

1164 - Regional and seasonal analysis of publicly available data for VoLL estimation when missing dedicated survey

Tomislav Baričević
EIHP, Croatia

Željko Plantić
EIHP, Croatia

Mladen Vuksanić
HEP ODS, Croatia

Anđelko Tunjić
HEP ODS, Croatia

Introduction

Analysis and the methodology for value of lost load (VoLL) estimation for Croatia was initiated by the HEP DSO and developed in cooperation with EIHP to evaluate seasonal and regional variations and update commonly used 3 €/kWh which became insufficient to justify the investments necessary to maintain applied continuity of supply standards.

Methodology and analyses

The proposed approach evaluates regional and seasonal variations using publicly available data, thereby addressing the absence of dedicated surveys.

Previous methodology (Model 1):

$$VoLL_1 = \frac{GDP}{E_{total}}$$

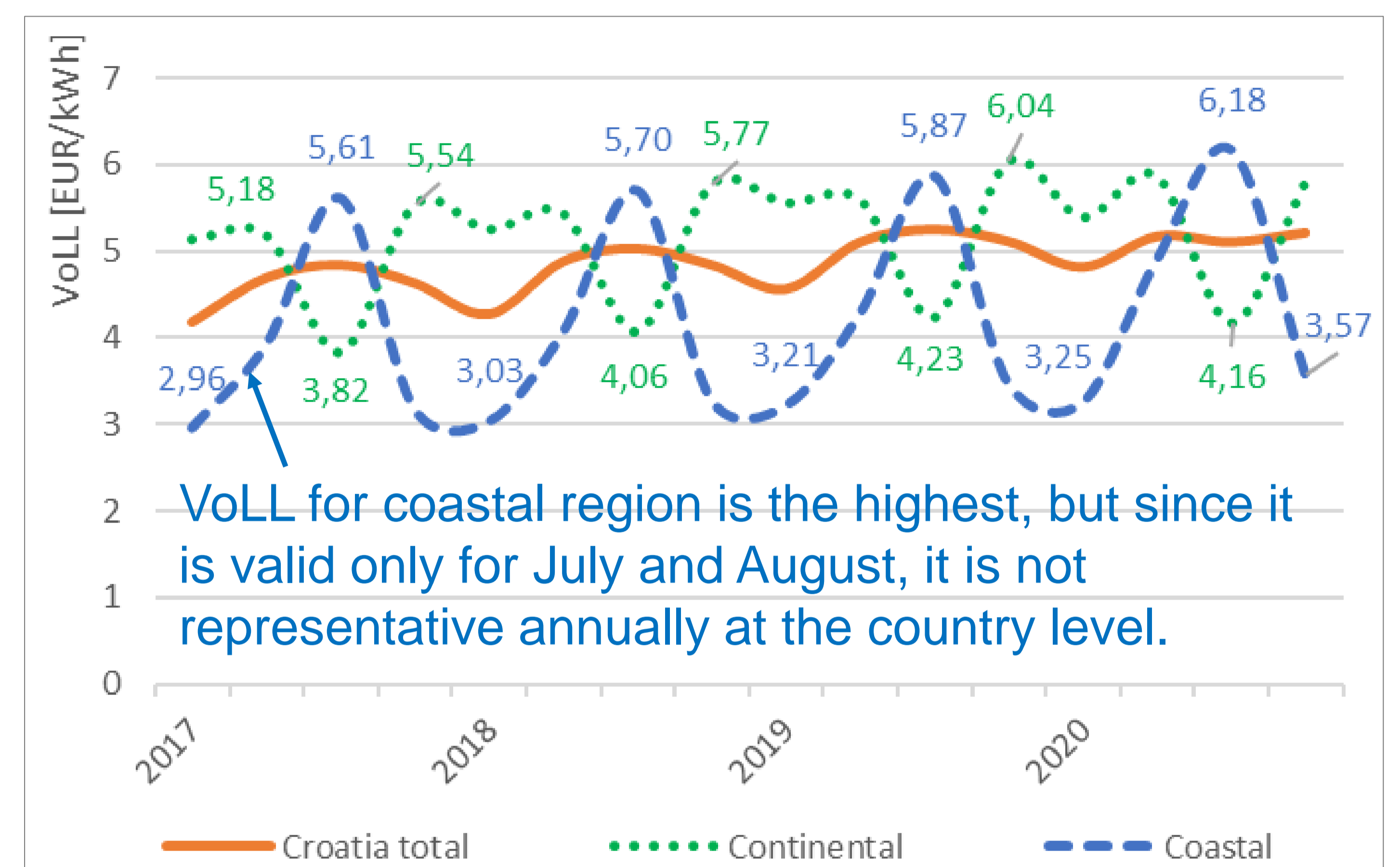
New methodology (Model 3):

$$VoLL_3 = \frac{3,15 \cdot I_{salary} \cdot E_{households} + GDP}{E_{households} + E_{businesses}}$$

