Outlook

[redacted]

[redacted] Nguyen Van Thinh TBDK <nguyenvanthinh@humg.edu.vn>
[redacted] Mon 6/15/2026 7:45 AM
[redacted] reviewer@sciencepublishinggroup.com <reviewer@sciencepublishinggroup.com>

1 attachment (119 KB)
SciencePG_Review_Form_2681387_B.docx;

Dear Editor,

I am pleased to submit my review report for the manuscript entitled “Techno-economic Evaluation of Subsea Pipeline Protection Methods under Caspian Sea Conditions” (Manuscript ID: 2681387), which was assigned to me for evaluation.
Please find attached my detailed comments and recommendations. I hope that my review will be helpful to the authors and assist in the editorial decision-making process.
Should you require any further clarification regarding my comments, please do not hesitate to contact me.
Thank you for the opportunity to review this manuscript.

Best regards,

Van Thinh NGUYEN, Assoc. Prof Ph.D
Department of Petroleum Equipment and Construction, Faculty of Petroleum and Energy
Room 803 - C12 Building - Hanoi University of Mining and Geology (HUMG),
18 Vien Street, Dong Ngac Ward, Hanoi 100000, Vietnam
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From: reviewer@sciencepublishinggroup.com <reviewer@sciencepublishinggroup.com>
Sent: Wednesday, June 10, 2026 4:26 AM
To: Nguyen Van Thinh TBDK <nguyenvanthinh@humg.edu.vn>
Subject: Invitation to Review Manuscript [2681387]

Invitation to Review Manuscript [2681387]

Dear Van-Thinh Nguyen,

Greetings from ***Science Journal of Energy Engineering*** (http://www.sciencepg.com/journal/sjee).

We have received a manuscript titled "**Techno-economic evaluation of subsea pipeline protection methods under caspian sea conditions**".
(The abstract appears at the end of this email.)

As a reviewer of the journal, you are invited to review this manuscript.

To **accept this invitation**, please click on this link:
https://www.sciencepg.com/peer-review/10820025/2681387/accept/sahb

To **decline this invitation**, please click on this link:
https://www.sciencepg.com/peer-review/10820025/2681387/decline/sahb

It would be greatly appreciated if you could return the review report (Word Format) by **16 June 2026**.

A review certificate will be provided for you upon completion of the review.

To promote academic transparency, the peer review reports for the article will be made publicly available after publication.

We look forward to your response.

Abstract: The safe and reliable operation of subsea oil and gas pipelines in the Caspian Sea is governed by complex interactions between environmental, geotechnical, and operational factors. This study develops an integrated, risk-based framework for pipeline integrity assessment that couples analytical corrosion modelling, scour and burial mechanics, and hydrodynamic stability analysis with a probabilistic techno-economic decision model. Unlike conventional integrity studies, which treat degradation and cost estimation as separate qualitative exercises, the present approach propagates physical degradation parameters — corrosion growth rate, scour depth, and failure probability — directly into a Monte Carlo lifecycle-cost simulation, yielding reproducible and uncertainty-aware results. The framework is applied to a representative 30 km pipeline section under region-specific Caspian conditions, comparing two protection strategies: concrete weight coating and trenching with backfilling. Simplified analytical formulations are presented for CO_2/H_2S corrosion kinetics, remaining wall thickness and burst-pressure decline, scour-driven burial demand, and hydrodynamic loading. Results show that concrete weight coating offers lower capital cost (≈36 million USD) and shorter installation time (≈8 months) but higher risk exposure, whereas trenching provides superior mechanical protection and lower risk-related cost (≈2.5 vs. 4 million USD) at a higher total investment (≈57.5 million USD) and longer execution time (≈11 months). The Monte Carlo analysis confirms a clear separation between the two cost distributions, providing a quantitative, probabilistic basis for protection-strategy selection.

Best regards,

Joe King
Editorial Assistant
Science Journal of Energy Engineering

SciencePG
Science Publishing Group

Science Publishing Group
1 Rockefeller Plaza, 10th and 11th Floors,
New York, NY 10020 U.S.A.

Certificate of Reviewing

Reference: SJEE

Date: June 15, 2026

The certificate is awarded to

Van-Thinh Nguyen

Faculty of Petroleum and Energy, Hanoi University of Mining and Geology, Hanoi, Vietnam

As a **Reviewer** of ***Science Journal of Energy Engineering (SJEE)***
http://www.sciencepg.com/journal/sjee

In recognition of the review (titled "*Techno-economic evaluation of subsea pipeline protection methods under caspian sea conditions*")

For and on behalf of
SCIENCE PUBLISHING GROUP INC

Authorized Signature(s)