



IMPROVING AIR QUALITY AT 8 HUNGARIAN REGIONS THROUGH THE IMPLEMENTATION OF THE AIR QUALITY PLAN MEASURES

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LIFE PROJECTS' WORKSHOP ON AIR QUALITY

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BACKGROUND

AQPs & THE PROJECT

**10 Municipalities decided
to improve air quality
locally**

**through the
implementation of air
quality plan measures**

BACKGROUND - EMISSIONS

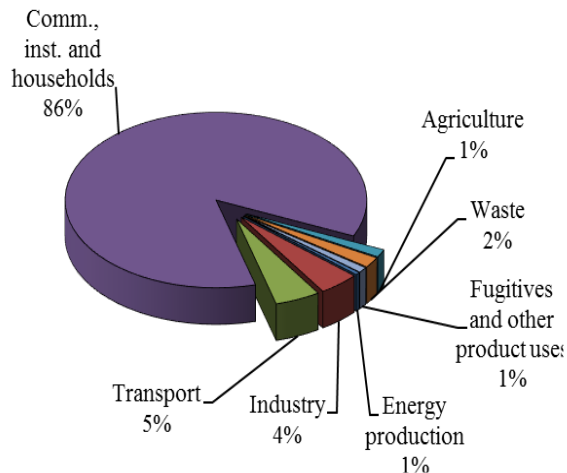


Main emission sources:

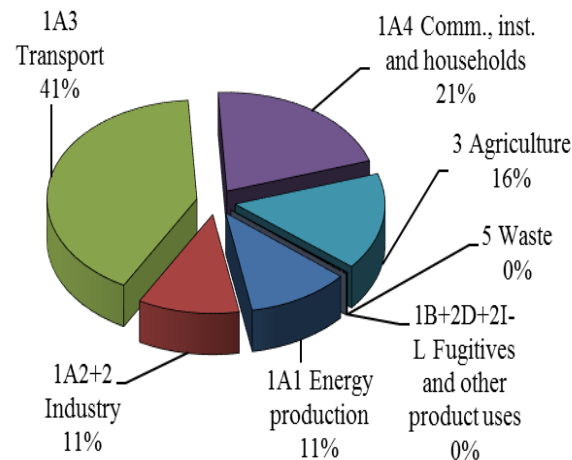
- Residential sector
- Transport sector
- Agriculture



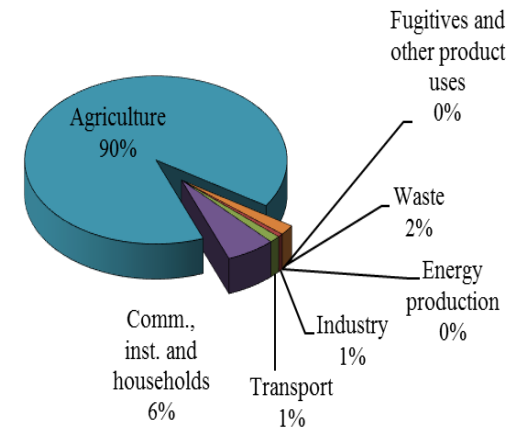
PM 2.5 (2016)



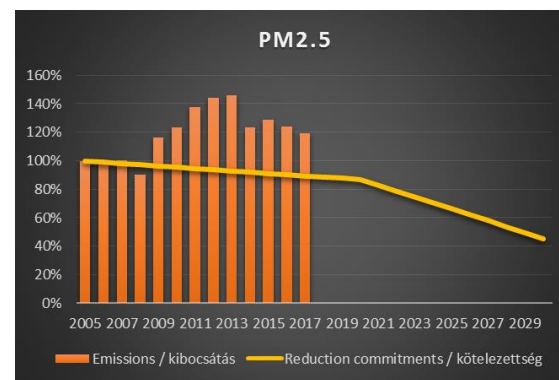
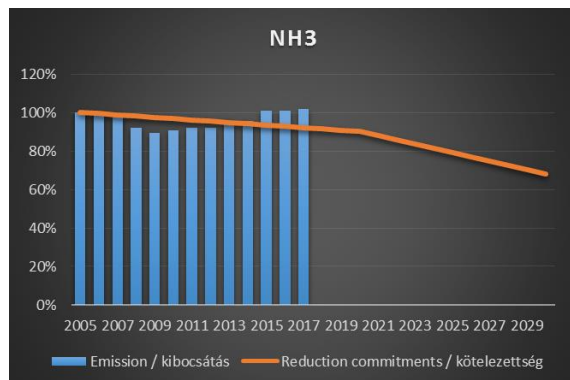
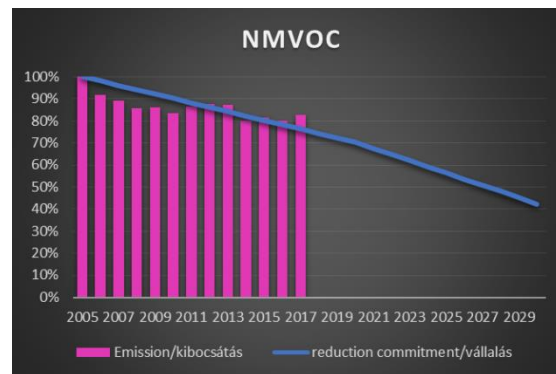
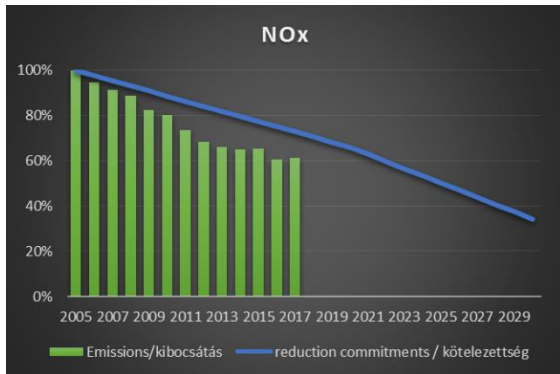
NOx (2016)



