

An assessment of potential biomass switch at municipal level in Romania

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13 SEPTEMBER 2023



Table of contents

1. Potential assessment for biomass switch
2. Context of municipal heating in Romania
3. European regulations on RES in heating
4. Research objectives
5. Methodology
6. Literature review
7. Data analysis
8. Conclusions & recommendations

Potential assessment for the transition to biomass depends on multiple factors

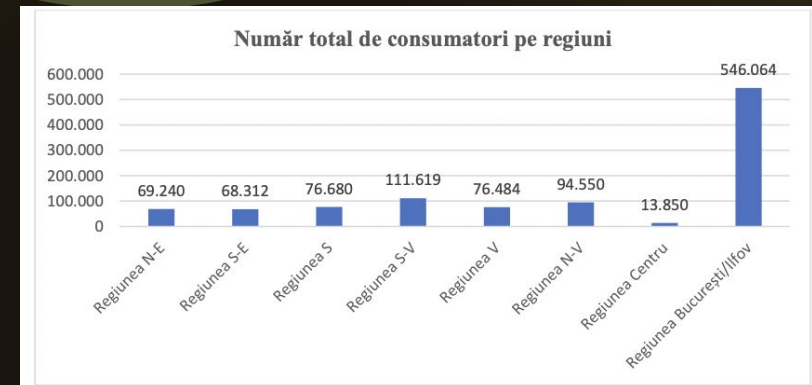
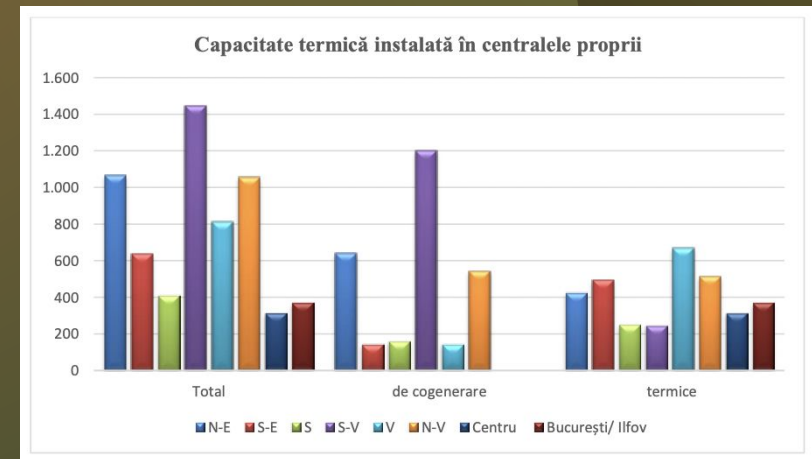
- location, quality and quantity of biomass
- available infrastructure
- energy policies, socio-economic and demographic factors
- proximity to forests
- transportation & storage costs
- technological maturity
- public acceptance

