Ufuk Avrupa Küme 5: İklim, Enerji ve Mobilite Ulusal Bilgi Günü

DEMİR ENERJİ Deneyimleri

09.01.2023

DEMİR ENERJİ

DemirEnerji

İklim Değişikliği Stratejileri

Yenilenebilir Enerji

Yapılı Çevrede Enerji Verimliliği

Yeşil Bina Tasarımı

Enerji Etkinliği

Kentlerde Enerji Planlaması

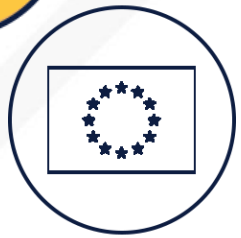
Kültürel Miras

Doğa Esaslı Çözümler

Kırsal Kalkınma Planları

Akıllı Şehirler ve Enerji Yönetimi

AB Projeleri Replication / Upscaling



Yöntem Geliştirme İşbirliği / Networking İş paketi Liderliği

OUR CORPORATION PARTNERS

Municipality:	City:	Year:	Commitments:
Seferihisar Municipality	Izmir	2012	
Bornova Municipality	Izmir	2012	
Tepebasi Municipality	Eskisehir	2014, 2021	
Antalya Metropollitan Municipality	Antalya	2014, 2022	
Maltepe Municipality	Istanbul	2014	
Bursa Metropollitan Municipality	Bursa	2017	
Izmir Metropollitan Municipality	Izmir	2016, 2021	Green City
Kadikoy Municipality	Istanbul	2016, 2018	
Kahramanmaras Municipality	Kahramanmaras	2017	

65% of Turkey's SECAPs

Yeni şehirler ile görüşmeler devam etmekte...

OUR CORPORATION PARTNERS

Municipality:	City:	Year:	Commitments:
Samsun Metropolitan Municipality	Samsun	2019	
Trabzon Metropolitan Municipality	Trabzon	2019	
Sakarya Metropolitan Municipality	Sakarya	2020	
Avcilar Municipality	Istanbul	2020	
Nilufer Municipality	Bursa	2020	
Bagcilar Municipality	Istanbul	2021	
Sisli Municipality	Istanbul	2021	
Sultanbeyli Municipality	Istanbul	2023	
Atasehir Municipality	Istanbul	2023	
Yenisehir Municipality	Mersin	2023	
Bahcelievler Municipality	Istanbul	2023	

CDP ACCREDITED PROVIDER 2022

- Kurumsal karbon ayak izi envanterinin hazırlanması
- Karbon ayak izi ve salım azaltım yol haritasi
- SBT (Bilim Temelli Hedefler) belirlenmesi, orta, uzun vadeli salım azaltım eylem planının hazırlanması
- CDP raporlaması kapsamında Kurumsal Karbon Ayak İzi Çalışması

DemirEnerji

EAE ELEKTRİK
SABANCI HOLDİNG
FORD OTOSAN
ZORLU
Türk Traktör
asyaport
Otokar
ANADOLU GRUBU
Otokoç
Arsan
FORM
uludağ İÇECEK
yurtiçikargo
ŞİŞECAM
ÜLKER
sütaş
Atos
TÇMB TÜRKİYE ÇİMENTO MÜSTAHSİLLERİ BİRLİĞİ
Çelikel
BETEK
Yörsan
VakıfBank
Sapro
Ziraat Bankası
TSKB
TÜRKİYE İŞ BANKASI
BAYLAN SU ve ELEKTRİK SAYAÇLARI
Garanti BBVA

DemirEnerji

LEGOFIT Nedir?

