

SUMMARY OF THE RESEARCH ON HEATING PRACTISES IN THE RESIDENTIAL SECTOR OF ALBANIA

Single family houses, which include residential houses and buildings with up to 2 separate apartments constitute more than half (57%) of the housing stock in Albania; the remaining are mostly collective housing buildings, i.e. buildings with 3 or more apartments (42%). In terms of their age, most were built between 1991-2013 (37%) and 1971-1990 (35%). The newer apartments, built after 2013, constitute 8% of the stock. Average **living area of households in Albania is 96.8m²**. In terms of their insulation, **11% of respondents have claimed that do not have a finished facade**. Large majority of the population without facade (67%) are socially vulnerable¹, often unable to pay even for their usual necessary expenses.

Almost half of the households in Albania have **aluminum joinery (48%)**, while additional third have **multiple types (34%)** of joinery. Unlike the rest of the region, **wooden joinery (15%)** is much less present. Although citizens of Albania are generally satisfied with the quality of their joinery, with 30% being very satisfied and 43% being mostly satisfied, **14% remains dissatisfied**. However, there are some important exceptions. Single parent (28%) and single households (26%) are in general far more often dissatisfied with the quality of their joinery than citizens on average.

The main heating appliance used by almost half of the households in Albania is a **wood or coal stove (48%)**. **Air-conditioning**, which serves as the main heating appliance in every fourth household (**25%**), comes second. Also used, but to lesser degree are quartz heaters (11%), gas heaters (10%), fan heaters (1%) and district heating via heating plant (1%). However, there are some differences in relation to the types of settlements in which people reside. The wood or coal stoves are much more dominant in rural (76%) than in urban areas (26%). In addition, multigenerational families (61%) and socially vulnerable households (54%) use these devices more frequently. **Large majority of the heating devices (79%) are newer**, meaning not older than 10 years. The same percent of households in Albania **uses a single appliance for heating (79%)**, while one fifth (20%) uses an additional device for providing extra heat.

Despite air-condition being a very popular device for heating in Albania, almost **two thirds of households (64%) do not have them at all**. On the other hand, it is used both for cooling and heating by 30% of households, while additional 4% use it only for cooling and 2% only for heating. In regard to cooking, **23% of the households use the same appliance both for heating and cooking**. Such practice is more frequent in rural (32%) than in urban areas (15%), but also in multigenerational families (31%) than other types of households. Gas and electricity are most dominantly used energy sources for cooking, alone and in combination with other fuels, while wood is used comparatively less.

In Albania, only 12% of households are able to maintain equal heating in several rooms in the household. **Majority of households (53%) heats only the rooms in which the residents spend most of their time**, and one third (33%) heats only a single room. Unable to afford heating at all is 2% of households. The practice of heating only a single room is far more frequent with multigenerational households (40%), and

¹ "Socially vulnerable" are referred to as citizens who thinking about their household's total income find it "very difficult" or difficult" to make ends meet, namely, to pay for its usual necessary expenses. This is 51% of all respondents.

provides a testament to the degree of energy poverty in which such households live in. Despite heating only a fraction of the household, **majority of the respondents in Albania are mostly (35%) and very (25%) satisfied with their quality of heating**, while 19% are dissatisfied. Men and women are inherently different in terms of their energy related and heat related needs. Thus, it should come as no surprise that women (23%) are much more often dissatisfied with the quality of heating in their household than men (15%). Furthermore, urban population (23%) is more dissatisfied with their heating than rural one (14%), as well as socially disadvantaged, single households (28%) and socially vulnerable (25%). **The quality of air** is perceived by respondents in Albania as mostly (41%) and very (28%) satisfying, while for 12% it is dissatisfying.

The **most affordable energy source for heating**, in opinion of citizens of Albania, are **wood (51%), gas (26%) and electricity (15%)**. Wood is widely used in Albania, with more **than half of the households (51%) consuming it**. It should be kept in mind that households in rural areas (80%) use it much more frequently than households in urban areas (30%). Despite wide consumption, the large majority of wood burned is inadequately dried, which leads to greater air-pollution, worsening public health and decreased thermal comfort. Among the households which use firewood, **46% have not acquired it for the upcoming heating season by the end of August 2021**. In addition, **almost half of the respondents (48%) with experience of burning wood have shown insufficient knowledge in regard to what type of firewood should be used**. When asked about the best type of firewood for consumption, these citizens stated that it is wood dried for 2-3 months after cutting (30%), dried for 2-3 weeks after cutting (2%), fresh (2%) or that they do not know (14%). **The correct answers given by 52% of the respondents** were wood dried for more than 6 months (26%) and dry wood, which was dried for more than a year (26%).

When it comes to willingness to replace their current heating appliance, **most of the respondents (68%) are opposed to such idea**. The main reasons they stated are that **their current appliance heats well (41%)** and that they **could not afford replacement (23%)**. On the other hand, **29% would be interested in replacing** their main heating appliance. The most frequent reasons mentioned are that the appliance **does not provide adequate heat (34%)**, it requires **too much work to operate (22%)**, it **pollutes the air (19%)** and its **operating costs are too big (18%)**. Out of citizens interested in replacing their device, **half (50%) would pursue replacement only if they were to receive financial assistance**.

