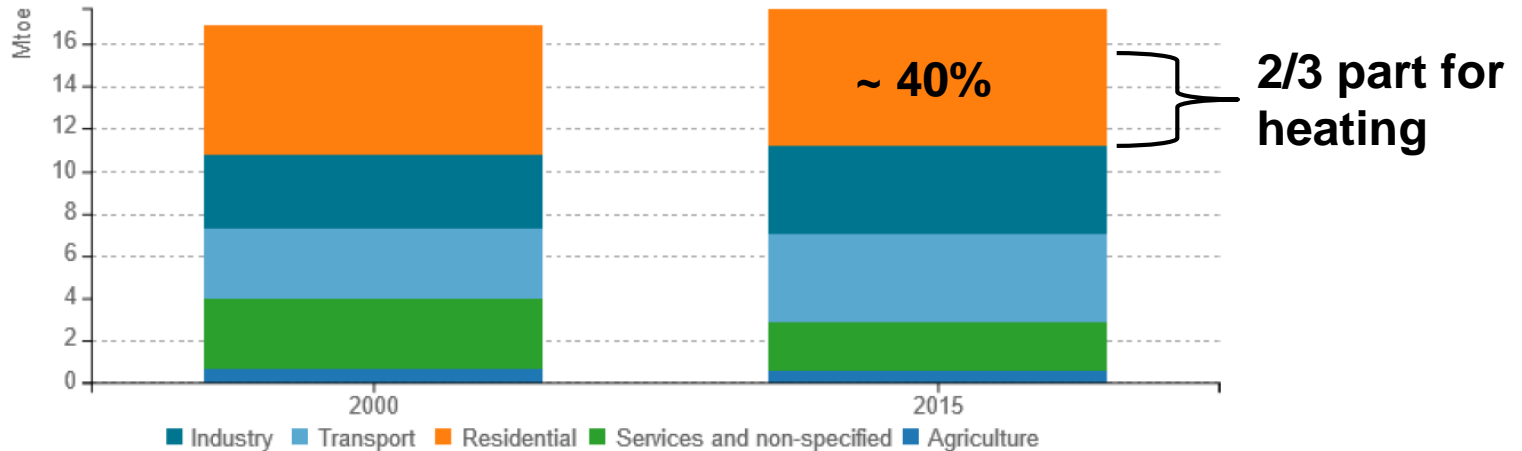

Residential heating in Hungary and the role of coal

Presenter: Csaba Vaszko
Date: June 5th, 2019

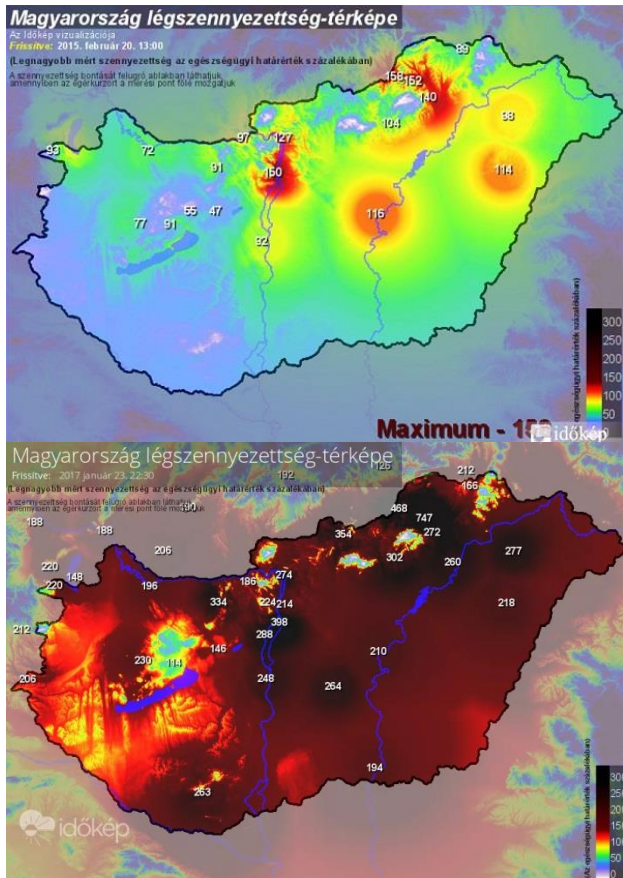
Residential is the largest consuming sector!