Seasonality: based on annual and quarterly calculations of VoLL, annual VoLL equal to :

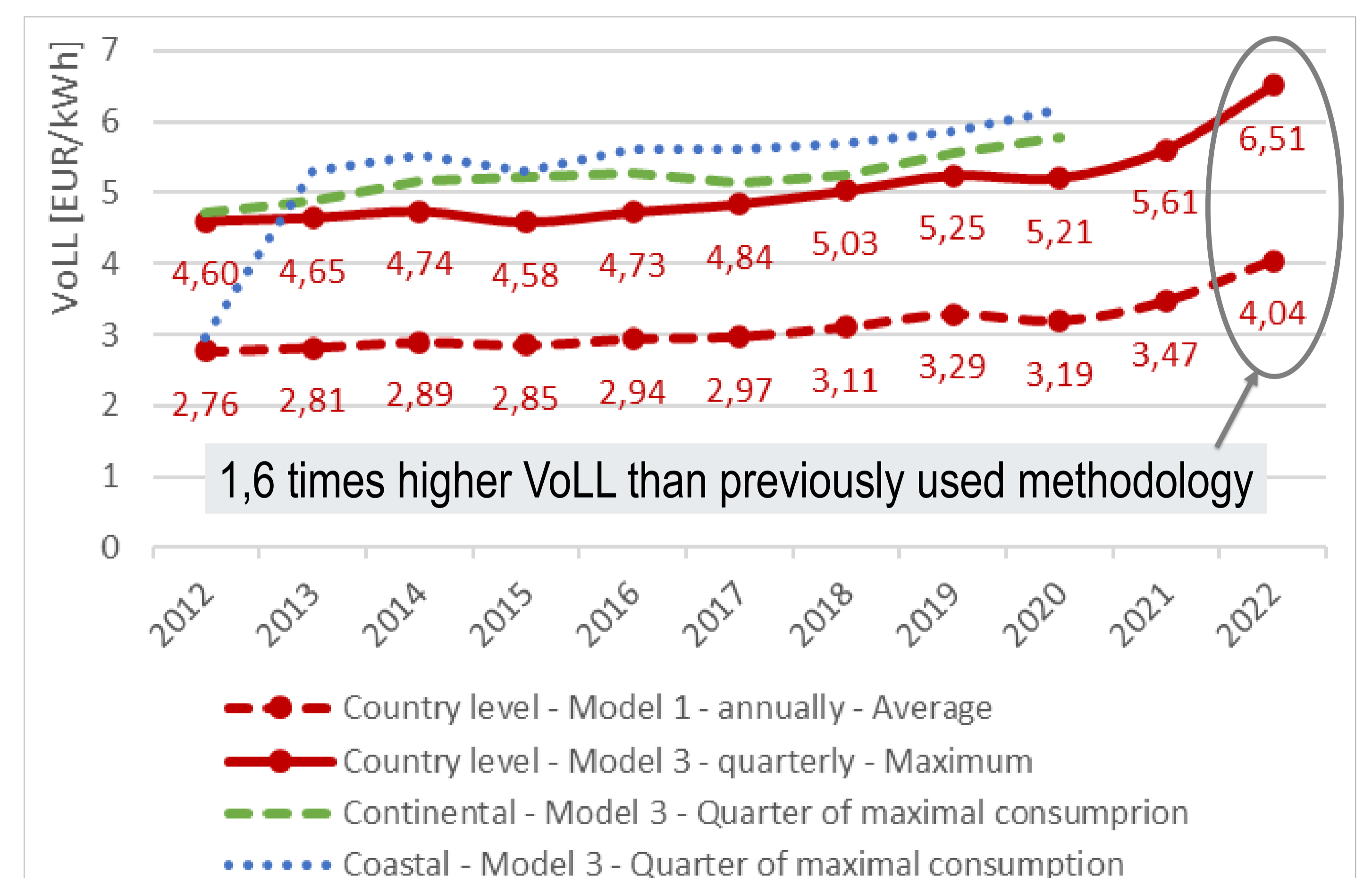
1. „Average” – result of annual calculation
2. „Maximum” – maximal value of quarterly calculated VoLLs
3. „Quarter of maximum consumption” – quarterly calculated VoLL of the quarter of maximal consumption.

Regional variations: maximal VoLL values by regions are practically the same but occurring in different seasons.



Results

Recommended methodology: maximal quarterly VoLL calculated on country level, based on publicly available data.



Conclusion

DSOs and TSOs need the value of VoLL for cost efficient and timely network development planning and transparent and impartial comparison of classic infrastructural network investment costs and customer flexibility service operating expenditures.

Proposed robust methodology for determining VoLL in Croatia gives **1,6 times higher values** than previously used methodology.

