

# ENERGY POVERTY AND CLIMATE CHANGE



RawMaterials  
ACADEMY



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# ENERGY POVERTY AROUND THE GLOBE

Energy poverty is defined as a situation in which households are not able to obtain dignified living conditions and energy services at an affordable cost or to adequately heat their homes.

Individuals do not have the possibility to provide adequate and proper heating conditions as recommended by the World Health Organisation, the proper conditions refer to 21 degrees Celsius in the living rooms and 18 in other rooms

Given the large number of people lacking basic energy services, an important question is whether providing universal access to modern energy could significantly increase energy demand and associated CO<sub>2</sub> emissions. One of the outcomes of lack of energy access is the continued dependence on traditional fuels like fuel wood and cattle dung. The inefficient production and use of traditional biomass based energy sources are posing serious economic, environmental, and health threat. Thus, lack of access to modern energy carriers has implications for economic, social and environmental well being of humanity. The implications could be in the form of income poverty, primitive lifestyles, loss of dignity, physical hardship, health hazards, lack of employment and polluted environment (climate change).

## ENERGY POVERTY AND THE RELATION WITH CLIMATE CHANGE

The production and use of energy correspond to about 70% of the emissions of greenhouse gases on the planet. As such, planning the expansion of access to electricity and its use intrinsically linked to poverty and equity, and also to global climate change.

Research shows that the effects of climate change are becoming more intense and accelerated, thus global warming could be significantly greater than projected, with more severe and irreversible consequences.

The International Energy Agency (2016) estimates that 2.7 billion people use firewood and other solid fuels for cooking and kerosene for lighting, creating an environment contaminated by indoor emissions, which are linked to about 3.5 million deaths per year (This fact is highly observed in developing countries as it was said). Communities and families living in poverty are particularly vulnerable to energy poverty.

They tend to have a more limited capacity to adapt, and they rely to a greater degree on resources that are climate sensitive, such as local supplies of water and food. In regions in which extreme climate events become more intense and/or more frequent, the economic and social costs of these events will rise, becoming substantial in the most directly affected areas. The impacts of climate change could create social, economic, and technological barriers for most developing countries, adding to the current pressures on natural resources and the environment. Moreover, they are associated with rapid and unplanned urbanisation, industrialisation, and economic development.

## ENERGY POVERTY ISSUES IN EUROPE

Energy poverty is defined officially only in five EU member states - France, Ireland, the UK, Slovakia and Cyprus. It has been defined unofficially in Austria, Italy and Malta.

Ireland - a poor household that spends more than 10% of their disposable income on energy services in the home.

Among the countries with the highest percentage of the population that cannot provide adequate heat at residential capacities are coastal countries, with very hot climate, such as Greece, Cyprus, Portugal, and Bulgaria, while the coldest countries in Europe demonstrate high performance globally - such as Norway, Sweden, Iceland, Finland - and at the same time they can be described with higher electricity prices than the rest of Europe.

### Some statistics now....

Overall, 6.6% of households across EU28 (or 33.8 million<sup>204</sup>) were unable to keep up to date with utility bills in 2018, including energy bill payments, and so were at risk of experiencing disconnection of supply. Meanwhile, 7.3% of EU28 households (equivalent to 37.4 million) experienced cold homes. Moving to the expenditure-based indicators reveals an intensified situation of energy poverty, with 16.2% of households across the EU28 members (82.3 million<sup>205</sup>) spending more than twice the national median share on energy expenditure in income (2M), meaning they are likely to face budgetary pressures and may need to cut back on other essential spending. On the other hand, an estimated 14.6% of EU households (74.2 million) had energy expenditure below half the national median (M/2), in other words abnormally low.