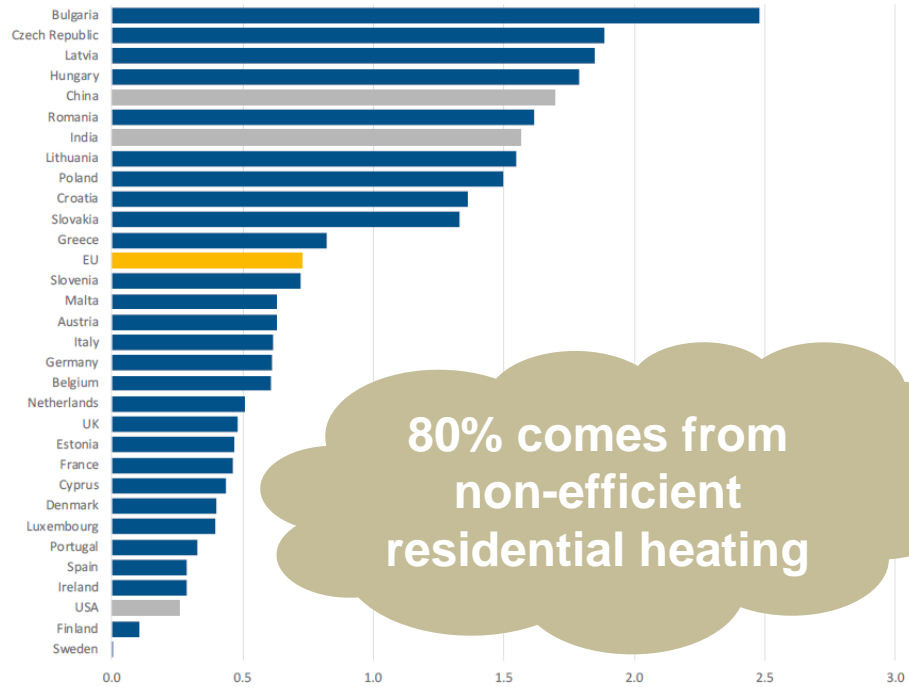
Space heating:

- Share of gas decreased from 64% to 49%
- Share of solid fuel (wood, coal and waste) increased from 8% to **40%**.

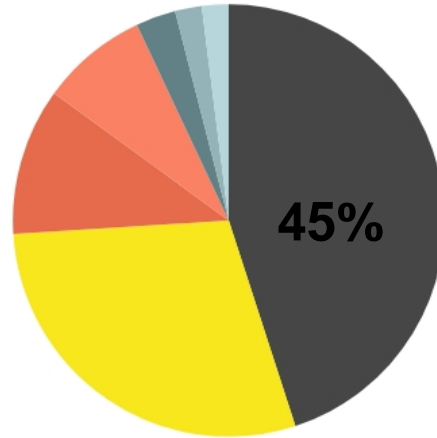
Non-efficient heating leads to air pollution – high PM10 values



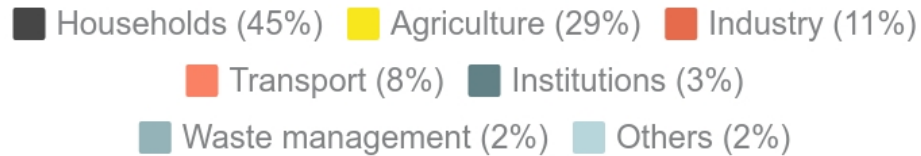
Lost years of healthy life from ambient air pollution per hundred inhabitants