NH3 (2016)

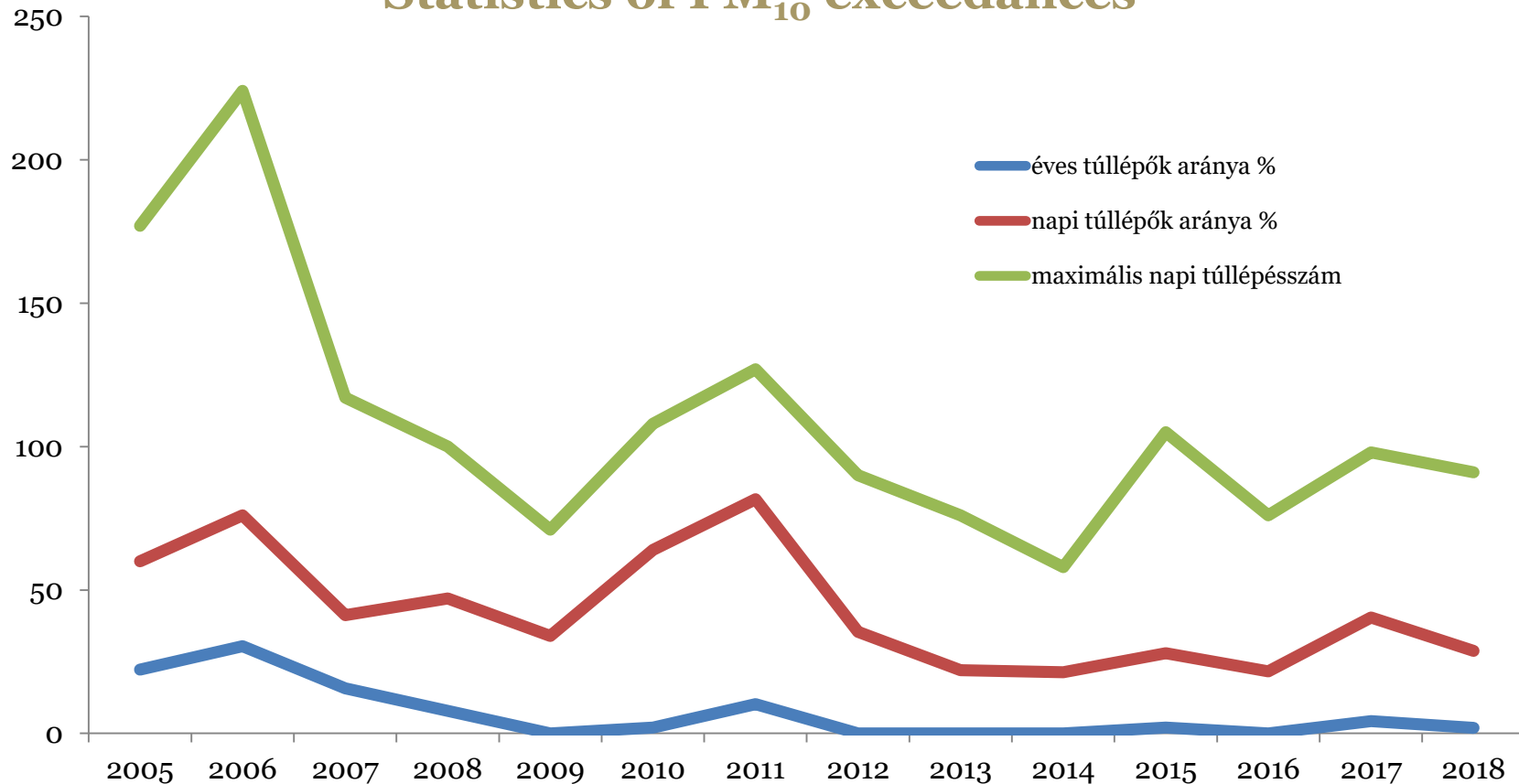


Annual total emissions (kt) and NEC reduction commitments



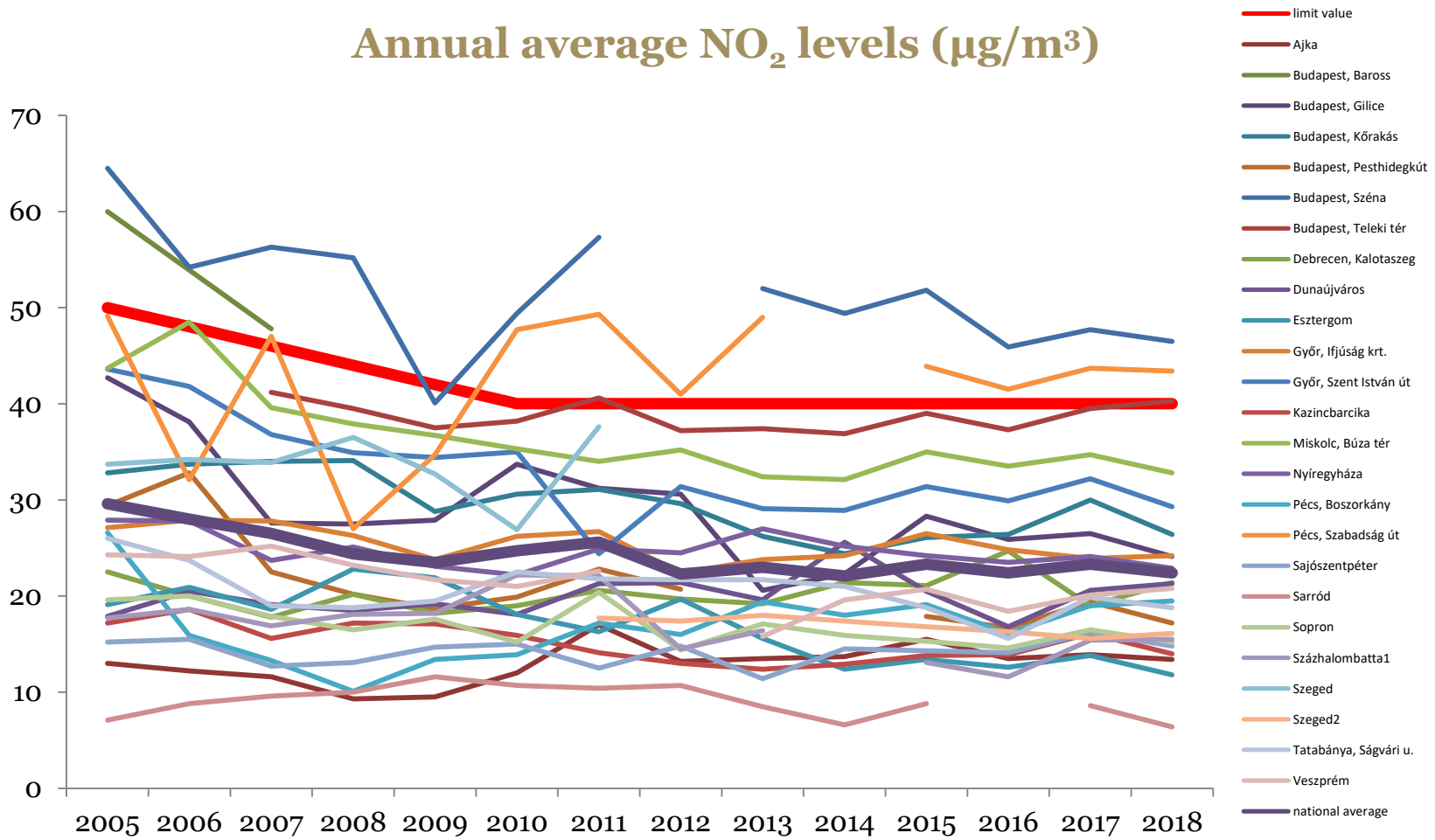
Source: OMSZ

Statistics of PM₁₀ exceedances



AIR QUALITY SITUATION

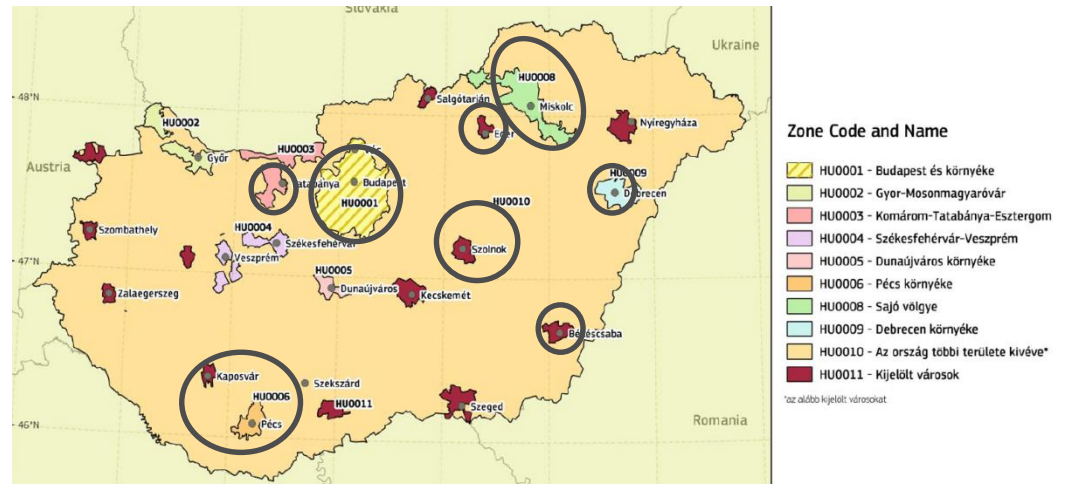
Annual average NO₂ levels (µg/m³)





- Detailed assessment of the situation + Measures
- Responsible for the development: County Government Offices with the involvement of the Municipalities
- Regular revision

1. Air Quality Plan of Békéscsaba
2. Air Quality Plan of Budapest
3. Air Quality Plan of Debrecen
4. Air Quality Plan of Eger
5. Air Quality Plan of Kaposvár-Pécs
6. Air Quality Plan of Karcag-Szolnok
7. Air Quality Plan of Miskolc
8. Air Quality Plan of Tatabánya



To identify efficient actions

Several projects were dedicated to improve air quality without deep analysis of the given air quality of the AQP



