

# AFAANZ Research Grant 2019-2020. Final Report

## (1) Project Title

Do crowdsourced forecasts add value beyond analyst forecasts? Evidence from the natural gas market

## (2) Names of Researchers

Mid-career Researcher: Dr Adrian Fernandez-Perez, Auckland University of Technology  
[AFAANZ membership: #14594]

Mid-career Researcher: Dr Alexandre Garel, Audencia Business School

Mid-career Researcher: Dr Ivan Indriawan, Auckland University of Technology

## (3) Funds Granted and the Category of Grant Involved

\$5,000 (Mid-career Researchers)

## (4) Project Summary

Inventory information is critical for natural gas market participants because it measures directly the supply and demand fundamentals. The more accurate this information is, the more investors can either hedge the price movements triggered by news releases or speculate on it. In this regard, professional analyst forecasts (e.g. Reuters, Bloomberg, etc.) play a key role in helping market participants predict the weekly U.S. Energy Information Administration's (EIA) natural gas storage changes.

A recent development in the market is the emergence of crowdsourced forecasts that intend to compete with those of professionals. Online platforms such as *Estimize* aggregate forecasts for economic indicators and earnings estimates across developed and major emerging markets. While Estimize has been providing crowdsourced forecasts for the EIA Natural Gas Storage report since the first quarter of 2014, it is unclear whether natural gas market stakeholders can benefit from considering such information on top of forecasts provided by professional analysts.

We examine the usefulness of crowdsourced relative to professional forecasts for natural gas storage changes. We employ several measures of forecast accuracy and find that, on average, crowdsourced forecasts are less accurate than those of professionals. Investigating market reactions (price, volume and volatility) to the accuracy of consensus forecasts, we

document an absence of market reaction to the Estimize consensus forecast when controlling for Reuters. Our findings therefore indicate that crowdsourced forecasts do not add information to natural gas stakeholders beyond what is already contained in professional analyst forecasts.

We offer three factors for the above findings: (1) greater divergence of opinions among crowd analysts, (2) lower incorporation of publicly available information in crowdsourced relative to professional forecasts, and (3) a greater need for social-recognition that leads crowd analysts issue more extreme forecasts. These factors point toward anti-herding behavior which we found more apparent among crowd analysts than professionals and help explain the accuracy gap between crowdsourced and professional forecasts.

For practitioners, our results suggest that crowdsourced forecasts are unlikely to help them better predict the EIA's natural gas storage announcements. However, since we find that the gap in forecast accuracy between Reuters and Estimize forecasts narrows over time, we do not rule out the possibility that, once crowd platforms have become more mature, crowdsourced forecasts may offer a useful incremental source of information and even outperform professional forecasts. Yet, this is not what we observe over our sample period.

## **(5) Research Outputs**

The main outcome of this project was a publication in *The Energy Journal* (ABDC-A; 3\* ABS; 2018 IF = 2.456); a copy of the paper has been attached together with the final report. The full reference of this paper is:

Fernandez-Perez, A., Garel, A., and Indriawan, I. (2020) "*Natural Gas Storage Forecasts: Is the Crown Wiser?*". *The Energy Journal*, Vol. 41. DOI: [10.5547/01956574.41.5.afer](https://doi.org/10.5547/01956574.41.5.afer)

In the acknowledgement section of the paper, we explicitly highlight the support of this research grant. Specifically, this reads as follows:

*"We thank Bart Frijns, Emiliios Galariotis, the anonymous referees, and seminar participants at the Auckland University of Technology for helpful comments. We thank Estimize for providing the data. This work was supported by the 2019 Accounting and Finance Association of Australia and New Zealand (AFAANZ) Research Grants."*

## (6) Budget

The total budget (\$5,000) was allocated to buy the Estimize's Economics data that was used in this project.

Items	Description	Funding allocated
Data license	Estimize's Economics data	\$5,000
<i>Institutional levy</i>	Institutional levy is not applicable	\$0
<b>Total</b>		<b>\$5,000</b>