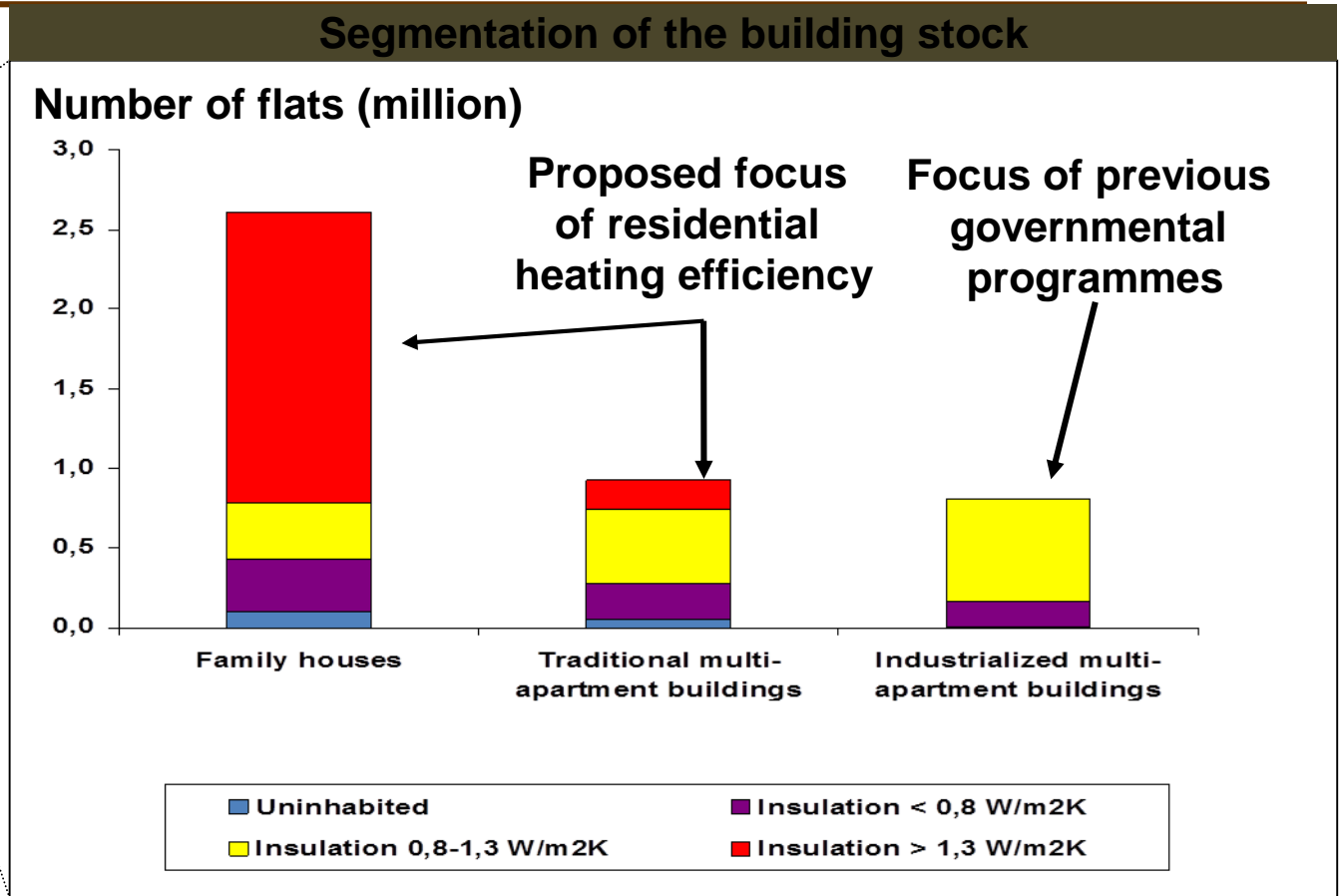
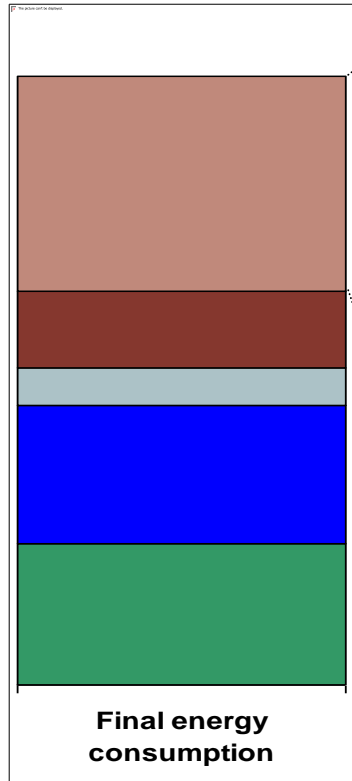
Where does the high PM10 concentration comes from?