Policy makers must take into account the potential challenges

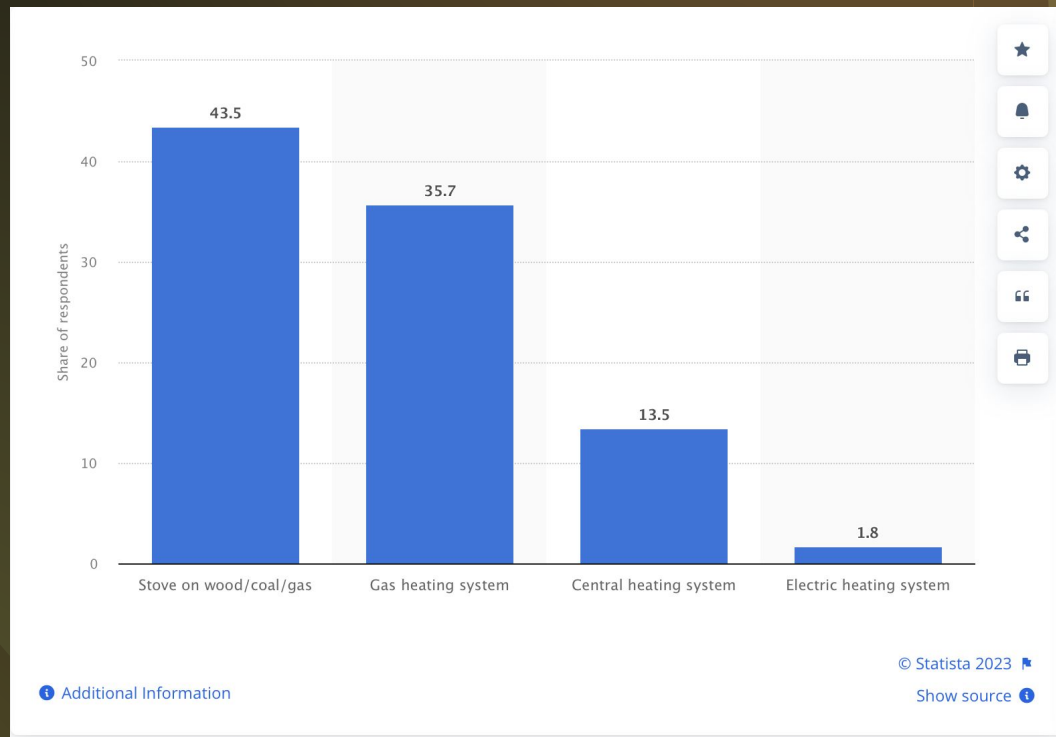
- corruption
- refusal of utility companies to decommission old capacity
- the biodiversity industry is less organized than the coal industry
- negative view regarding the effects of biomass on the environment

The governance & context of municipal heating in Romania

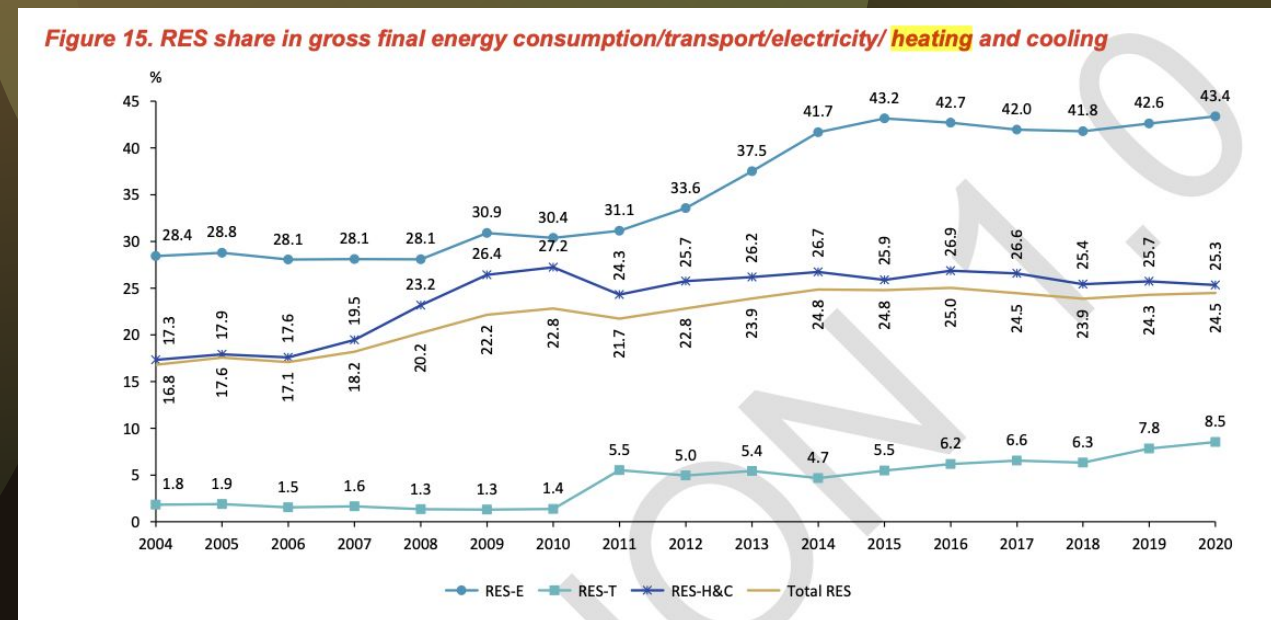
- coordination, control, responsibility, monitoring and planning split between different central government institutions (NERA vs. Energy Ministry vs. The Government) and municipalities => confusion + lack of data + lack of accountability
- oversupply, but few & declining users (approx. 50 DHPs, 29 counties)
- despite legislative obstacles, citizens renounce district heating and opt for individual solutions (Oradea - the exception)
- only ¼ of planned investments are carried out