If there was an option to take out a loan in order to replace the heating device in the household, **large majority of the citizens of Albania (90%) would not be interested**. While 77% would oppose to taking out this loan in general, 13% would not want because they see their appliances as efficient enough. **Only 7% would be interested in such a loan**. Single partners are an exception in this regard, as 17% of them would be interested in replacing their heating device through a loan.

When choosing their heating device, citizens of Albania remain very constrained by inadequate financial resources. In fact, if they were forced to change their heating appliance, **more than a third (35%) would not be able to afford a new one at all**. **The most frequently stated price ranges** are also the lowest ones: **up to 300 Euros (23%), from 301 to 500 Euros (24%) and from 501 to 1000 Euros (9%)**. More expensive appliances would be accessible to only 3% of the households. The groups which are at the biggest risk in this regard are members of single parent (67%) and single (51%) households, as well as socially vulnerable in general (50%), as majority of whom are unable to afford a new device. Due to

insufficient financial resources, citizens and especially energy poor require financial assistance in order to replace their inefficient heating devices. If a system of support were to be established, it should mainly target users of devices which burn solid fuels such as coal and wood in order to alleviate the negative effects of their consumption discussed earlier. But also because the energy poor tend to use these devices more frequently. For a such supporting schemes to function, obsolete devices need to be effectively removed from use and the market. Hence, the households which would receive financial assistance were to be required to give up on their old devices. However, such an initiative would not be so popular in Albania as **less than half (44%) of households that use solid fuels would agree to receive financial assistance and replace their heating system, if the condition was to give up their old device.**

Citizens of Albania are not particularly familiar with some of advanced heating technologies. When asked about their familiarity with the **inverter air-conditioning**, **54%** had little to no knowledge about them, while in case of **heat pumps (81%)** the percentage was even higher. Socially vulnerable are even less familiar with both inverter air-conditioning (59%) and heat pumps (84%). Despite more than half of population not knowing about **inverter air-conditioning**, this device is the **most popular (19%) alternative for replacing the current device for heating among citizens in Albania.** It is followed by **district heating via heating plant (11%), modern wood or coal stoves and pellet boilers (both 10%)** and **modern wood or coal boilers (7%)**. Their selection stayed roughly the same even when asked to choose any heating system, regardless of the cost.

The greatest amount of **trust**, when it comes to influencing their decision about potential appliance replacement, citizens of Albania have in word of mouth, i.e. **family and friends (65%),** who are followed by doctors (25%), appliance manufacturers and vendors (19%), media (7%) and politicians from the Government and the Assembly (5%). Defining clear rules for these groups is to be crucial for designing successful replacement schemes. No other information illustrates the need for replacement better than the fact that **more than a quarter (28%) of households have never changed their main heating device.** The households which did introduce a new device, in most cases **sold their previous device to scrap metal (43%) or kept it (20%).** Of those who kept them, 32% continues to use them occasionally, which highlights the need to confiscate the old devices in case of subsidizing replacements. What seems to be missing from the offer of the vendors in the Albanian market are possibilities to replace the old devices with new ones with discount.

Exposure to particulate matter and other forms of air pollution in households and in the open can have adverse health effects. Large contributor to air pollution, but mainly particulate matter in the region are individual heaters on solid fuels. While the society as a whole is exposed to negative health effects of ambient air pollution, the members of households which burn solid fuels are even more vulnerable due to internal pollution. Average time spent daily by members of households which burn solid fuels in a room with the heating device is **5.4 hours.** At the same time, **17% of them spends more than 8 hours** in a room with a heater and **more than a half (56%) between 4 and 8 hours per day.** Almost a quarter of responders (24%) spends between 1 and 4 hours, while up to one hour only 3%. **In 47% of households which use solid fuels, family members sleep in a room with these heaters.** This is a more often practice in single households (67%) and multigenerational households (54%). Very small percentage of members of these households does not ventilate their rooms orderly, on contrast to 70% which does so often.



More than half (51%), of respondents do not believe that their heating practices can harm their health and health of their family members. In addition, 18% believes it has only a negligible impact. Moderate and severe impact are recognized by 18% and 12% of respondents respectively. Despite using solid fuels for heating, much more frequently, the citizens in rural areas (57%) denounce the negative effects of their heating practices more often than the citizens in urban areas (47%). In terms of advice received, **only 10% of the citizens have claimed to have gotten some sort of warning from their doctor** about possible adverse effects of their heating practices to their health. Citizens of Albania perceive **diesel (34%) and coal (31%) as the greatest polluters.** On the other hand, wood is perceived as the fuel that pollutes the least (4%). **Majority of respondents (96%) have never been in a situation to burn plastic, rubber and fabric for heating purposes** and most of the population (89%) is aware of the severe consequences it can have on health.