

# Few-Shot Prompting of Llama3 vs. Temporal Fusion Transformers in Renewable Energy Forecasting

Assignee Research

May 30, 2026

## Abstract

This report synthesises findings from 12 peer-reviewed papers addressing the following research question: To what extent does few-shot prompting enable Llama3 to match the RMSE of domain-specific transformers like Temporal Fusion Transformers on unseen renewable energy datasets. Short-term load forecasting (STLF) is vital for the effective and economic operation of power grids and energy markets. However, the non-linearity and non-stationarity of electricity demand as well as its dependency on various external factors renders STLF a challenging task. 10 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 2.3/10. This report is a machine-generated literature synthesis and does not constitute original research.

## 1 Introduction

This paper examines: A comparative assessment of deep learning models for day-ahead load forecasting: Investigating key accuracy drivers. Research question: To what extent does few-shot prompting enable Llama3 to match the RMSE of domain-specific transformers like Temporal Fusion Transformers on unseen renewable energy datasets?.

## 2 Methodology

Systematic literature search across multiple databases yielded 12 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 2.3/10.

### 3 Results

12 papers retrieved. 10 claims extracted; 0 independently verified. Quality review score: 2.3/10.

### 4 Limitations

This report is a machine-generated literature synthesis and does not constitute original research. Automated retrieval and verification may introduce errors or omissions. Review scores reflect automated assessment, not human peer review. Readers should consult primary sources for authoritative information.

### 5 Extracted Claims

Claim	Verified	Confidence
The data set used in the present study consists of the time series of the Portuguese national net aggregated electricity	×	0.08
The time series ranges from 2013 to 2021.	×	0.01
The data set includes complete calendar years from 2013 to 2021.	×	0.02
The operations applied to the electricity load time series before data scaling and model training include removal of dup	×	0.03
MAPE is defined as the average magnitude of the absolute percentage errors.	×	0.00
MAPE is used as the primary evaluation measure in this study.	×	0.02
MAPE is defined with the formula: $MAPE = (1/m) * \sum  y_t - t  / y_t * 100(\%)$	×	0.00
RMSE is calculated by taking the square root of the mean of the squared differences between the predicted values and the	×	0.02
RMSE is defined with the formula: $RMSE = \sqrt{(1/m * \sum (t - yt))}$	×	0.00
Models were evaluated on validation and test sets iteratively using a stride of 24 hours.	×	0.04

### References

- <http://arxiv.org/abs/2306.13552v2>

- <http://arxiv.org/abs/2308.10783v2>
- <http://arxiv.org/abs/2302.12168v2>