How Romanians heat themselves. The tricks behind the figures



Source: Statista



Source: LTS

Media reports



3,5 mio households



3 mio households



???



50,000 households



???



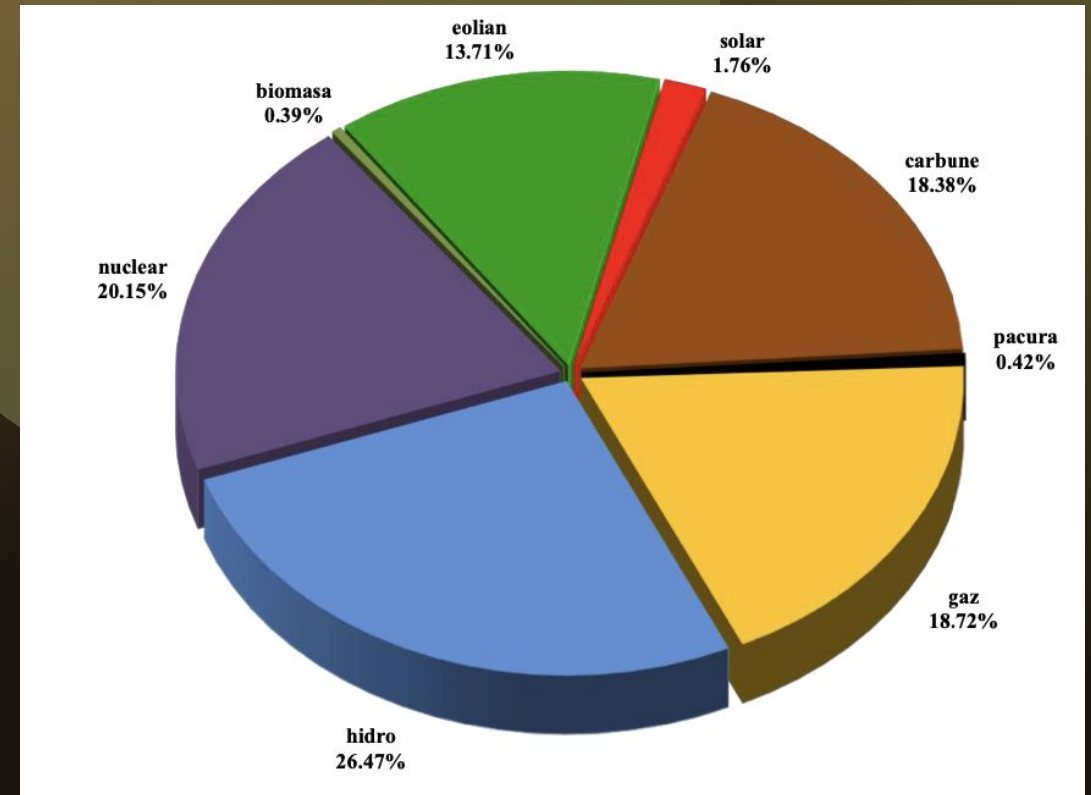
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High installed capacity for electricity production, low utilization

- 33 biomass plants
- total installed capacity 1170 MW, with largest plant capacity
 - Bioenergy Suceava (296 MW)
 - Sfântu Gheorghe/ Reci (150 MW)
 - Egger Suceava (100 MW)
 - Rădăuți (100 MW)
- smaller capacities on biogas, used in general for industrial heating and power (e.g.: Cocorico Buzău, etc.) and very little in municipal heating (e.g.: CET Cristuru Secuiesc).



