

Definitions of Positive Energy Districts: A Review of the Status Quo and Challenges



Vicky Albert-Seifried, Lina Murauskaite, Gilda Massa, Laura Aelenei,
Daniela Baer, Savis Gohari Krangsås, Beril Alpagut, Anna Mutule,
Nikola Pokorny, and Han Vandevyvere

Abstract This paper presents an overview of PED definitions used in five prominent EU programmes and nine PED-relevant projects across Europe. By drawing similarities and finding discrepancies between them, the paper aims to identify the gaps and challenges in existing work. Through systematic comparison, the paper recognises common traces and differences between existing definitions. The main challenges include the definition of PED boundaries, the method for calculating energy balance, the scope of non-energy matters and the assessment of qualitative requirements. As the PED definitions are to be applied to locations with considerably different local

V. Albert-Seifried (✉)

Fraunhofer Institute for Solar Energy Systems, Heidenhofstr. 2, 79110 Freiburg, Germany
e-mail: vicky.bo.ki.albert-seifried@ise.fraunhofer.de

L. Murauskaite

Lithuanian Energy Institute, Breslaujos st. 3, 44403 Kaunas, Lithuania

G. Massa

ENEA—Italian National Agency for Energy, Environment and Sustainable Economic Development, Piazzale Enrico Fermi 1, 80055 Portici, Italy

L. Aelenei

Laboratório Nacional de Energia e Geologia (LNEG), 1649-038 Lisboa, Portugal

D. Baer

SINTEF Community, Høgskoleringen 7B, 7465 Trondheim, Norway

S. G. Krangsås · H. Vandevyvere

Norwegian University of Science and Technology (NTNU), 7491 Trondheim, Norway

B. Alpagut

Demir Enerji, Smart Cities Department, Istanbul 34718, Turkey

A. Mutule

Institute of Physical Energetics, 11 Krivu St, Riga 1006, Latvia

N. Pokorny

UCEEB CTU in Prague, Trinecka 1024, 273 43 Bustehrad, Czech Republic

H. Vandevyvere

EnergyVille, 3600 Genk, Belgium