

# Fit-to-NZEB: Innovative training schemes for retrofitting to NZEB-levels

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INGREES PROJECT FINAL CONFERENCE, 24.1.2018, PRAGUE



# Policy framework



Source: Wikipedia

- Energy Performance of Building Directive
- Energy Efficiency Directive
- RES Directive
- The new (“winter 2016”) energy package: EU climate and energy goals to 2030
- Renovation strategies with goals to 2030 and 2050
- The Energy Union
- The Investment Plan for Europe



# F2NZEB: The Basics

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Acronym: FIT-TO-NZEB (F2NZEB)

Full name: Innovative training schemes for retrofitting to NZEB-levels

Web address: [www.fit-to-nzeb.com](http://www.fit-to-nzeb.com)

Language: British English

Supporting programme: Horizon 2020

Grant Agreement Number: 754059

Duration: 15 June 2017 – 15 June 2019



# List of project partners

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1. Center for Energy Efficiency EnEffect – Bulgaria (coordinator), [www.eneffect.bg](http://www.eneffect.bg)
2. University of Architecture, Civil Engineering and Geodesy – Sofia, Bulgaria, [www.uacg.bg](http://www.uacg.bg)
3. SEVEN, the Energy Efficiency Center – Prague, Czech Republic, [www.svn.cz](http://www.svn.cz)
4. Czech Technical University in Prague, Czech Republic, [www.cvut.cz/en](http://www.cvut.cz/en)
5. Association Cluster for Promoting Nearly Zero Energy Buildings (Pro-nZEB), Romania, [www.pro-nzeb.ro](http://www.pro-nzeb.ro)
6. Technical College for Architecture and Public Works, Bucharest, Romania, [www.colegiulionsocolescu.ro](http://www.colegiulionsocolescu.ro)
7. Passive House Academy / MosArt Landscape Architecture Research, Ireland, [www.passivehouseacademy.com](http://www.passivehouseacademy.com)
8. University of Zagreb, Faculty of Civil Engineering , Croatia, [www.grad.unizg.hr/en](http://www.grad.unizg.hr/en)
9. Zero Energy and Passivhaus Institute for Research (ZEPHİR), Italy, [www.zephir.ph](http://www.zephir.ph)
10. Hellenic Passive House Institute, Greece, [www.eipak.org](http://www.eipak.org)
11. Technical University – Vienna, Austria, [www.tuwien.ac.at/en](http://www.tuwien.ac.at/en)