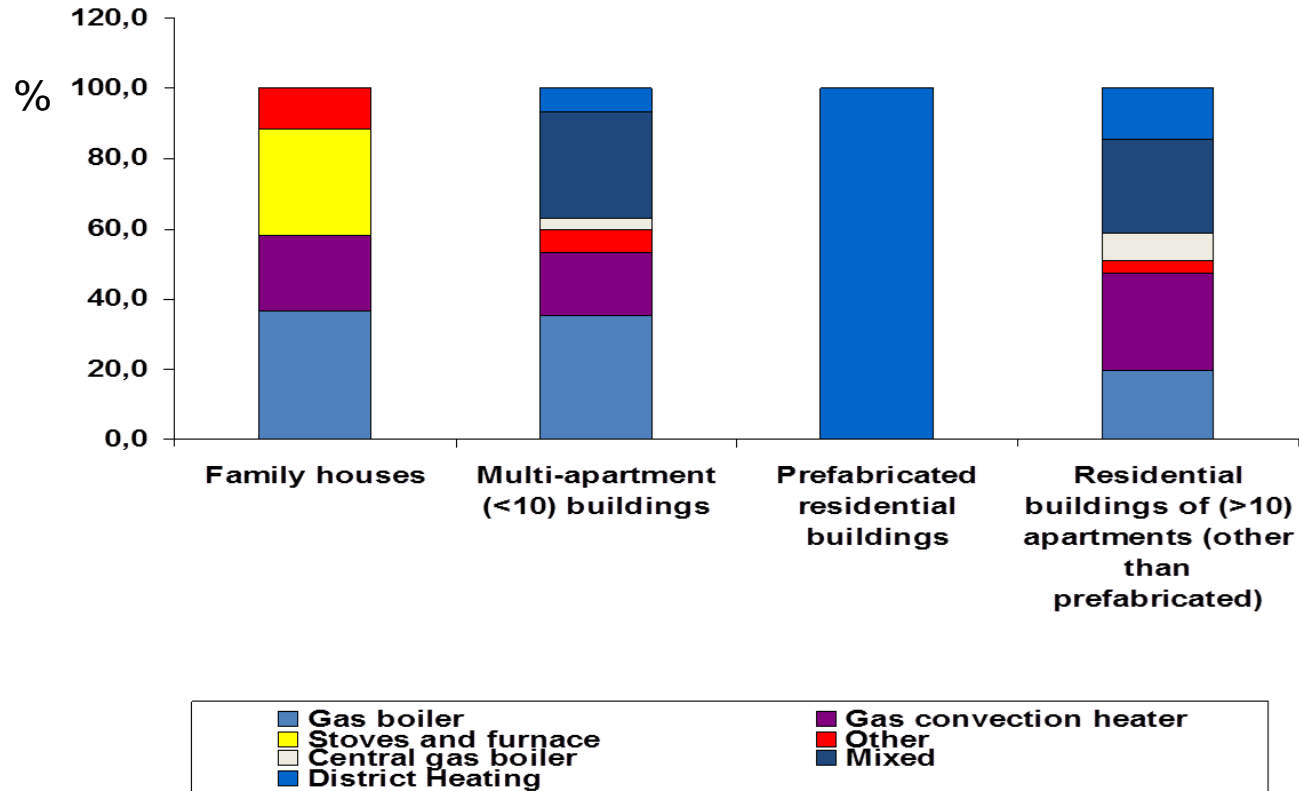
Residential heating



Segmentation of building stock and residential heating is key

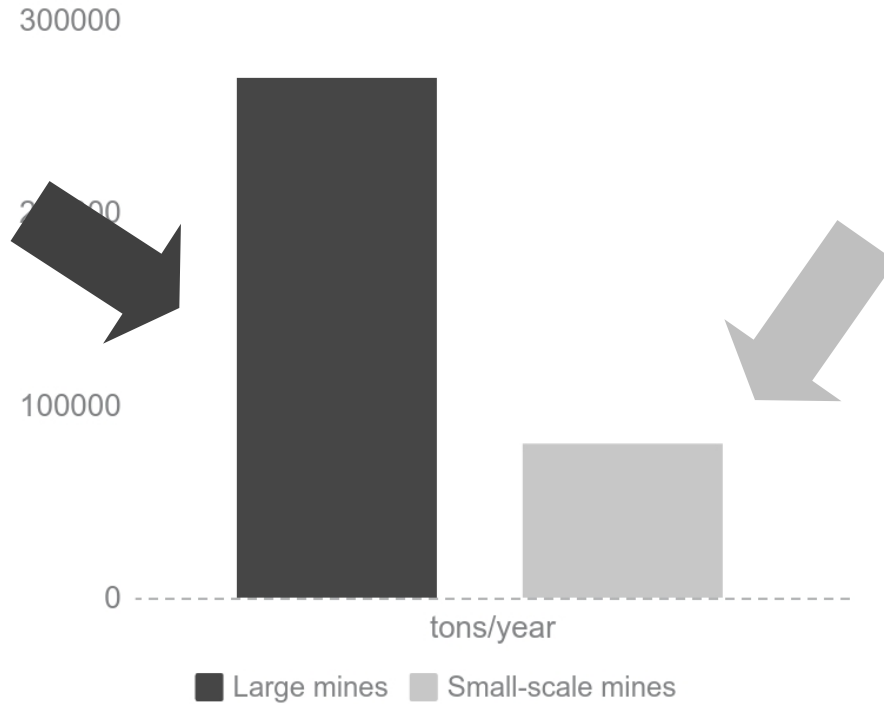


Distribution of heating systems used in residential buildings



