

Technical, demonstration and implementation partner for existing buildings

Energy efficiency · Deep renovation · Building performance · Decarbonisation

LEGAL NAME	TYPE	BASED IN	ORIGINS	TEAM	SYSTEMS
BESENVE Enerji A.Ş.	Consultancy (SME)	Istanbul, Türkiye	Founded 2009 merged 2022	11 staff + 8 collaborators	ISO 9001 · 14001 45001

BESENVE Energy is a Türkiye-based energy efficiency and sustainability consultancy specialising in the decarbonisation and performance improvement of existing buildings and industrial facilities. The company is authorised by the Türkiye Ministry of Energy and Natural Resources and was formed in 2022 through the merger of BES Enerji and ENVE Enerji, both established in 2009.

BESENVE has extensive experience in large-scale public-building renovation programmes financed by international institutions including the World Bank, the European Union and KfW. Its project experience spans investment-grade energy audits, retrofit design and technical documentation, construction supervision, commissioning and post-renovation performance verification across public buildings, schools, hospitals, universities, commercial buildings and industrial facilities.

A technical, demonstration and implementation partner for Horizon Europe and New European Bauhaus projects.

BESENVE has not previously participated in Horizon Europe. The company is seeking to join consortia in which a Türkiye-based partner with delivery capacity across the full renovation chain — and access to real public-building portfolios — strengthens demonstration, implementation and replication.

CORE CAPABILITIES

Existing buildings & deep renovation	Building energy performance	Energy audits & investment planning
Decarbonisation	Building energy modelling & simulation	Renewable energy integration
Commissioning	Measurement & verification (IPMVP)	Energy Performance Contracting (EPC / ESCO)
LCA & carbon assessment	Green building & sustainability	Technical coordination & implementation support

COMPLEMENTARY TEAM CAPABILITY

In addition to its core energy and engineering expertise, the team brings experience in architecture, green building certification, life-cycle assessment, embodied carbon, sustainable materials, indoor environmental quality, occupant health and user-centred building performance. This strengthens BESENVE's ability to address not only operational energy performance, but also whole-life environmental impacts, occupant well-being and the wider sustainability performance of renovation projects.

These capabilities complement, rather than replace, BESENVE's core energy and engineering practice.

Potential roles in a consortium

BESENVE contributes across the full chain from technical baseline to verified performance. The work packages below reflect capability evidenced in delivered assignments.

WP A · Building baseline & performance assessment

CAN LEAD

- Investment-grade energy audits (ISO 50002), from walk-through to detailed level
- Site assessment of envelope, HVAC, lighting, electrical systems, controls and hot water
- Measurement campaigns: flue-gas analysis, thermal imaging, electrical and lighting-level surveys
- Energy baselines, energy balances, performance classification, GHG baselines
- Building energy modelling and dynamic simulation

WP B · Deep renovation & decarbonisation

CAN LEAD

- Development and evaluation of deep-renovation and decarbonisation scenarios
- Replacement of fossil-fuel heating with heat pumps and renewable alternatives
- Architectural, structural, mechanical and electrical retrofit design
- Technical and financial assessment: investment cost, payback, NPV, IRR, sensitivity
- Rooftop and ground-mounted solar PV design, permitting and integration
- Technical specifications, bills of quantities and tender-ready documentation

WP C · Demonstration & implementation in Türkiye

CAN LEAD

- Demonstration-site identification and owner liaison within public-building stock
- Construction-stage supervision and monitoring of renovation works
- Technical coordination across architectural, mechanical, electrical and structural disciplines
- National regulatory context: Energy Efficiency Law, EPC/EKB certification, NZEB requirements
- Environmental, social and OHS documentation to World Bank ESF standards

WP D · Monitoring, commissioning & verification

CAN LEAD

- Commissioning process management and functional performance testing
- M&V to IPMVP, ISO 50006 and ISO 50015 by AEE- and EVO-certified professionals
- Pre- and post-renovation Energy Performance Certificates
- First-year savings monitoring and performance-gap assessment
- Energy management systems for continued performance monitoring

WP E · Life-cycle & sustainability assessment

CONTRIBUTING

- Life Cycle Assessment to the ISO 14040 series
- Project and corporate carbon accounting (GHG Protocol, ISO 14064-1)
- Impact assessment reporting across energy, water, waste and greenhouse gases
- Embodied carbon, sustainable materials and EPD-based procurement
- Indoor environmental quality, occupant health and well-being
- Green building assessment: LEED, BREEAM, EDGE, WELL, ENVISION

WP F · Replication, capacity building & public-sector uptake

CAN LEAD

- Guidelines, templates and building-selection criteria for public-building programmes
- Training for energy auditors, designers, supervision firms, contractors and public personnel
- M&V guidelines and dispute-resolution procedures for EPC and ESCO contracts
- Case studies documenting investment cost, measures, achieved savings and lessons learned
- Workshops, citizen engagement and dissemination

WHAT BESENVE CAN BRING TO A CONSORTIUM

Implementation, not only study

Audits, designs, tender documents, site supervision, commissioning and verified savings delivered as one chain rather than handed between firms.