LEGOFIT

TOPIC ID: HORIZON-CL5-2022-D4-01-02

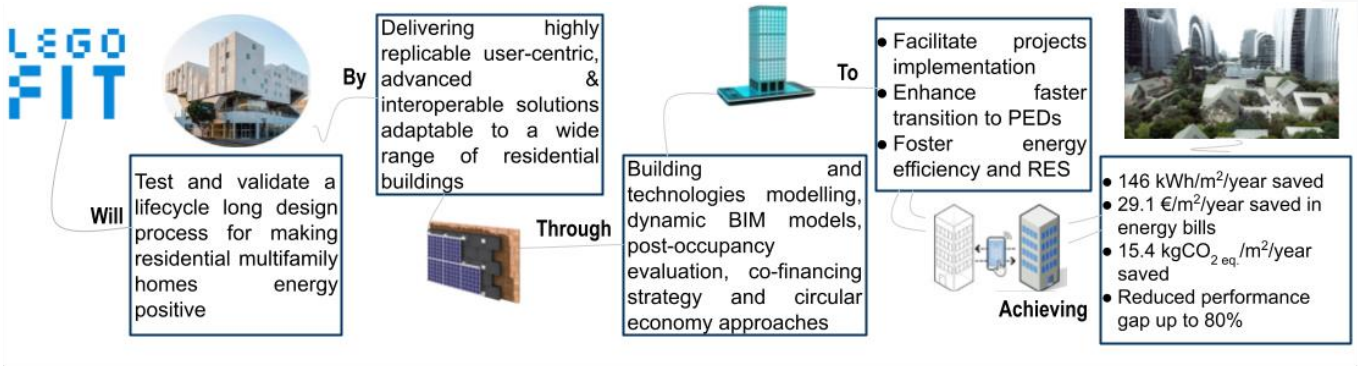
Renewable-intensive, energy positive homes:

The aim is to **move beyond NZEB** (nearly zero-energy buildings) for new constructions and to the extent possible, for renovations, and to **streamline energy positive buildings**, ensuring buildings can marry high energy performance with maximum flexibility and adaptability to a changing society in a cost-effective manner. This is a key challenge for the residential sector in the transformation to a highly energy-efficient and climate neutral EU building stock, where energy positive homes should become the norm.

Toplam Bütçe: 6M€
Innovation Action
Süre: 03/2023 – 03/2027

#	Partner name	Short	Cntry	Type	Role in LEGOFIT
1	DE Surdurulebilir Enerji ve Insaat Tic. San. Ltd Sti.	DEM	TR	SME	Project Management, Positive Energy District experts, Validation of results, WP7 leaders
2	R2M Solution Spain SL	R2M	ES	SME	Communication, dissemination and exploitation (WP6 leaders), design and optimization algorithms
3	R2M Solution SRL	R2I	IT	SME	BIM modelling, Scan2BIM, Digital Building Logbook
4	Luxembourg Institute of Science and Technology	LIST	LX	RTO	BIM-related tools on user behaviour, circularity in the construction sector, WP3 leaders ,
5	Bengt Dahlgren Geoenergi i Stockholm AB	BDAB	SW	LE	Geothermal heat pumps experts, BIM development, building modelling and automation
6	CERTIMAC	CER	IT	RTO	Circularity of materials, certification schemes, Digital Building Logbook, WP1 Leaders
7	OSMOSE	OSM	FR	SME	HVAC experts, combi-systems, industrial applications
8	AUG-E	AUG	BE	SME	LEGOFIT platform and marketplace developers (software company), BMS experts, WP4 leaders
9	Middle East Technical University	METU	TR	UNI	Digital twinning, Building characterization, AI and ML in buildings, Solar technologies in buildings, WP2 leaders
10	ENER2CROWD SRL SB	E2C	IT	SME	Co-financing strategies, crowdfunding experts
11	ABUD Mernokiroda KFT	ABUD	HU	SME	Integrated building design, occupants comfort, operation performance, nature based solutions, WP5 leaders
12	EOS Global Environment Assets S.L.	EOS	ES	SME	Innovative business models, strategic communication campaigns, ES site responsible
13	Municipality of Valladolid	VAL	ES	ORG	Neutral Climate Cities 2030, engagement, events
14	Ozyegin University	OzU	TR	UNI	Building performance, user behaviour and comfort, renovation financial analysis, TR site responsible
15	Institute Mihailo Pupin	IMP	RS	RTO	LEGOFIT services integrator, data interoperability, collection, storage and use in the BIM environment
16	IES	IES	IE	SME	Digital twinning and energy modelling
17	Municipality of PECS	PECS	HU	ORG	HG site responsible, works with ONG for family support
18	Société Nationale des Habitations à Bon Marché	SNHBM	LX	ORG	Strong actor steering the innovation in construction in Luxembourg,Social housing, LX site responsible
19	ION	ION	BE	LE	Innovative real estate development, BE site responsible

LEGOFIT Nedir?



LEGOFIT Nedir?

