validation was done by Verico.	ok
Is there a conflict between validation/verification depending on the state and implementation of the Upstream Emission Reduction (UER) Directive?	Validation was done by Verico.	ok
Approvals / Management systems	Result of the verification	Audit result
Legal basis UER to be considered: national regulation in the country of submission	Austrian Kraftstoffverordnung 2012, Slovakia national legislation Decree No.271/2011 § 9a & Annex 4 Part 2 Art.2 and FQD	ok
Official approval of the plants: are there any requirements for emission reduction or project measures?	The EIA was submitted to the Ministry of Environment and Climate Affairs of the Sultanate of Oman, and environmental approval has been issued.	ok
Have other environmental impacts been considered and described?	Analysis of environmental impacts in PDD	ok
Are there expert reports available on the environmental impacts of the project or parts of the project?	EIA and EIA approval	ok
Expert opinion on EIA	EIA and EIA approval	ok



Documents on public participation in the approval process	Part of the validation report ('OMV_Nimr-Water-Treatment_Validation Report_v5.0_20191029.pdf')	ok
Classification and perception of validation or verification by interested parties	Part of the validation report ('OMV_Nimr-Water-Treatment_Validation Report_v5.0_20191029.pdf')	ok
Project documentation	Result of the verification	Audit result
Site plan, system diagram, process sequence	OMV_Nimr-Water-Treatment_PDD_v1.1_02082019	ok
technical documentation of the plants	191216_BNO-11077500-PRO-001 Rev 01 Upstream Emission Reduction Procedure; KROHNE Altometer Calibration Procedure	ok
Forecast data on input quantities and production quantities	The project, an ecological wetland facility solution, allows to treat up to 115,000 m ³ /day (design maximum) from the Nimr production in an energy efficient and environmentally friendly manner. And the expected emission reduction is 122,124 tCO ₂ e annually.	ok
Do the current operating conditions reflect the assumptions, constraints, procedures and uncertainties of the project plan?	In the operational phase, Nimr project is evaluated on a regular basis as per the stipulated requirements therein and reported as required by law. As for this monitoring period, the project is implemented according to the project design and no changes have been made during the monitoring period.	ok
Comparisons with known or industrial benchmarks	Additionality in line with the guidance provided under ISO 14064-2, is demonstrated by the additionality with reference to the project being the "first of its kind" (FOIK) worldwide.	ok
Data availability of the basic data calculations	OMV_Nimr-Water-Treatment_PDD_v1.1_02082019	ok
GHG emissions: intentional and unintentional omissions of potentially significant emission sources	Not identified	ok
GHG emissions: significant emissions outside the operations of the responsible entity	As discussed during verification, the wetland plantation will produce an additional biomass stock and opportunities for further renewable energy projects (e.g. through biodigesters, bio-briquetting and improvement of soil humus etc.) , which has not considered intentional, due to technical and conservative consideration.	ok
Significant regulatory changes	Not identified	ok
Significant economic changes with effects on GHG declaration	Not identified	ok



Project Methodology	Result of the verification	Audit result
Is the description of the project activity complete?	The project was implemented in two phases, where under phase 1 all process stages were established and under phase 2 the reed bed area was extended from 234 ha to 351 ha. The phase 1 was completed on the 15/01/2011 and phase 2 on the 07/10/2012, respectively.	ok
Planned credit period	Intended crediting period 01/01/2019 to 31/12/2020	ok
Calculation method defined and applicable	OMV_Nimr-Water-Treatment_PDD_v1.1_02082019	ok
Sources and sinks fully identified	In the operational phase, Nimr project is evaluated on a regular basis as per the stipulated requirements therein and reported as required by law. As for this monitoring period, the project is implemented according to the project design and no changes have been made during the monitoring period.	ok
Is shift of emissions taken into account?	Not identified	ok
Validity of the current baseline scenario for the next crediting period: Assess compliance of the current baseline scenario with relevant mandatory national and/or sectoral policies. Assess the impact of circumstances. Assess whether the continuation of use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested. Assessment of the validity of the data and parameters.	The continuation of the recent practice of deep well disposal of the consumed water would be the most likely scenario in the absence of the project activity. The installed equipment can operate without need for refurbishment beyond 2020 and the oil production activities will not decrease, hence they will continue to produce consumed water in a similar amount as in the baseline.	ok
Additionality guaranteed	Additionality in line with the guidance provided under ISO 14064-2, is demonstrated by the additionality with reference to the project being the "first of its kind" (FOIK) worldwide.	ok
Is the proposed project activity the first-of-its-kind?	Yes	ok
Identification of alternatives to the project activity is consistent with mandatory laws and regulations	The continuation of the recent practice of deep well disposal of the consumed water would be the most likely scenario in the absence of the project activity, which is compliance to the local laws and regulations.	ok