Public-building portfolios at scale

Around 500 public buildings under national technical assistance; 22 hospital and university campuses in detailed design; 500 schools screened across 11 cities.

IFI-grade process discipline

World Bank, KfW and EU procedures, environmental and social documentation to the World Bank ESF, and delivery in joint ventures with international consultants.

Türkiye as demonstration context

A large, diverse existing public-building stock, national EPC and ESCO frameworks under active development, and cost structures that test affordability claims rather than assume them.

Selected relevant experience

Five references from BESENVE's public-building and internationally financed portfolio, selected for their relevance to New European Bauhaus and Horizon Europe work on existing buildings.

KABEV2 — Public Building Energy Efficiency, Konya Group

Client: Ministry of Environment, Urbanisation and Climate Change (GDCA)

Funding: World Bank

Role: JV member (30%)

22 public-building campuses · approx. 302,335 m²

hospitals, healthcare facilities, university buildings

- Investment-grade energy audits, baselines and energy-performance classification
- Deep-renovation and decarbonisation scenarios, including replacement of fossil-fuel heating with heat pumps and renewable alternatives
- Architectural, structural, mechanical and electrical retrofit design, technical specifications and bills of quantities
- Commissioning, M&V and monitoring plans; environmental and social management plans and OHS documentation to the World Bank ESF

KABEV — National Technical Assistance for Public Building Renovations

Client: Ministry of Environment and Urbanisation

Funding: World Bank

Role: JV member (25%)

National programme covering approx. 500 existing public buildings

- Technical review and quality assessment of energy audits and multidisciplinary retrofit designs
- Client-side technical oversight, inspection, completion and commissioning supervision
- M&V methodology assessment and verification of first-year energy savings
- Near-zero-energy-building pilot assessment; training and capacity building for auditors, designers, contractors and public personnel

MADAD — Clean Energy and Energy Efficiency Measures in Public Schools

Client: Ministry of National Education

Funding: European Union

Implementing partner: KfW

Role: Sub-consultant

500-school portfolio across 11 cities · 130 preliminary audits · 40 detailed audits

- Building-selection and prioritisation criteria for a national school portfolio
- Investment-grade audits, identification of energy efficiency measures, technical and financial assessment
- Retrofit design, tender documentation, works monitoring and construction supervision
- 14 MW ground-mounted and up to 6 MW rooftop solar PV: design, permitting and supervision
- Pre- and post-renovation Energy Performance Certificates; energy management system; capacity building

ISMEP — Energy Performance of 25 Retrofitted Public Schools

Client: Istanbul Project Coordination Unit

Funding: World Bank

Role: Sub-consultant

25 retrofitted school buildings · before-and-after evidence base

- Specific energy consumption comparison before and after energy-efficiency and structural retrofit works
- Carbon and water footprint calculation and impact analysis of the retrofit measures
- ISO 14064 greenhouse-gas reporting and Energy Performance Certificate issuance
- IFC EDGE scoring of pilot schools on the post-retrofit case

Strengthening the ESCO Market and Energy Efficiency Financing

Client: Ministry of Energy and Natural Resources

Funding: World Bank

Role: JV member

Stantec – Econoler – CIET – Beserve

National market and framework development for public-sector EPC

- Measurement and verification guidelines for ESCO projects, aligned with IPMVP, ISO 50006 and ISO 50015
- Dispute-resolution procedures for energy performance contracts
- ESCO contract guidelines and templates
- Technical support for the development of the public-sector ESCO market

TRACK RECORD AT A GLANCE

~500

public buildings

national technical assistance programme

302,335 m²

across 22 campuses

hospitals and university buildings

500 / 130 / 40

schools screened · audited · detailed

across 11 cities

25

retrofitted schools verified

post-renovation energy, carbon and water

20 MW

solar PV designed & supervised

14 MW ground-mounted, up to 6 MW rooftop

~300

SME energy audit reports

delivered since 2010

Team & fit with NEB 2026 calls

A · KEY TEAM

Mehmet Serkan Emin

Managing Partner · 23 years

Mechanical Engineer · Certified Energy Manager · ASHRAE BEMP · LEED AP · BREEAM In-Use Auditor · IFC EDGE Expert

Building energy modelling and performance, green-building certification and senior technical leadership on World Bank, KfW, EU and GGF-financed programmes.