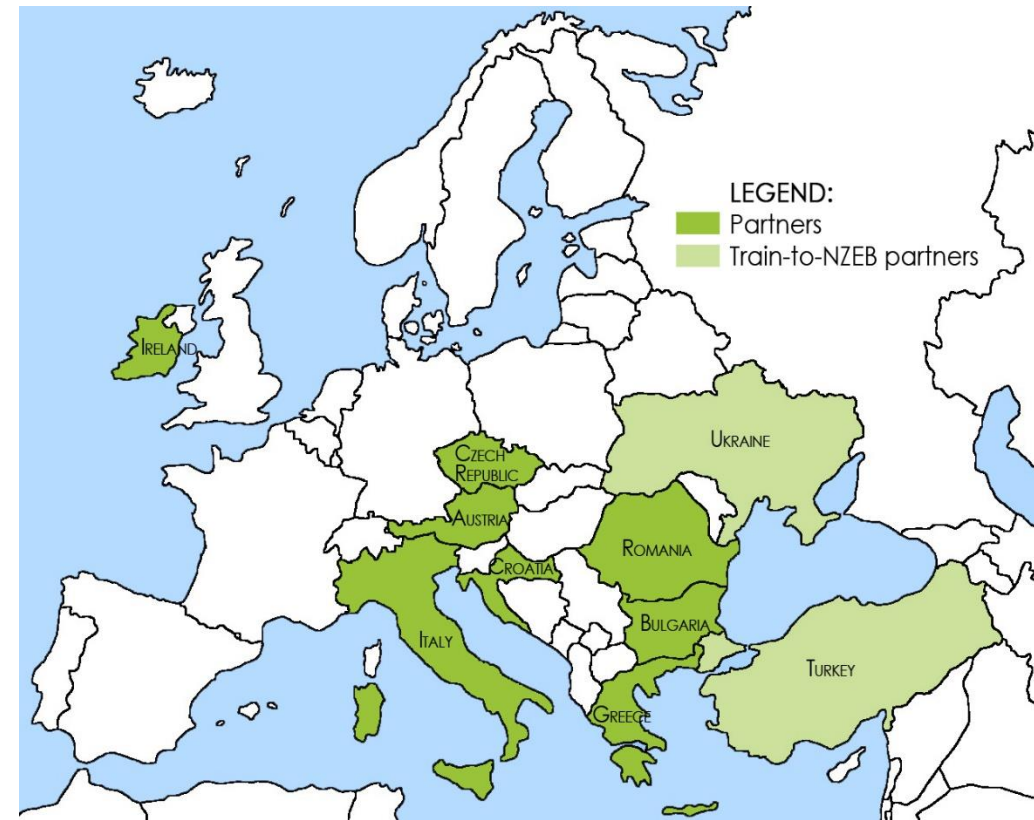


# Geographic scope

Involved countries:

Bulgaria, Romania, Czech Republic, Italy,  
Greece, Croatia, Ireland, Austria

Partners from Train-to-NZEB: Turkey,  
Ukraine



# Composition of the consortium



## Type of involved partners:

- Technical and architecture universities
- Professional high schools / colleges
- Active vocational training centers
- Energy and building experts
- Highlights: transfer of experience from PHA, transfer of experience and further expansion of the BKHs' network under T2NZEB, enhancing the regional scope, involving the Passive House community

# Logic of the proposal



## The logic behind:

- Tackling the most pressing issue around
- Covering the full scale of the academic & VET system (EQF levels 2-7)
- Complementing and providing sustainability of T2NZEB, resp. BUILD UP Skills
- Local capacity for trainings on deep energy retrofit
- Broadening of the geographical scope and large-scale networking



# Fit-to-NZEB Goals



- Elaborate a set of required technological competences related to DER;
- Develop new training programmes employing the newly elaborated technical competences;
- Review the national educational plans for the relevant professions and introduce changes;
- Train and certify a sufficient number of trainers.
- Support and monitor the first courses on the new programmes at all levels.





# Fit-to-NZEB Objectives



- 1) Compendium of the knowledge, skills and competences required for DER
- 2) Design-focused training programmes for higher education establishments (EQF 6-7)
- 3) DER training programme for the professional high schools (EQF level 3-5)
- 4) Training content to be included in the RES training plans and programmes in the professional high schools (EQF level 3-5)



# Train-to-NZEB Objectives (cont.)



- 5) Two training programmes for acquiring qualification on part of profession or specialization; to be used in the training plans of the VTCs (EQF level 3-4): Envelope and Systems
- 6) Scheme for validating of knowledge, skills (EQF level 3-4).
- 7) Develop and disseminate educational content on deep energy building renovation for the initial education level.



# Train-to-NZEB Objectives (cont.)



8) Develop demonstration and practical training models and specify the equipment and building materials necessary for practical trainings

9) Conduct a TTT course for selected trainers from the supporting educational and training institutions and to organize, support and monitor the conduction at least one course on each programme

10) Conduct a communication campaign promoting the new training courses.