To provide the necessary data and information

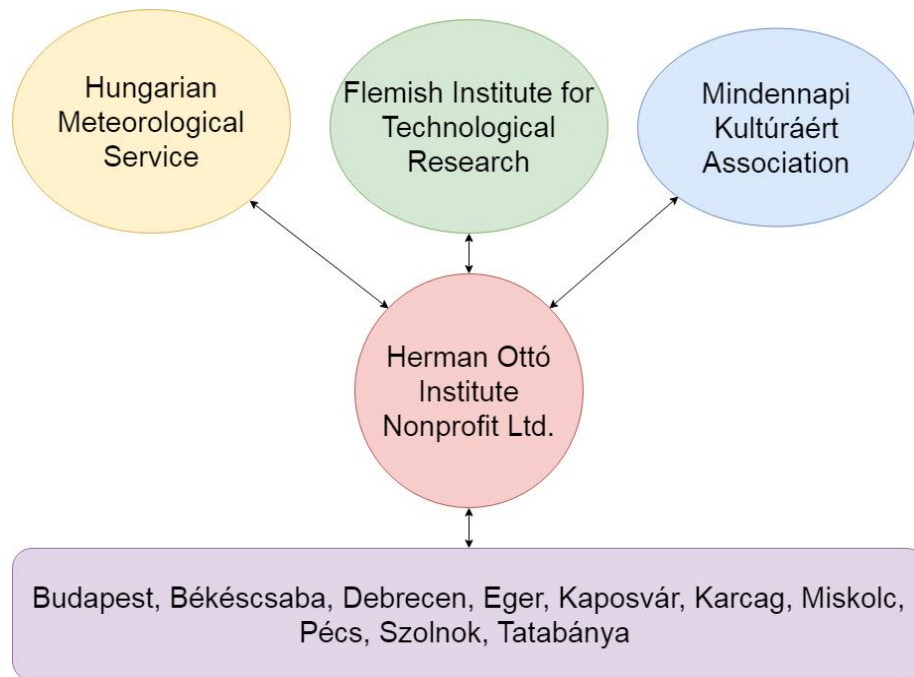
Lack of emission and immission data for local planning

Inadequate knowledge at municipal, residential level

To implement the actions

Lack of general will, human capacity and financial sources

PARTNERSHIP – 19+1 BENEFICIARIES



- **Project duration:**
 - 01/01/2019 → 31/12/2026
 - 4x2 year phases
- **Total budget: 16 290 322 €**



**55 PREPARATORY AND
CONCRETE ACTIONS**

22 COMMON ACTIONS

12 PILOT ACTIONS

COMMON ACTIONS

- **To provide the necessary data and information**

- Emission and immission data for local planning

- Inadequate knowledge at municipal, residential level

NEW MONITORING STATIONS



Objectives, current situation:

- 58 automated AQ monitoring stations - **HAQN**
- 2 new monitoring stations in Békéscsaba and Kaposvár
- Development of the background station in K-pusztá

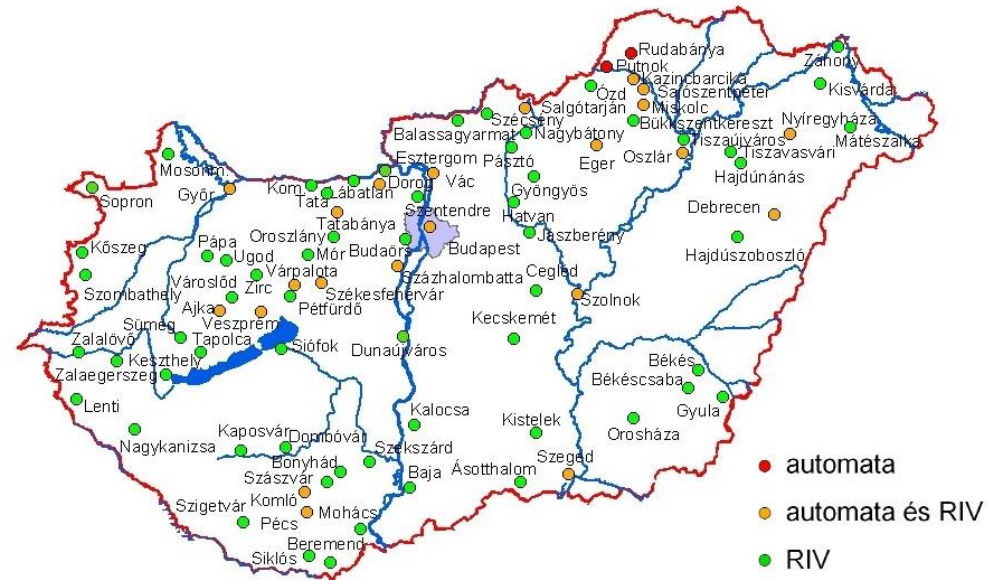
Achievements:

- Detailed technical plans are available

Plans for 2020:

- Location 06/2020
- Selecting the subcontractors 12/2020

+Annual monitoring and report on air quality



AQ MEASUREMENTS – BÉKÉSCSABA, KAPOSVÁR, KARCAG



Objectives, current situation:



- Monitoring of the state of air quality in Békéscsaba, Karcag and Kaposvár

Achievements: ✓

- 3-3-3 2 week measurements of the main pollutants

Plans for 2020:

- 1-1-1 2 week measurements

+Emission data inventory



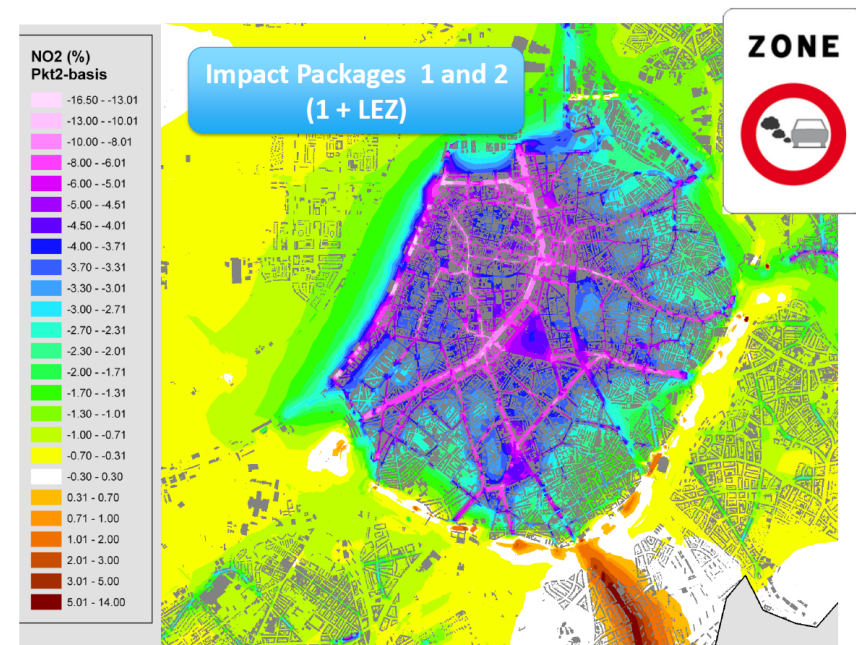
To identify efficient actions

Several projects were dedicated to improve air quality without deep analysis of the given air quality of the AQP