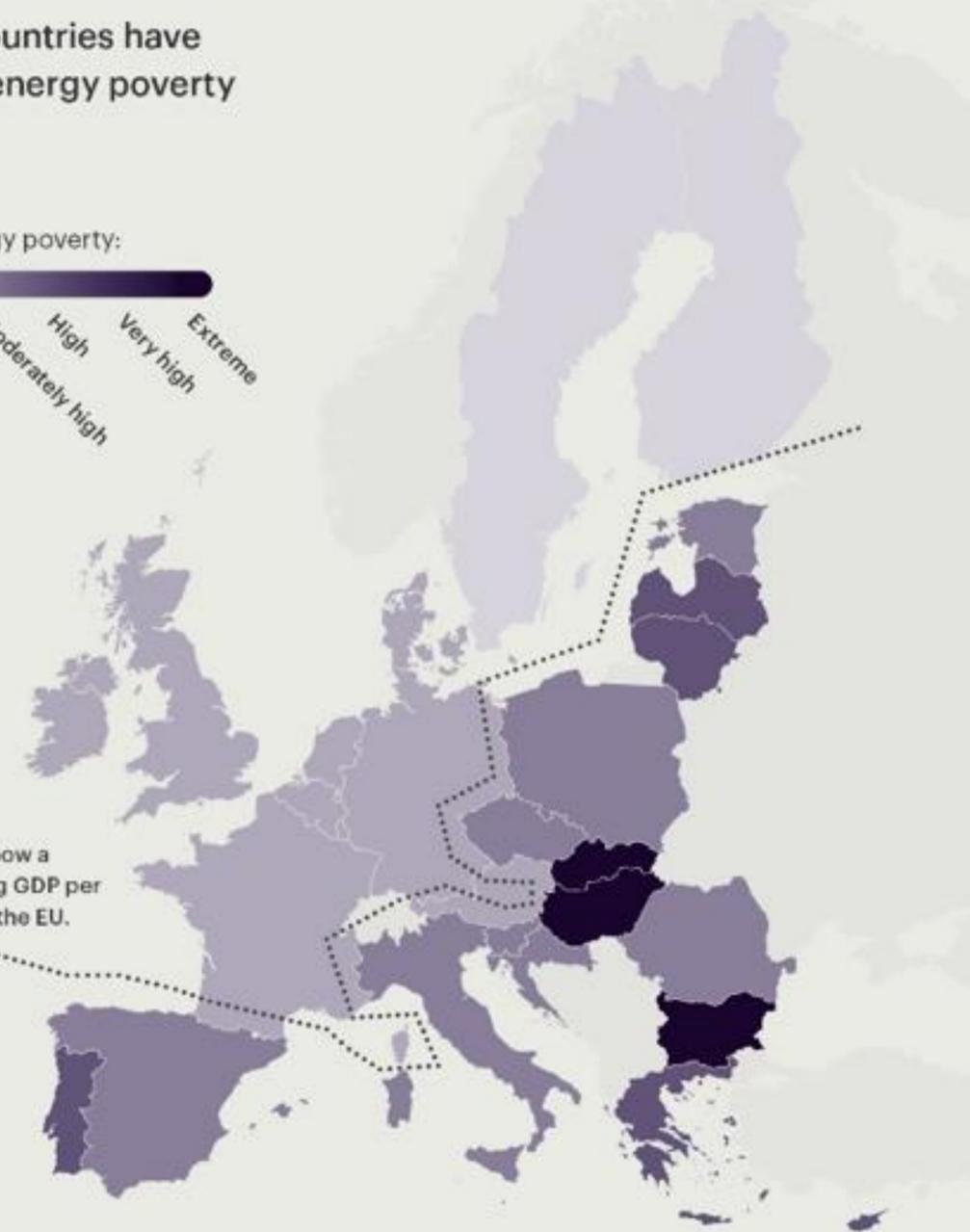
In terms of spatial distributions, the two consensual indicators (arrears, and inability to keep warm) are particularly high within Eastern, Central and Southern Europe, with **Bulgaria** and **Greece** exhibiting the highest rates of energy poverty according to these indicators (30.1 and 33.7% and 35.6 and 22.7% respectively). By comparison, we see less spatial variance with the two expenditure indicators, although in general, the rates of energy poverty are slightly higher within parts of Northern and Western Europe.