Do the calculations correspond to the method description?	The calculation is aligned with the criteria and procedures of the approved UNFCCC CDM methodology AM0020/version 2 "Baseline methodology for water pumping efficiency improvements" and the associated UNFCCC CDM tools: Tool 05 V3, Tool 07v7.	ok
Commitment: no double use of the reduction	Self-commitment: no multiple use of the reduction	ok
Monitoring plan	Result of the verification	Audit result
Are sources and sinks for GHG data complete?	GHG sources include the injection pumps connected with the deep-water wells, on four sites, for final disposal and the wetland facility phase 1 and 2 (controlled and directly attributable to the project) and the PDO power grid (related and directly attributable to the project). The deep water well disposal (DWD) of the produced water is highly energy intensive and consumes about 5.72 kWh/m ³ of fossil-fuel based electricity and emits 3,519 g of CO ₂ e/m ³ at the same time. Grid emission factor refer to the UNFCCC Methodological tool Tool to calculate the emission factor for an electricity system Version 07.0, as 0.62 CO ₂ e/MWh	ok
Detailed levels of available documentation (proofs, evidence)	All required evidence was submitted and is consistent.	ok
Are measuring instruments described completely?	UER monitoring procedures, technical data and calibration certificates were submitted.	ok
Is the data acquisition described completely?	UER monitoring procedures and clarification has been done during the remote audits	ok
Is the data evaluation described completely?	Yes	ok
Is the data storage described completely	Yes	ok
Is the derivation of not measured parameters complete?	It is in line with the parameter at validation stage.	ok
Is the calculation procedure documented?	As per 191216_BNO-11077500-PRO-001 Rev 01 Upstream Emission Reduction Procedure;	ok
Are there possible sources and sinks outside the project boundary?	The wetland plantation will produce an additional biomass stock and opportunities for further renewable energy projects (e.g. through biodigesters, bio-briquetting and improvement of soil humus etc.) , which is not claimed as conservative manner	ok



Organizational structures for monitoring (responsibilities)	O-chart is available	ok
Is a quality assurance procedure established?	191216_BNO-11077500-PRO-001 Rev 01 Upstream Emission Reduction Procedure; KROHNE Altometer Calibration Procedure	ok
Risk assessment of the operator	Explained during audits. Not included in detail in the monitoring report.	ok
Characteristics and performance of controls used for monitoring and reporting by the responsible body	Cross checks are implemented.	ok
Effectiveness of the control system of the responsible body, identification of errors or omissions	Data are correct.	ok
Experience, skills and qualifications of the personnel involved	As per introduction PPT was shown and training records available	ok
appropriate training is planned or carried out	As per introduction PPT was shown and training records available	ok



Industrie Service

B. List of findings

Documentation Audit closure	
Reporting period	01.01.2020 - 31.12.2020
Company	Bauer Nimr LCC
Address	Beach one, Shatti Al Qurum, 2nd floor, office: 210, Muscat Postbox 1186 P.C. 114 Al Mina, Sultanate of Oman
Contact person	Mr. Younis Al-Rawahi
Date of the audit	18/01/2021 & 24/02/2021 PM (Remote audit)
Basis of audit / Standard	DIN EN ISO 14064-2, DIN EN ISO 14064-3, KVO, FQD, CDM AM0020
TÜV SÜD Order number (ITAS):	3356383
Lead Auditor	Jiang Zhe
additional examiners	--
Independent reviewer	Norbert Kraus
External observer (DAkkS)	--

SN	Audit result/determination	Classification	Planned/appropriate corrective action documents to be submitted.	Responsibility	Date	Compliance	Materiality	effectivity
1	Project owner shall further describe the project boundary, facilities and all DWD sites invoved for Phase 1&2 in the Monitoring report.	NC	Monitoring Report is updated accordingly 'MR4_Nimr_phase1and2_24022021'	Bauer	24.02.2020	ok	no	yes