Downscaled, high resolution emission database for Hungary

Regional to urban background-scale air pollutant concentration maps with high resolution zooms (~20m) over key cities

Detailed traffic, industrial, residential emission database



Achievements:

- Several data owner contacted, data collected 09/2019
- Brief description of the existing emission data and gap analysis 10/2019
- Methodology describing downscaling of low resolution emissions to urban scale 12/2019

Plans for 2020:

- Description of data to be collected on short and long term 03/2020
- Detailed road and industry emission database 12/2020
- Methodology describing compilation of high resolution residential emission inventory 12/2020
- Regional and urban emission database for use in CTM model 12/2020
- Air pollutant concentration maps for Hungary for the pollutants PM_{2,5}, PM₁₀, NO₂, O₃ with high resolution zooms over key cities 12/2020
- Validation of the modelling chain 12/2020
- Deployment of the ATMOSYS Planning decision support tool + training 12/2020



To implement actions

Lack of general will, human capacity and financial sources

Objectives:

- Monitoring of potential financial sources for environmental and air protection related projects
- Revision of AQPs
- Consulting
- Awareness raising



Achievements:

- Eco-Manager Knowledge Centre
- 21 Eco-managers

Plans for 2020:

- Trainings
- First revisions (3 already revised)
- Awareness raising
- Mainstreaming AQ in OPs



Objectives – promotion of:

- Environmentally friendly solid combustion
- Composting, green waste management
- Energy efficiency of households
- Cycling mobility
- Eco-driving
- E-mobility

Achievements:

- Best practise collected
- Research started

Plans for 2020:

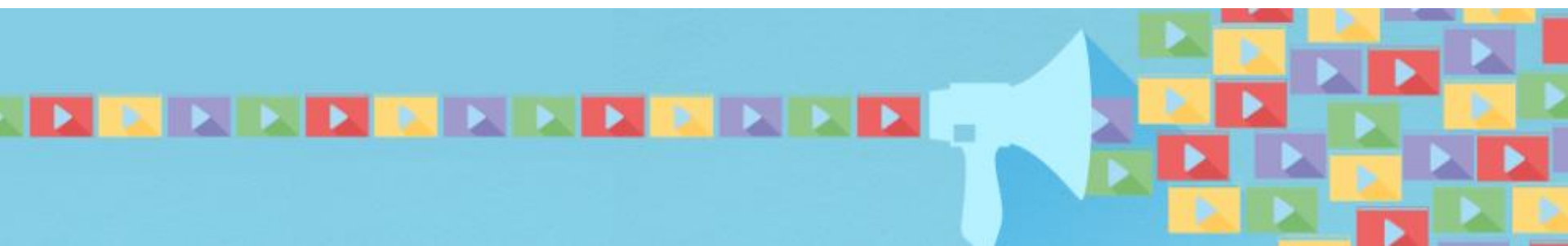
- Completion of the studies
- Involving a PR agency to prepare communication materials