Without (modern) renewables in buildings we will miss the Green Deal targets

Buildings account for:



➤ **40%**
of energy
consumed



➤ **36%**
of energy-related
greenhouse gas
emissions



➤ **75%**
of EU buildings
are not energy
efficient



➤ **85-95%**
of EU buildings
are expected to
still be standing
in 2050

The ambitious figures of RES in heating and cooling

- starting 2030: all new buildings net zero
- starting 2027: no support for fossil fuels heating and possibility for MS for full ban in new buildings (e.g.: France)



Set a new EU-level target of **40%** renewables in the energy mix



Set a benchmark of **49%** of renewables in buildings



Increase the use of renewable energy in heating and cooling by **1.1 percentage point** every year



Raise the use of renewable energy in district heating and cooling by **2.1 percentage points** every year

Objectives of our research

- based on population & economic growth data, establish a top of 20 towns who might be interested in fuel switching
- collect data local city halls based on questionnaires on
 - the current means of heating in town
 - the status of plans for gas grid expansion (and whether alternative options are taken into account)
 - average bills people are paying for heating
- link to questionnaire:
<https://docs.google.com/forms/d/1Vv6uect4mesmmuF3nFLTOD2YFlwd8Xu1LFdPsyisn44/edit>
- sent to 40 towns, 7 responses (after 45 days, one reminder).

Only one of the respondents uses biomass, in amount of 20%

Administrative unit	Population	Biomass installed power in the county (MW/h)*	Biomass used for centralized thermal energy	Wood volume per county	Production of cereals and seeds in 2018
Bistrița	78.877,00	N/A	0%	34.000 cm	203.171 t
Brașov	237.589,00	N/A	0%	50.000 cm	150.898 t
Buzău	103.481,00	22.620	20%	180.000 cm	982.891 t
Constanța	263.707,00	N/A	0%	65.000 cm	1.825.187 t
Drobeta-Turnu Severin	79.865,00	N/A	0%	230.000 cm	670.719 t
Galați	217.851,00	0,527	0%	47.000 cm	883.130 t
Tulcea	65.624,00	N/A	0%	225.000 cm	951.307 t