# Fit-to-NZEB Milestones



1. Internal communications set-up
2. Communications strategies
3. Visual identity
4. Web-based networking platform and website launched
5. Catalogue of existing and available resources on DER,
6. Catalogue of learning outcomes, M6
7. Design of 2 training and demo models
8. National training of trainers
9. Training programme for EQF level 6-7
10. Training programme for EQF level 3-5



# Fit-to-NZEB Milestones (cont.)



11. Training programmes for vocational training centers (EQF 3-4)
12. Training materials for EQF level 6-7
13. Training materials for EQF level 3-5
14. Training materials for VTCs (EQF 3-4)
15. Interim evaluation of the communication strategy
16. Interim report on management and risk mitigation
17. Conduction of pilot courses for EQF levels 6-7, 3-5 and short courses for VTCs
18. Monitoring and evaluation reports on the training courses



# Fit-to-NZEB main results



- 1) Unique educational and training programmes on deep energy retrofit
- 2) Design drawings of innovative training and demonstration models
- 3) Building local capacity: training of sufficient number of trainers
- 4) Monitoring and evaluation of pilot courses
- 5) Increased awareness on the benefits of deep energy retrofit



# What has been done?

Task duration (in months)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
WP 1: Management																								
WP 2: Learning outcomes for deep renovation																								
WP 2: Task 2.1 (Available training programs (TP))																								
WP 2: Task 2.2 (Resource mapping)																								
WP 2: Task 2.3 (Learning outcomes)																								
WP 3: Training models / Train-the-trainer																								
WP 3: Task 3.1 (Design and construction)																								
WP 3: Task 3.2 ( Train-the-trainer )																								
WP 4: TP/higher education																								
WP 4: Task 4.1 (Development of TP)																								
WP 4: Task 4.2 (Aids and materials)																								
WP 4: Task 4.3 (Conduction)																								
WP 5: TP /high schools & colleges																								
WP 5: Task 5.1 (Development of TP)																								
WP 5: Task 5.2 (Aids and materials)																								
WP 5: Task 5.3 (Conduction)																								
WP 6: TP/building professionals, on-the-job, validation																								
WP 6: Task 6.1 (Development of TP)																								
WP 6: Task 6.2 (Aids and materials)																								



# What has been done?

Task duration (in months)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
WP 6: Task 6.3 (Conduction)																								
WP 7: Communication																								
WP 7: Task 7.1 (Strategy)																								
WP 7: Task 7.2 (Web channels and materials)																								
WP 7: Task 7.3 (Print materials)																								
WP 7: Task 7.4 (Dissemination)																								
Project reports to EASME						PR						IR												FR
Project Webpage/site creation and update						X																		
Project deliverables	1.1	7.1	2.1	2.2	1.1 1.2 2.3 7.2 7.4				3.2 3.3			1.1 1.2 3.3						1.1						1.1 1.2 4.3 5.3 6.3 7.3 7.4





# D2.1 Analysis of existing training programmes for DER - conclusions

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- No programme exists, that can be applied for a comprehensive professional DER qualification
- In the secondary and high education (EQF 3-5) system, principles of energy efficient renovation are not included in official training programmes
- In higher education (EQF 6-7), there are some fragments of the topic represented by certain subjects
- Lack of qualification is filled in most cases by vocational education
- The common qualification mentioned in all target countries is a certified passive house designer
- The learning outcomes have to be thoroughly redeveloped and adapted to each EQF level



# D2.2 Catalogue of existing training programmes - results

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- **60 training programmes** and aids identified
- Structured map published at the project web (will be regularly maintained and updated)
- For each training aid or programme availability of training materials and **learning outcomes** is indicated providing a link to the source
- Existing materials are classified in the catalogue according to **EQF level** of the target group
- as well as language and type of material