2021-: 13 Awareness raising plans

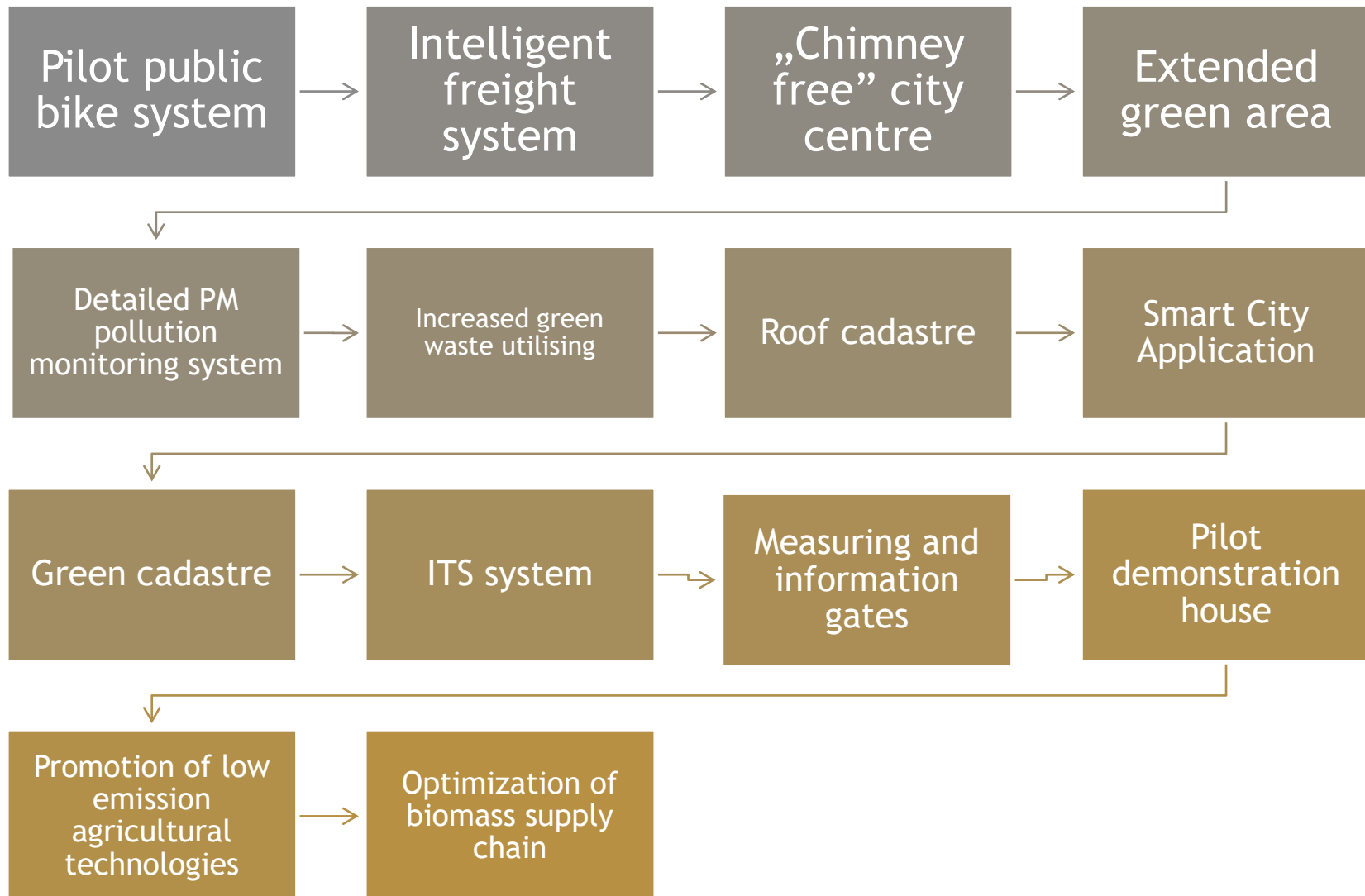
2020

2021-2022



PILOT ACTIONS

TARGETED AREAS: TRANSPORT AND RESIDENTIAL EMISSION



DEVELOPMENT OF A PUBLIC BICYCLE SYSTEM – BÉKÉSCSABA, EGER, TATABÁNYA

Objectives:

- 3 mini public bike systems in Békéscsaba, Eger and Tatabánya
- Promote environmentally friendly way of transport
- Planning + Implementation as pilot action

Achievements:

- Detailed technical plans are available
- Public procurement procedures started

Plans for 2020:

- Construction contracts signed 12/2020



2020

2021-2022

Installation of the
systems + test
operation



Objectives:

- Loading area booking system
- Peer to peer lift sharing system as public service
- Online platform + mobile application
- Development of eco-friendly transportation certification



Achievements:

- Regulation environment assessed
- Stakeholders collected and contacted
- Best practice collected

Plans for 2020:

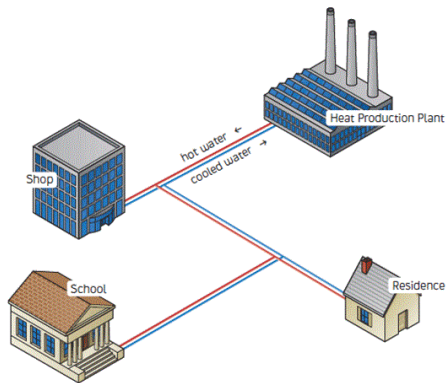
- Pilot areas 03/2020
- Demand assessment 09/2020 – 5 workshops
- Regulatory environment elaborated for the objectives



System testing + application development + communications

2020

2021-2022



Objectives:



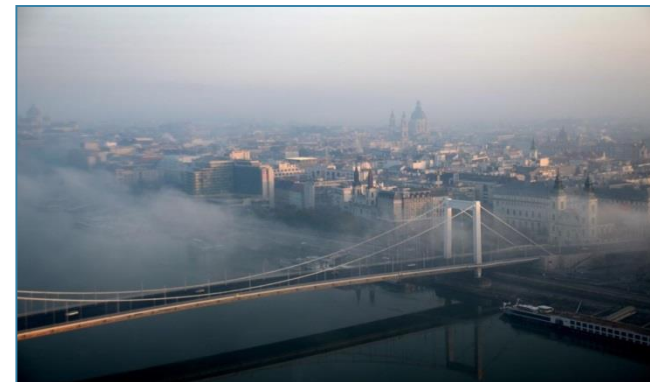
- „Chimney free” city centre
- Budapest Zoo & Botanical Garden (BZBG) development plan
- Promoting green energy with smart meters and mobile app.

Achievements:

- Chimney free city centre development plan
- Test households selected

Plans for 2020:

- BZBG Development plan
- Mobile app for households
- Promoting district heating - 6 Information Day



2020

2021-2022

MISKOLC - KAPOSVÁR HIGH RESOLUTION PM MONITORING NETWORK



Objectives:

- To establish PM10 pollution control measures via high resolution monitoring

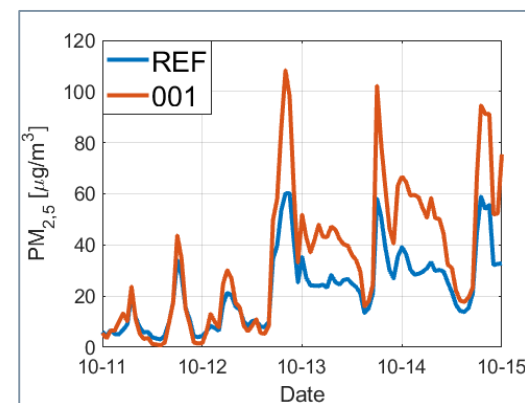
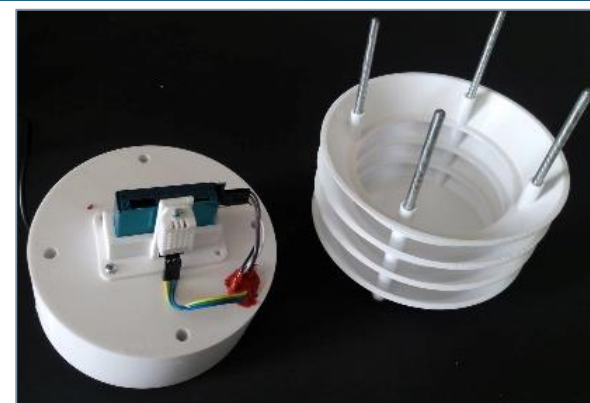