Industrie Service

2	It was found the calibration for master flow meters and duty meters was done on 23/07/2020, 14/10/2020, respectively. but calibration period is over 2 years, which is not in line with PDO requirement. Please further clarify the internal procedure how to handle this situation for calibration activity.	NC	Each of our metering skids has a Duty and a Master Meter. Both Duty and Master flow meters are continuously measuring the water flow with calibrated equipment. The Master meters were sent to the Netherlands, were KROHNE is located, in June 2020 (Calibrated till 28th of June 2020), the calibration process takes up to one month and a half, while because of the COVID-19 it took longer this time and it was for two months. During the calibration period of the Master meter, the Duty meters (Calibrated till 6th of September 2020) were taking the measurements of the water flow. Same thing happens while the Duty meters were sent to the Netherlands, the Master meters were already online and taking the water flow measurements.	Bauer	24.02.2020	ok	yes	yes
3	Please provide the following document, 1, Bauer commercial register 2, Nimr project presentation 3, Maintenance explanation, June, Dec2020 4, Video overview for Nimr phase1&2	Docu	Document is attached in the attached as following: 1- Bauer Commercial Register 2- '210118aed_Produced Water with the Power of Nature' 3- '210225_awy_Maintenance Info 4- NWTP Phase I & II link	Bauer	24.02.2020	ok	no	yes



C. Document list

1	OMV_Nimr-Water-Treatment_PDD_v1.1_02082019.pdf
2	OMV_Nimr-Water-Treatment_Validation Report_v5.0_20191029.pdf
3	1 st Monitoring Period_Verification report_ Nimr_phase1and2 by Verico
4	2 nd Monitoring Period_Verification report_ Nimr_phase1and2 by Verico
5	3 rd Monitoring Period_Verification report_ Nimr_phase1and2 by Verico
6	1 st Monitoring Period_Verification report_ Nimr Phase 3 (LMKF)_TUV Rheinland pdf 2 nd Monitoring Period_Verification report_ Nimr Phase 3 (LMKF)_TUV Rheinland pdf
7	MR4_Nimr_phase1and2_V1_14012021 MR4_Nimr_phase1and2_V2_24022021 MR4_Nimr_phase1and2_V2.1_10032021
8	MR4_UER_calculation_Nimr_phase1and2_14012021
9	OMV Email Notice of UER application for Austria and Slovakia_24022021.pdf
10	EIA report.pdf
11	EIA approval.pdf
12	Bauer Commercial Registration (Bauer Nimr LLC)
13	190926aed_Confirmation Statement - UER Regulation
14	NWTP and DWD location
15	110314_Nimr_Water_Treatment_Plant_Phase1_Completion_Certificate
16	120912_Nimr_Water_Treatment_Plant_Phase2_Completion Certificate
17	210118aed_Produced Water with the Power of Nature
18	Projectboundary_Nimrphase1&2
19	Remote site video taken by drone_18012021
20	List of Participants_1st Remote audit_18012021
21	List of Participants_2nd Remote audit_24022021
22	191216_BNO-11077500-PRO-001 Rev 01 Upstream Emission Reduction Procedure
23	C-4 section PDO Contract
24	KROHNE Altometer Calibration Procedure
25	210103_Phase 1&2 Metring Skid Measuring Device images
26	20180628Arv_Master meter calibration Certificate_A1069402
27	20180628Arv_Master meter calibration Certificate_A1166024
28	20180906_Duty meter calibration Certificate_A1069403
29	20180906_Duty meter calibration Certificate_A1166023
30	20200723_Ph-1_Master meter calibration Certificate_98-FICA-005_A1069402
31	20200723_Ph-2_Master meter calibration Certificate_98-FICA-007_A1166024
32	20201014_Ph-1_Duty meter calibration Certificate_98-FICA-004_A1069403
33	20201014_Ph-2_Duty meter calibration Certificate_98-FICA-006_A1166023
34	NWTP Phase-1&2_Monthly Production Report Jan-Dec 2020
35	NWTP Phase-1&2_Daily Production Report 31 Dec 2019 and 1 Jan 2021
36	Sampled invoice from Bauer Nimr LLC in June 2020
37	Sampled invoice from Bauer Nimr LLC in Dec 2020
38	210225_awy_Maintenance Info