EDEPI scores show the majority of EU countries have 'moderately high' to 'extreme' levels of energy poverty among low-income households

Country	EDEPI Score
1 Sweden	95.4
2 Finland	85.6
3 Denmark	81.9
4 Austria	81.2
5 Luxembourg	80.9
6 United Kingdom	80.5
7 Ireland	79.3
8 Netherlands	78.1
9 Germany	75.8
10 France	73.3
11 Belgium	67.6
12 Spain	64.7
13 Romania	64.2
14 Poland	61.0
15 Czech Republic	60.2
16 Croatia	58.8
17 Malta	58.6
18 Estonia	58.0
19 Italy	52.1
20 Slovenia	51.3
21 Cyprus	46.2
22 Greece	43.7
23 Lithuania	42.4
24 Latvia	40.0
25 Portugal	36.7
26 Slovakia	8.4
27 Hungary	6.2
28 Bulgaria	0.7

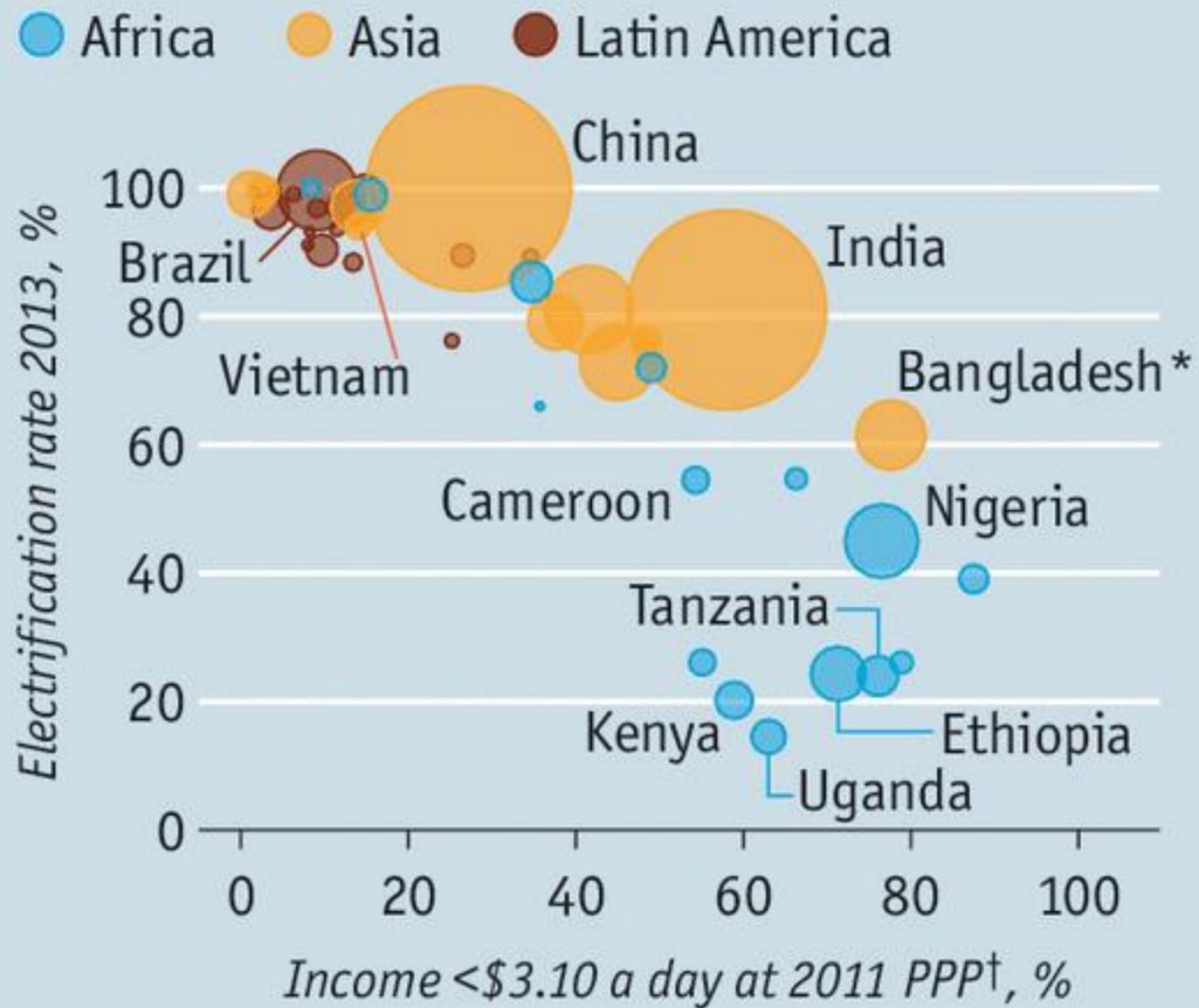


EDEPI scores show a divide reflecting GDP per capita levels in the EU.