Achievements:

- Sensors selected, laboratory and field tests + calibration

Plans for 2020:

- 60 pcs installed PM monitoring device + 2 meteorological stations in Miskolc 06/2020
- Test operation 12/2020



2020

2021-2022

Installation of the systems + test operation



Objectives:

- To provide air quality protection skills that voluntary farmers can incorporate into everyday' practice

Achievements:

- Best practice collection on limited PM10 emission technologies in agriculture

Plans for 2020:

- Involve farmers into the voluntary programme
- Training I. 07-08/03/2020
- Training II. 11/2020

2020

2021-2022

Objectives:

- Optimize the local supply chain management and production of biomass for energy use
- Identify the actors, roles, problems, especially in 2 regions

Achievements:

- Study on the operation of the biomass supply chain 12/2019

Plans for 2020:

- Assessment of the biomass consumption in Békéscsaba and in Eger 06/2020
- Transferability and replicability plan on the optimization of biomass supply chain 12/2020



2020

2021-2022

Green Area pilot action Debrecen – Urban green project

- Evolving a green area that purposes infiltration and recreational effects according to Green City guidelines
- Technical plans 12/2020



Reducing green waste combustion in Miskolc

- Stricter legislation + alternative solutions for GW management



Roof and Green Cadastre in Pécs

- Promote solar energy
- Support green area development



Information and sensor gates in Tatabánya

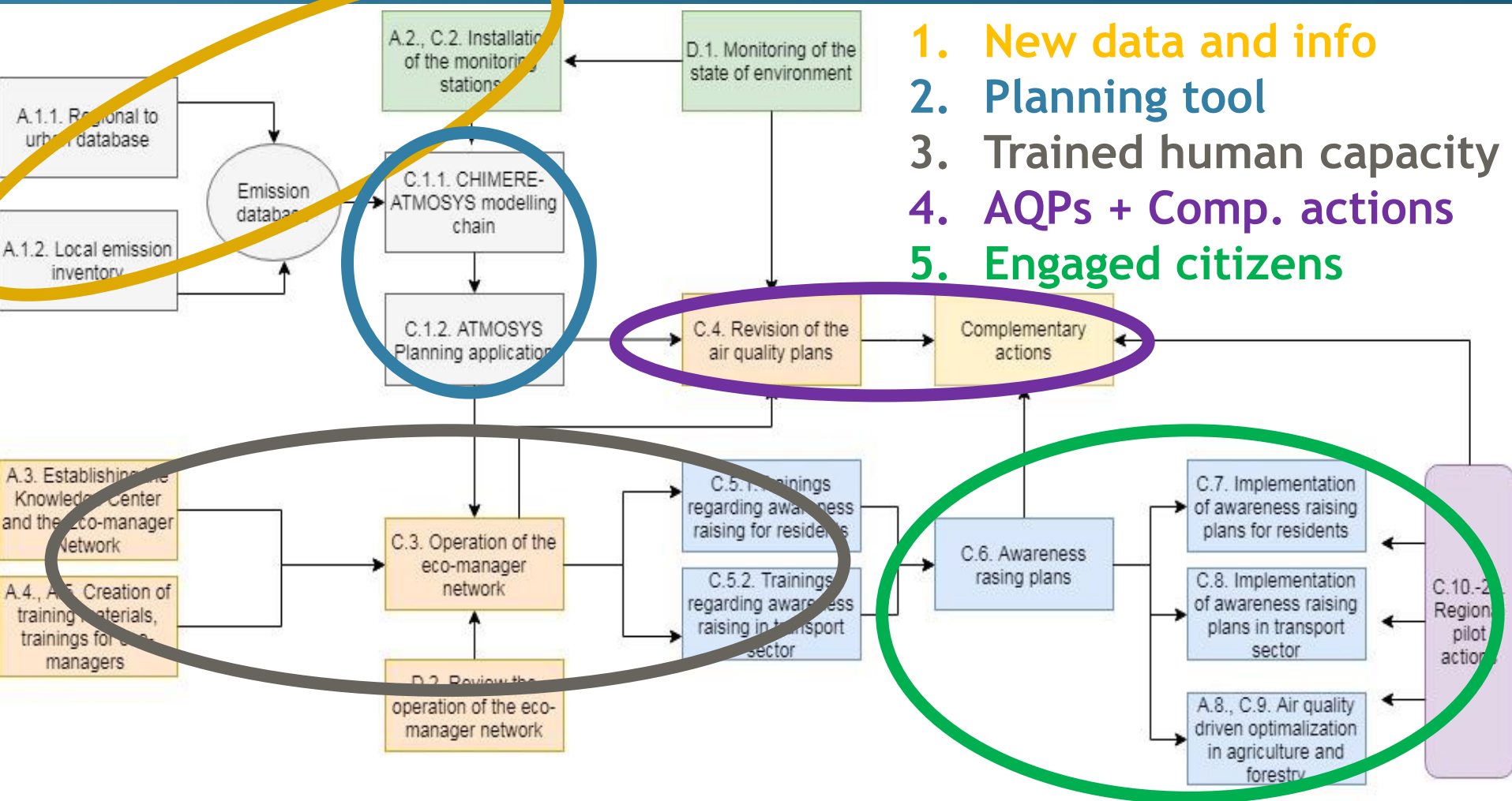
- Real time ambient air quality + further info



2020

2021-2022

LINKS BETWEEN THE ACTIONS



1. New data and info
2. Planning tool
3. Trained human capacity
4. AQPs + Comp. actions
5. Engaged citizens

D. Monitoring of the project actions, E. Public awareness and dissemination of results, F. Project management



1. Project partners

- Project Board
- PM teams
- Technical teams

2. Key stakeholders: Ministry of Agriculture; Government Offices; Air quality experts; Representatives of the related sectors: Transportation, Energy, Statistics; Universities; NGOs; farmers; etc.