DemirEnerji

#1 - DEMO Spain (Renovation activities - Multifamily and multi floor residential building)




#2 - DEMO Turkey (Renovation activities - Student dormitory)



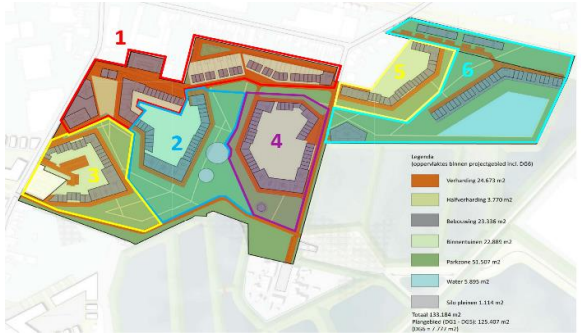
#3 - DEMO Luxembourg (To be constructed - New residential building)


LEGOFIT Nedir?

DemirEnerji

DEMO #4 - Hungary (Renovation activities - Multifamily residential PREFABRICATED building)

DEMO #5 - Belgium - Residential complex in construction phase



DEM PED Deneyimi ve Konsorsiyum

DemirEnerji

CITyFiED	Replicable and Innovative Future Efficient Districts and Cities
REMOURBAN	Regeneration Model for Smart Urban Transformation
REPLICATE	Renaissance of Places with Innovative Citizenship and Technology
URBAN GreenUP	URBAN GreenUP Renaturing Urban Plans
MATCHUP	Maximizing the Upscaling and Replication
RURITAGE	Rural Regeneration Through Systemic Heritage-led Strategies
Making City	Energy Efficienct Pathway for the City Transformation: Enabling a Positive Future
fusILLI URBAN FOOD PLANNING	Fostering the Urban food System Transformation through Innovative Living Labs Implementation
WELLBASED	Improving Health, Wellbeing and Equality by Evidinced Based Urban Policies for Tackling Energy Poverty
PED-ACT	Auto characterization of PEDs for digital references towards iterative process optimisation
EYES HEARTS HANDS URBAN REVOLUTION	Eyes Hearts Hands Urban Revolution
SUPERSHINE	Smart Upgraded asset-values & quality of life Public Private Partnership Extended Energy Efficiency Renewables triggered by the project Social HousingInvestment Net Zero European
NEUTRAL PATH	Pathway towards Climate-Neutrality through low risky and fully replicable Positive Clean Energy Districts
LEGOFIT	Adaptable technological solutions based on early design actions for the construction and renovation of Energy Positive Homes
NATMED	Nature-based Solutions on existing infrastructures for resilient Water Management in the Mediterranean

PED EU NET

Positive Energy Districts European Network

EBC

Energy in Buildings and Communities Programme

IEA EBC - Annex 83 - Positive Energy Districts

DEM – Deneyim Haritalama - H2020, HE

DEM PED Deneyimi ve Konsorsiyum

1

Project Partner
SCC -1 2018

PED Methodology Replication Strategy

Energy Transition Expertise

Building Network Understand Cities

REVOLUTION as **Coordinator**
SCC-1 2020 - energy

GREEN DEAL
Horizon Europe

PED EU NET
Positive Energy Districts European Network

EBC Energy in Buildings and Communities Programme
IEA EBC - Annex 83 - Positive Energy Districts
Involvement in Networks