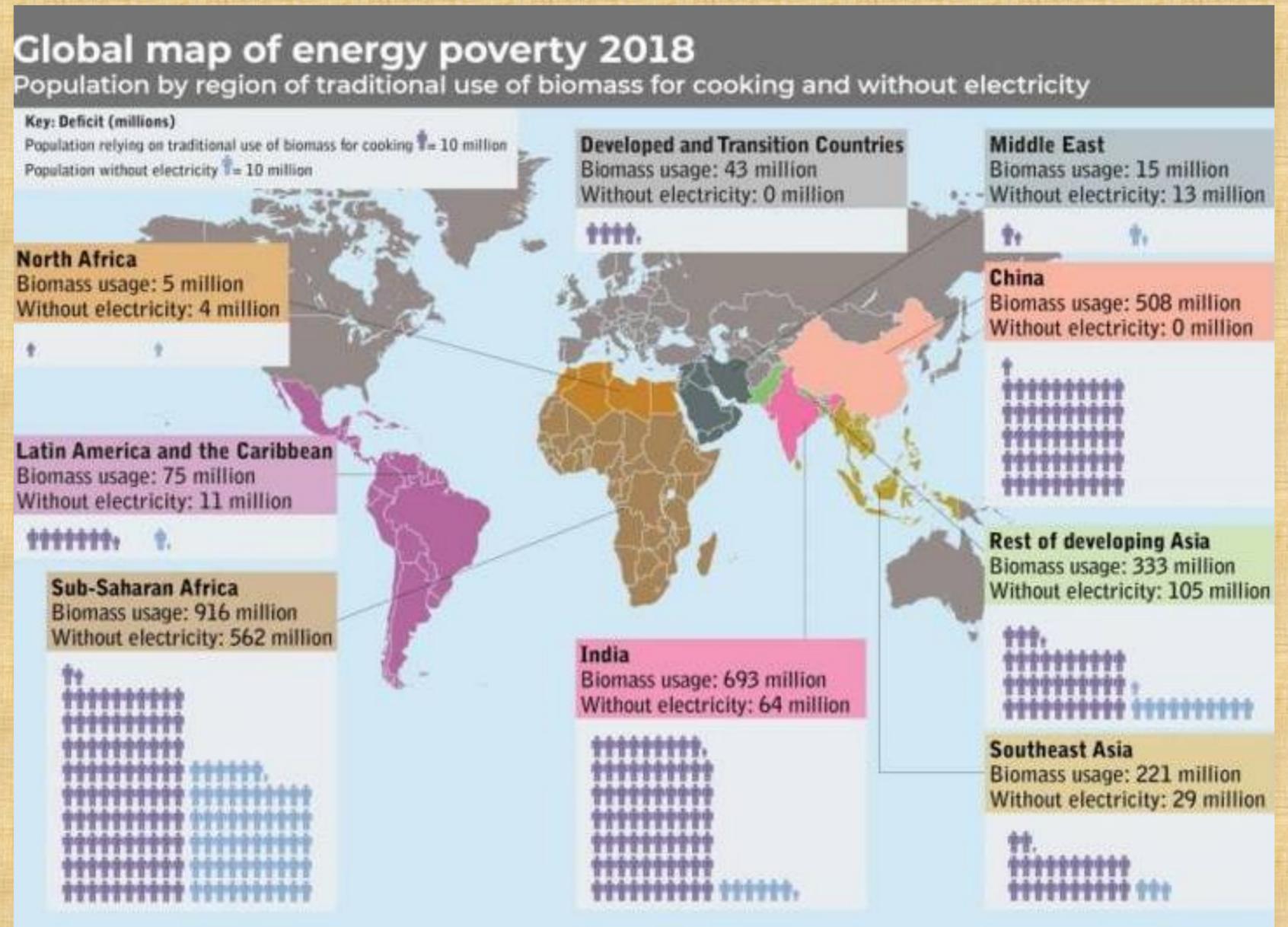


Source: OpenExp, 2019.

Caption



POVERTY AND ELECTRICITY ACCESS IN SELECTED COUNTRIES, CIRCLES SIZED BY TOTAL POPULATION



ENERGY POVERTY MAP 2018