Advisory Board:

- ~40 member organisation
- Newsletter
- Personnel meetings

3. Other stakeholders: Residents, NGOs, non-participating municipalities

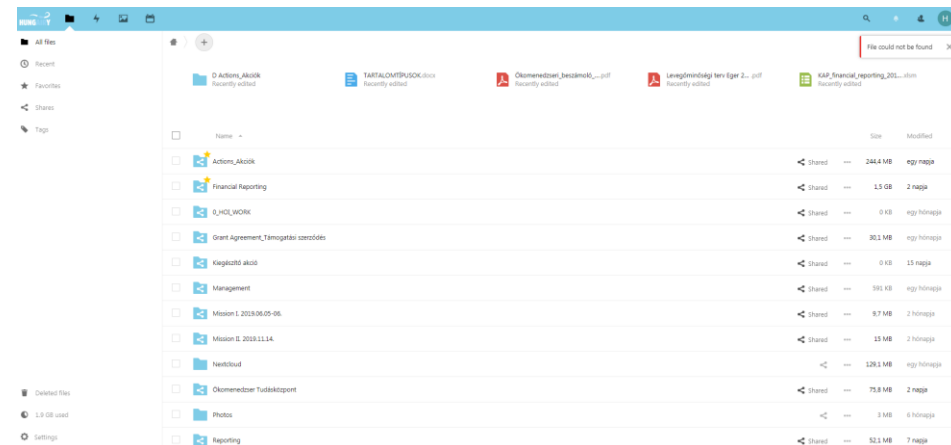
COMPLEMENTARY ACTIONS AND FUNDS

Beneficiary	Sector	No. of projects	Budget (EUR)
BCS	Improving energy efficiency	24	20 509 677 EUR
	Development of the transport	6	140 935 484 EUR
BUD	Improving energy efficiency	1	20 000 000 EUR
	Development of the transport	2	4 274 194 EUR
	Increase the green surface	5	8 025 806 EUR
DEB	Improving energy efficiency	18	21 245 161 EUR
EGER	Development of the transport	2	8 154 839 EUR
KAP	Improving energy efficiency	7	418 645 065 EUR
	Improving energy efficiency	32	21 416 625 EUR
MISK	Development of the transport	3	4 080 645 EUR
KAR	Improving energy efficiency	7	5 832 798 EUR
	Improving energy efficiency	34	43 309 677 EUR
	Development of the transport	12	17 364 516 EUR
	Increase the green surface	6	9 019 355 EUR
PECS	Other	4	4 803 226 EUR
	Improving energy efficiency	6	7 118 903 EUR
	Development of the transport	1	852 097 EUR
	Increase the green surface	2	3 089 645 EUR
SZOL	Other	1	1 612 903 EUR
	Improving energy efficiency	2	1 169 789 EUR
TATB	Development of the transport	1	2 365 396 EUR
SZUM		176	763 825 802 EUR



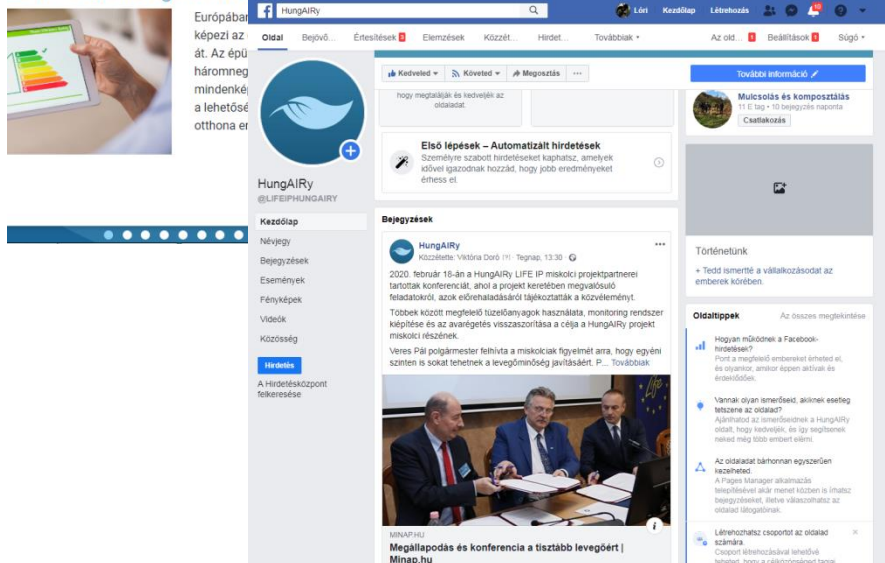
Achievements:

- Project management teams operating
- Common project management system for **20 beneficiaries**
- Own project management tool:
Hungairy Cloud





...észekkel az energiahatékonyság felé



Achievements:

- Dissemination Plan
- www.hungairy.hu
- Facebook.com/lifeiphungairy
- Participation to awareness raising events + conferences
- ~100 offline and online articles, news, radio and TV interviews in 2019





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