Coal and lignite sales for residential heating purposes

Large coal mines' incremental production (~270 000tons = 3%), sold to the residential market

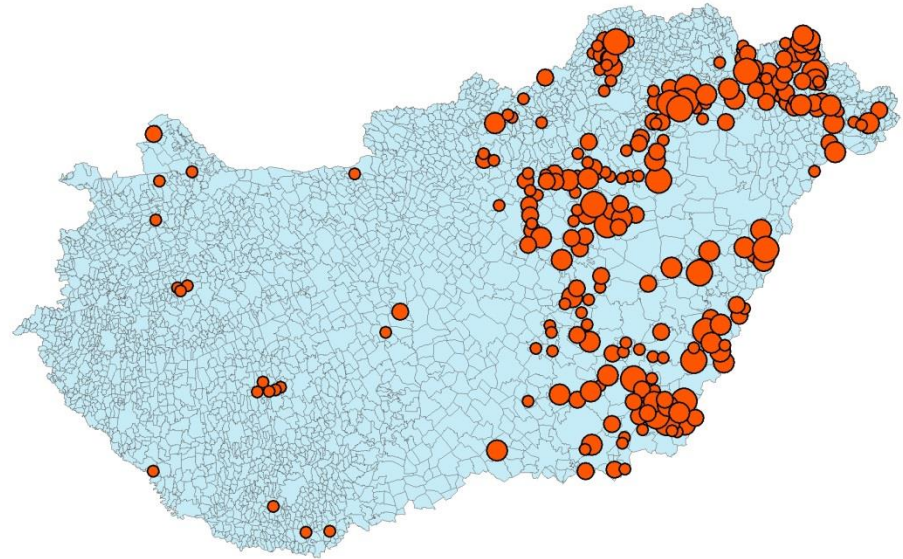
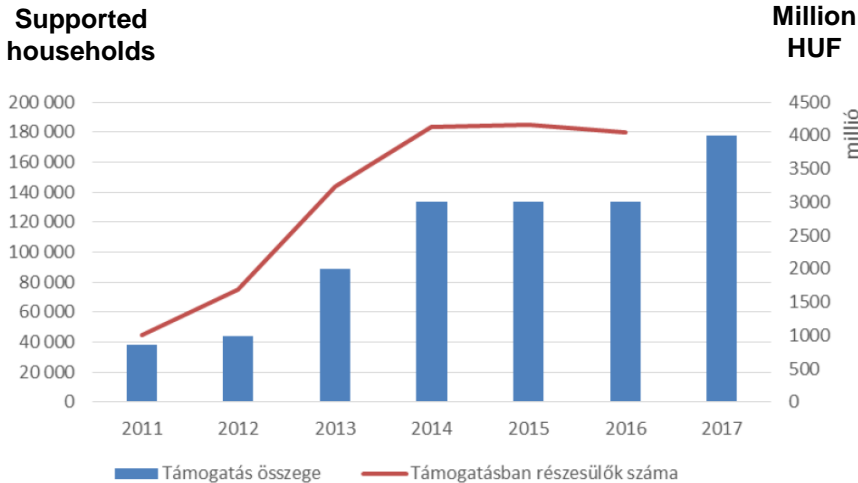