Concept Development in PEDs
PED Database at EU Level

Building Network Understand Cities

ENPED
PED-ACT
NEUTRAL PATH
DUT

Cluster 5
LEGOFIT

Coordinator
CL5-2022-D4-01-02
Missions – Climate Neutral Cities

2

INCUFS -2019
First Coordinatorship
SFS-24 - Food

Proposal Writing

External Expertise

Building Network Understand Cities

FUSILLI
FNR-07 2020
- Food

GREEN DEAL
Horizon Europe
2 Submissions

DEM PED Deneyimi ve Konsorsiyum

DemirEnerji

Kardeş PED Projelerle İlişki

SCC-CityxChange, SPARCs, ATELIER, PocityF, RESPONSE

5/5

PED Veritabanı
AB'de PEDler

1/~100

Yardımcı Yazarlar
PED Konsept

~75

Koordinatörlerle İlişki

~4

Ortaklar / PED Demo Alanları
PED Tasarımı

92/9/9

Exploitable Results
Tools, Methods, Services

4

PED Area Selection tool, PED Tech. selection tool, PED calculation, PED design

Yayınlar
PED Deneyimleri

14

8 Journal Articles
2 Book Chapters
3 Conference Proceedings
1 CINEA Report

Webinars / Seminars
Training Schools

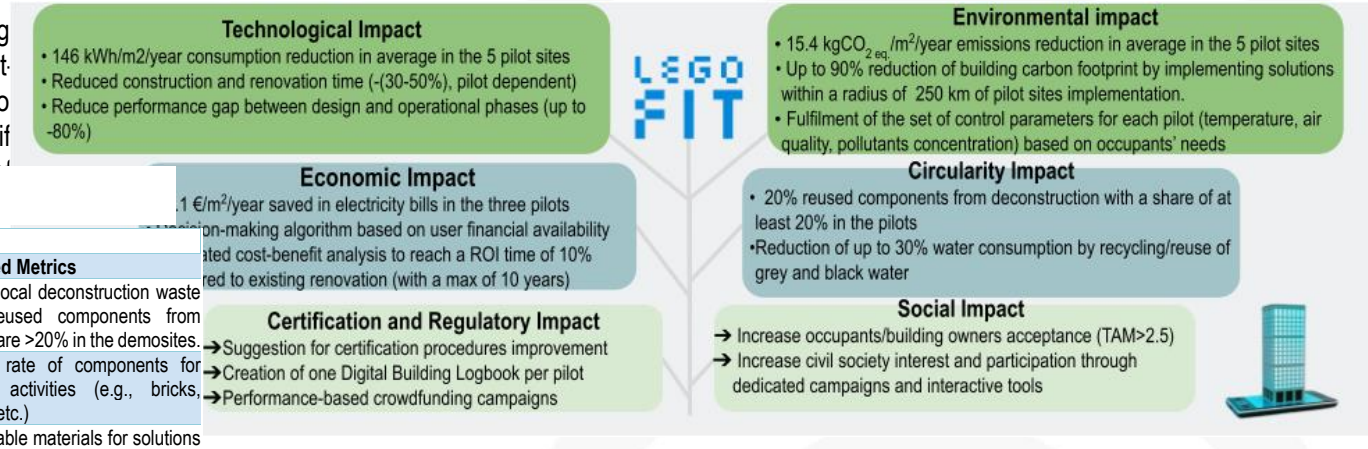
12

2 GBC, SSPCR, Annex 83, GYODER, 2 Uni, PEDEUNET traning, annex 83 summer scchool

Proje Yazımı

DemirEnerji

Expected Outcome: Project results are expected to contribute to all of the following
•Faster transition to the next generation of new constructions and renovation of cost
•Streamlined integration of advanced smart technologies, renewable energy and sto
•Faster transition to buildings and technical elements that are capable to adapt to dif
•Improve



Scope: T
marry high
energy-effi
Proposals
•Investigat
buildings, e

Objectives and Ambition

SO4 indicators	WP3, WP5	
Action and project outcomes	**Key Performance Indicators**	**Targeted Metrics**
Use of reused components and materials coming from deconstruction as substitutes of virgin building materials & components	Amount of material reused and reduction of local deconstruction waste	Long-term reduction of local deconstruction waste of +50%[1]. Use of reused components from deconstruction with a share >20% in the demosites.
Define solid waste circularity strategy for construction components that potentially are reuse in relation to buildings end of life	% of components to be reused after the building end-of-life to be re-assembled in the future[2]	Around 35%[21,3] reuse rate of components for construction/renovation activities (e.g., bricks, beams, columns, truss, etc.)
Identifying locally available materials technologies and solutions to be implemented into the LEGOFIT pilot buildings	Number of new material passports generated in the local solutions catalogue	Defining 3+ locally available materials for solutions to be implemented within a portfolio of construction compounds and materials in each pilot site and generating their material passports.
Reduction of GHG by implementing locally available materials	Environmental savings by locally available reused materials solutions	+80%[23,4] carbon footprint reduction by implementing reused sources within a radius of 100 km of site implementation.
Make efficient use of water resource by implementing grey/black water reuse	Efficient use in water resources (when applicable)	Reduction of up to 30%[5] water consumption[6]

files and lifestyles;
materials, building on previous projects;
n (e.g. BIPV and BAPV), and where relevant, thermal and electrical storage, including shared at
and cooling)

- Advanced use of smart management technologies (f
- Reuse and recycling of elements, components and m
- Where applicable, the use of grey- and black-waters

uality, human health and well-being parameters, to facilitate engag
particular for smart technologies;

•Ensure that the cost of such buildings/apartments does not increas
Clustering and cooperation with other relevant projects is strongly e
Each project is expected to include at least three demonstration site
The demonstrations are expected to span a continuous interval of a
installers, workers, craftsmen, building managers) should be involv
Proje
and r
Spec
Activities are expected to achieve TRL 6-7 by the end of the project – see General Annex B.