D. List of interviewed persons

Verification of UER Project



List of participants	
Company	Bauer Nimr LCC
Information on activities of the company	water pumping efficiency improvement, energy demand (scope 3)
Date of the audits and meetings	18.01.2021 (1st Remote)
TÜV SÜD Order number (ITAS):	3365383
Lead Auditor	Jiang Zhe, Eric
additional examiners	-
The below named participants took part in different constellations in the audits and meetings.	
Name, first name	Area of responsibility / department
Dennis Alexandersen	Business Development Manager
Younis Al-Rawahi	UER Project Manager
Wolfgang Wetzer	Technical Consultant
Yudi Arismadinata	Operation Manager
Kudzai Tibugare	Plant Manager
Pravin Arockia Kallipas	Lead Mechanical Engineer



Industrie Service

Verification of UER Project



Industrie Service

List of participants	
Company	Bauer Nimr LCC
Information on activities of the company	water pumping efficiency improvement, energy demand (scope 3)
Date of the audits and meetings	24.02.2021 (2nd Remote)
TÜV SÜD Order number (ITAS):	3365383
Lead Auditor	Jiang Zhe, Eric
additional examiners	-
The below named participants took part in different constellations in the audits and meetings.	
Name, first name	Area of responsibility / department
Dennis Alexandersen	Business Development Manager
Younis Al-Rawahi	UER Project Manager
Wolfgang Wetzer	Technical Consultant



E. Accreditation certificate of Verification Body



Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-VS-14153-01-00
according to DIN EN ISO 14065:2013

Period of validity: 27.01.2020 to 13.12.2023 Date of issue: 27.01.2020

Holder of certificate:

TÜV SÜD Industrie Service GmbH
Westendstraße 199, 80686 München, GERMANY

Verification of Greenhouse Gases Emissions Reports and Tonne-kilometres Reports according to DIN EN ISO 14065:2013 and Regulation (EU) No. 2018/2067, EU (NO) 601/2012 and (EU) No. 2018/2066 in the following group of activities according to Annex I of directive 2003/87/EG and other activities according to Art. 10a and Art. 24 of subject directive:

No.	Scope of Accreditation
1a	Combustion of fuels in installations, where only commercial standard fuels as defined in Regulation (EU) No. 601/2012 are used, or where natural gas is used in category A or B installations
1b	Combustion of fuels in installations, without restrictions
2	Refining of mineral oil
3	Production of coke Metal ore (including sulphide ore) roasting or sintering, including pelletisation Production of pig iron or steel (primary or secondary fusion) including continuous casting
4	Production of processing of ferrous metals (including ferroalloys) Production of secondary aluminium Production or processing of non-ferrous metals, including production of alloys
5	Production of primary aluminium (CO ₂ and PFC emissions)
6	Production of cement clinker Production of lime or calcinations of dolomite or magnesite Manufacture of glass including glass fibre Manufacture of ceramic products by firing Manufacture of mineral wool insulation material Drying or calcination of gypsum or production of plaster boards and other gypsum products



Annex to the Accreditation Certificate D-V5-14153-01-00

No.	Scope of Accreditation
7	Production of pulp from timber or other fibrous materials Production of paper or cardboard
8	Production of black carbon Production of ammonia Production of bulk organic chemicals by cracking, reforming, partial or full oxidation by similar processes Production of hydrogen (H ₂) and synthesis gas by reforming or partial oxidation Production of soda ash (Na ₂ CO ₃) and sodium bicarbonate (NaHCO ₃)
9	Production of nitric acid (CO ₂ and N ₂ O emissions) Production of adipic acid (CO ₂ and N ₂ O emissions) Production of glyoxal and glyoxylic acid (CO ₂ and N ₂ O emissions) Production of caprolactam
10	Capture of greenhouse gases from installations covered by Directive 2003/87/EC for the purpose of transport and geological storage in a storage site permitted under Directive 2009/31/EC Transport of greenhouse gases by pipelines for geological storage in a storage site permitted under Directive 2009/31/EC
11	Geological storage of greenhouse gases in a storage site permitted under Directive 2009/31/EC
12	Aviation activities (emissions and tonne-kilometre data)
98	Other activities pursuant to Article 10a of Directive 2003/87/EC

Verification and Validation according to DIN EN ISO 14065:2013 for Non-Regulated Greenhousegas Schemes according to the following standards:

EN ISO 14064-1	Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals (ISO 14064-1:2006)
EN ISO 14064-2	Greenhouse gases - Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements
EN ISO 14064-3	Greenhouse gases - Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions (ISO 14064-3:2006); German and English version EN ISO 14064-3:2012



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Annex to the Accreditation Certificate D-V5-14153-01-00

Abbreviations used:

DIN	Deutsches Institut für Normung e.V.
EN	European Standard
EU	European Union
ISO	International Organization for Standardization