Small mines sell (80 000tons) coal to the residential heating market

**~ 350 000 tons of coal and lignite annually
~ 100 000 households affected**

Governmental Social Fuel Program > counterproductive effect

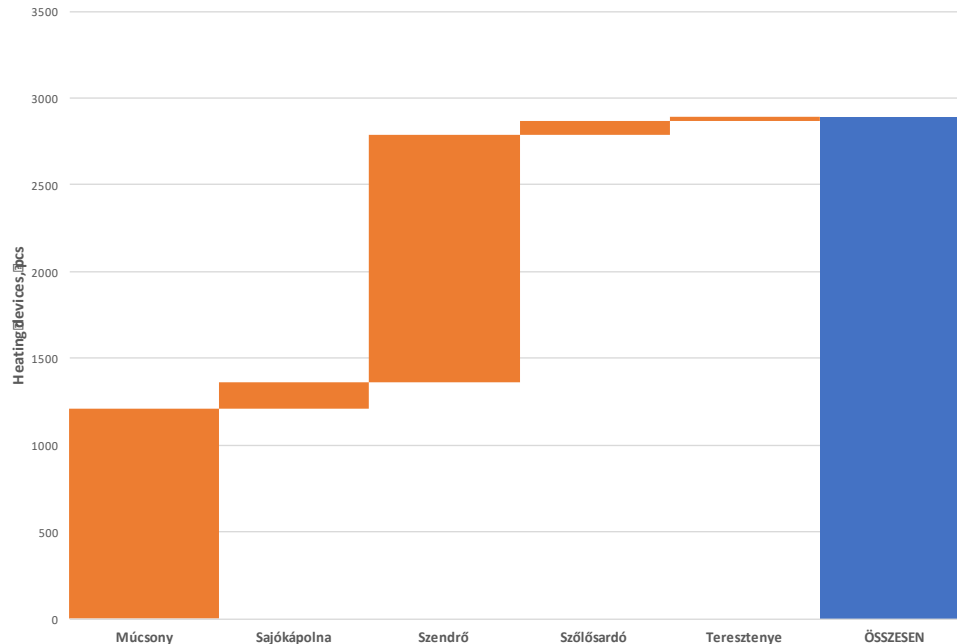
Amount of financial support to local governments in the Social Fuel Program



- Social Fuel Program: settlements are eligible below 5 000 inhabitants
- Coal and firewood
- In 2018: 180 000 households, 5,5 billion HUF 17 million EUR

Replace coal in residential heating

How would it be possible to replace coal in 5 settlements where coal is used for heating?



Change of combustions/boilers and fuel



Shallow building renovation

1,56 billion HUF
4,6 million EUR

Governmental programmes

- **Panel (prefabricated block houses) house refurbishment programmes:** 35% of all panel buildings have been renovated between 2000 and 2015.
- **New loan scheme** (since 2017) to trigger energy efficient (residential) building renovations (interest-free, Hungarian Development Bank).
- **Warm Homes Programme:** Between 2008 and 2016, Green Investment Scheme (from Kyoto units' sales): 1,1 PJ cumulative savings in 2014-2016.
 - **Heating Modernisation (boiler replacement) sub-programme of the Warmth of Home Programme:**
 - purchasing and installation of heating systems; condensing boiler technology and utilising renewable energy;
 - grants were awarded for **900 homes**, resulting in calculated annual savings of 15GJ/year
- **„Heat Smart” campaign and new regulations:**
 - New efficiency and emission limits for <70kW standalone combustions after 2022
 - New efficiency and emission limits for <500kW solid fuel central heating boilers (2020)
 - Mandatory labelling on <70kW combustions (2017)

Recommendations

- Segmentation of residential buildings is key > find the right focus (e.g. family houses instead of panels)
- Map and define buildings with different heating and fuels
- Coal is not a solution, but a good proxy to find the most vulnerable groups
- Do not incentivise coal production or consumption
- Building efficiency first (e.g. insulation)
- Heating systems and fuel change is second
- Special loans, awareness raising campaigns, regulations and grants should be combined

Thank you very much!

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