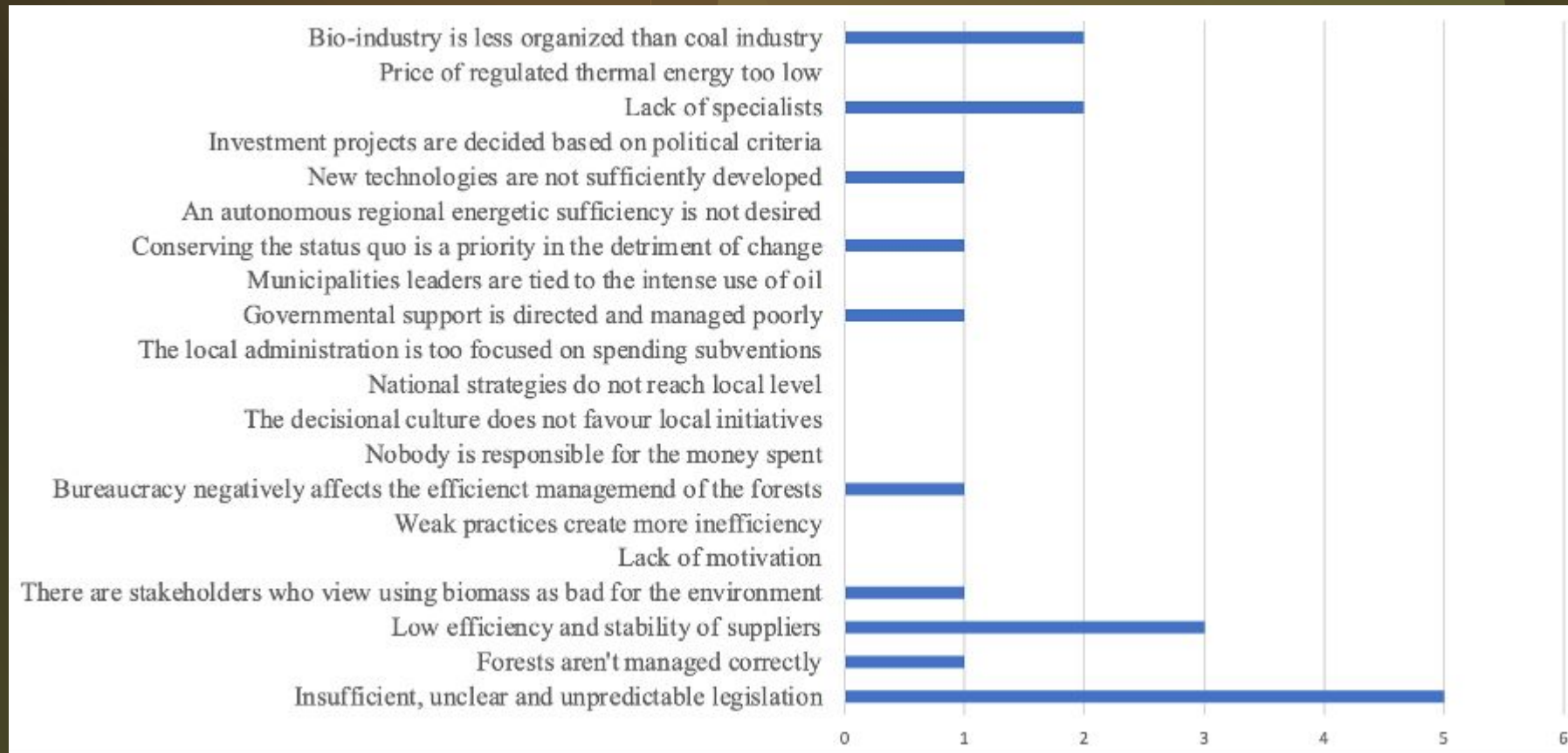
Subventions for thermal energy sometimes exceed the nr of households connected to the central heating system

Administrative unit	Budget	Nr of served households	Nr of households which receive support for heating	Other forms of support for vulnerable consumers
Bistrița	416,005,910	0	1300	As per law 266/2021 compensation for gas/electricity bills; support with money for wood
Brașov	N/A	5384	1418	Supplementary heating energy
Buzău	569,941,500	3900	3900	None
Constanța	1,148,864,000	28630	28630	Heating subsidy from the state budget
Drobeta-Turnu Severin	427,589,330	24920	1055	As per law 266/2021
Galați	980,106,150	5933	14081	3000 lei through council decision
Tulcea	342,264,000	7355	903	None

Solar energy represents the most attractive RES, even when forestry fund is available

UAT	Considered biomass for thermal energy	Other renewable energy sources used/ considering using?	Available nr of forest ha
Bistrița	No	Solar energy	3.134,01
Brașov	Yes	Solar energy	0
Buzău	Yes	Mixt: solar and hydro power	177
Constanța	Yes	Solar energy	0
Drobeta-Turnu Severin	No	Solar energy	0
Galați	No	Solar energy	0
Tulcea	Yes	Wind energy	2,8

Insufficient, unclear and unpredictable legislation is the main challenge for biomass investment



Challenges according to stakeholders

- tough certification legislation
- traceability criteria makes certification more difficult
- lack of forest roads
- controversial perception