Cem Karabal, Ph.D.

General Manager · 25 years

Mechanical Engineer · Certified Energy Manager · CMVP · PMVA · ASHRAE commissioning process management

Energy audits, mechanical systems design, M&V, energy performance contracts and ESCO business models. Project leader on EU, World Bank and national assignments.

Arzu Gürkan

Deputy General Manager · 30 years

Mechanical Engineer · Certified Energy Manager · ISO 50001 & ISO 46001 Lead Auditor · UNIDO ISO 50001 Expert

Management systems, energy and water efficiency, energy audits, decarbonisation and institutional capacity building. Extensive experience in EU, World Bank, KfW and other internationally financed sustainability and energy efficiency programmes.

Serkan Odabaşı

Project Manager · 25 years

Mechanical Engineer · Certified Energy Manager · Measurement & Verification Expert

Energy consumption analysis, efficiency potential, M&V studies and investment feasibility across buildings and industrial facilities.

Volkan Selmanpakoğlu

Application Manager · 25 years

Mechanical Engineer · Certified Building Energy Audit-Project Expert

Commissioning of mechanical, electrical and automation systems, functional performance testing, site coordination and implementation control.

Ayşe Gizem Taş

Built Environment Sustainability Expert · 10+ years

Architect · LEED AP BD+C · WELL AP · Fitwel Ambassador · One Click LCA Life Cycle Assessment Specialist

Green-building certification, LCA and embodied carbon, sustainable materials, indoor environmental quality and user-centred building performance.

DISCIPLINES AVAILABLE IN THE TEAM

Energy & building performance	Mechanical & electrical engineering	Architecture & sustainable design	Structural & civil engineering
Commissioning & M&V	LCA & embodied carbon	Sustainable materials	IEQ, health & well-being
Occupational health & safety	Stakeholder engagement & training	Project management	Environmental & social (ESF)

Beyond its permanent team, BESENVE draws on a multidisciplinary expert pool shared with its sister company Altensis — architects, civil, mechanical and electrical engineers, building-performance specialists, energy auditors, commissioning professionals, sustainability consultants, and environmental, social and OHS specialists — mobilised per assignment under BESENVE's contractual responsibility.

B · FIT WITH NEB 2026 CALLS

REGEN-01

Thermal comfort in buildings

CONTRIBUTING PARTNER

- Thermal performance assessment and energy modelling of demonstrated solutions
- Life-cycle GHG and life-cycle cost evaluation against market-standard baselines
- Demonstration on existing public buildings in Türkiye
- Commissioning, M&V and performance-gap assessment after installation
- Regulatory and market-barrier analysis for the Turkish context

Not claimed: development of vernacular, nature-based or bioclimatic solutions; heritage-building intervention.

REGEN-02

Sustainable maintenance and repair of existing buildings

STRONGEST FIT · WP LEAD

- Condition and performance assessment across large existing-building portfolios — the input layer predictive maintenance requires
- LCA and life-cycle cost analysis to underpin a decision-support tool
- Maintenance and repair measure packages tested for financial feasibility over remaining service life
- Demonstration site in Türkiye with implementation supervision and commissioning
- Owner, user and operator engagement; guidelines and training for building operators
- Post-intervention M&V and service-life performance monitoring

Not claimed: predictive-maintenance algorithm development; heritage or social-housing demonstration.

REGEN-03

Sustainable and beautiful use of vertical space

SECONDARY CONTRIBUTOR

- Rooftop feasibility, structural and technical validation, drawing on rooftop PV design, permitting and supervision across public buildings
- Life-cycle environmental and economic impact assessment of proposed solutions
- Energy and performance modelling of the host building with the added vertical layer
- Demonstration support and implementation supervision in Türkiye

Not claimed: vertical farming, vertical extension construction, or architectural authorship of vertical-space solutions.

We are looking to join existing Horizon Europe and New European Bauhaus consortia as a technical, demonstration and implementation partner.

Potential contribution areas: Existing Buildings | Deep Renovation | Building Performance | Energy Efficiency | Decarbonisation | Commissioning | M&V | LCA | Demonstration | Replication

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