1.1.1 How LEGOFIT addresses the scope of the call

Related proposal sections: SO1, T1.1, T1.2, T1.3, T5.1, T5.2, T5.4

Investigate and demonstrate approaches for the construction of new energy positive residential buildings (and /or the renovation of existing residential buildings), with a focus on multi-family, multi-storey buildings

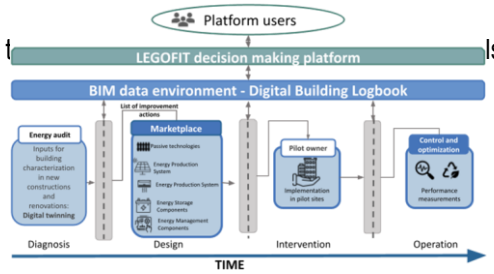
LEGOFIT investigates a novel approach for building energy positive homes and renovating existing residential buildings to make them energy positive. LEGOFIT not only helps the homeowner to design an EPB, but also works in the operational phase to ensure higher efficiency and optimization of the included energy assets, in order to reduce the performance gap currently existing between the design expected performance and the actual one after the implementation of the selected solutions. The LEGOFIT approach accompanies the pilot building during its entire lifecycle (including end-of-life). It will be demonstrated in 5 pilots with different characteristics (1 student dormitory, 1 residential multi floor building, 1 prefabricated block of apartments, 1 single-family house to be built, 1 residential complex in Phase 1 of construction).

Domain	Start (SoA)	End (Innovation)
1. LEGOFIT holistic platform	Based on the proof-of-concept modules such as POESY and the DDC tool, the digital twin and BIM expertise of project partners and the existing interoperability semantic models available, a **TRL3** is proved.	As a Minimum Viable Product (MVP) p to be used in the pilots, including the use of MDCM algorithm and the marketplace **TRL4** At the end of the project thanks to iterative process of improvement **TRL6-7**

cial and economic terms, considering among others t
should be ensured.

ls. The reuse

Methodology and Concept



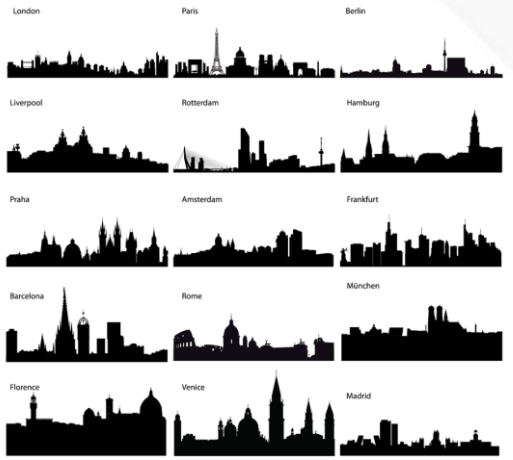
Proje Konsorsiyumlarına Dahil Olma

Portfolyomuz sayesinde geniş bir networkümüz bulunmakta:

- Test alanı olarak şehirler
- Vatandaşlar
- STKlar
- Araştırma Ens.
- Akademi
- Teknoloji Sağlayıcıları
- **Koordinatörler**

- Bilgilendirme ve Networking Günleri
  - AB Eğitimleri
  - SCC Networkleri
  - Expo ve Fuarlar
- TÜBİTAK AB Takımı ile yakın ilişki
- AB Portal

AB Bağlamını yakından takip etme fırsatı
Yerleşim Alanları / Şehirler / Bölgeler



Koordinasyon Deneyimi ve Tavsiyeler

- Çağrı Kapanış Tarihinden en az 6 ay önce «networking» çalışmaları
- Çağrı metninde açıkca belirtilen / ima edilen / deneyimlenen farklı coğrafi bölgelerin demo alanı olarak seçilmesi
- Deneyimlerine göre «Yatay Roller» Ortakları
- Deneyimlerine göre «Konsept Geliştirme» Ortakları
- Paydaşların yazım sürecinden dahil edilmesi
- Önceki çağrılarda başarılı projelerin incelenmesi
- İLETİŞİM Dijital / Fiziki / Telefon
- Her ortağı inceleme / tanıma
- Toplantı Tutanakları / Şeffaf Yönetim / PO ile güçlü iletişim

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TÜBİTAK DESTEKLERİ

ALT DESTEKLER:

- Konsorsiyum Kurma Amaçlı Seyahat Desteği
- Konsorsiyum Kurma Amaçlı Organizasyon Desteği
- Proje Yazma-Sunma Eğitimi Desteği
- Proje Yazdırma Desteği
- Proje Ön Değerlendirme Desteği

TEŞEKKÜRLER

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