# D 2.3 Catalogue of learning outcomes

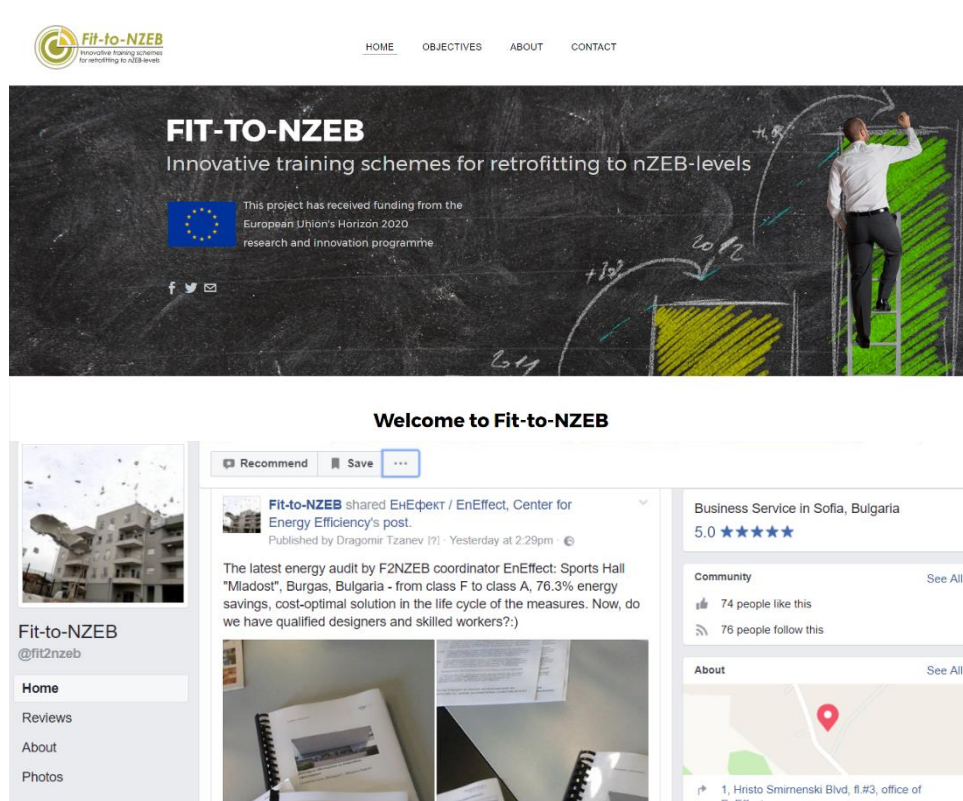


GOAL – TO PROVIDE CATALOGUE OF LEARNING OUTCOMES RELATED TO DER FOR EQF LEVELS 3-7

- **Topic-based**
- **Learning outcomes** – statements regarding what a learner knows, understands and is able to do on completion of a learning process
- **Knowledge** – the outcome of the assimilation of information through learning
- **Skill** - the ability to apply knowledge and use know-how to complete tasks and solve problems
- **Responsibility** - the ability of the learner to apply knowledge and skills autonomously and with responsibility



# Communication



The screenshot shows the Fit-to-NZEB website and its Facebook page. The website header includes the logo and navigation links: HOME, OBJECTIVES, ABOUT, CONTACT. The main banner features the text "FIT-TO-NZEB Innovative training schemes for retrofitting to nZEB-levels" and a photo of a man writing on a chalkboard. Below the banner, it states "This project has received funding from the European Union's Horizon 2020 research and innovation programme." The Facebook page shows a post from "Fit-to-NZEB" shared by "EnEffect / EnEffect, Center for Energy Efficiency's post." The post text reads: "The latest energy audit by F2NZEB coordinator EnEffect: Sports Hall 'Mladost', Burgas, Bulgaria - from class F to class A, 76.3% energy savings, cost-optimal solution in the life cycle of the measures. Now, do we have qualified designers and skilled workers?:" The post includes a photo of documents and a map of the location at "1, Hristo Smiranski Blvd, fl.#3, office of".

It's never, never enough...

● Web:

[www.fit-to-nzeb.com](http://www.fit-to-nzeb.com)

● Facebook:

<https://www.facebook.com/fit2nzeb>

● Twitter:

<https://twitter.com/fit2nzeb>





**Thank you for your attention!**

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