

# Cooling for All

Energy Efficiency Training Week  
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**Sustainable Energy for All (SEforALL) is an International Organization working with leaders in government, the private sector and civil society to drive further, faster action toward achievement of Sustainable Development Goal 7, which calls for universal access to sustainable energy by 2030, and the Paris Climate Agreement, which calls for reducing greenhouse gas emissions to limit climate warming to below 2 degrees Celsius**

As populations grow, and temperatures reach new records, the health and economic risks associated with a lack of access to sustainable cooling is higher than ever before

Achieving **Cooling for All** means deploying the most efficient current technology as well as developing new, innovative, efficient solutions for those most in need

- *Rachel Kyte, Special Representative of the U.N.  
Secretary General for Sustainable Energy for All and CEO  
of SEforALL*

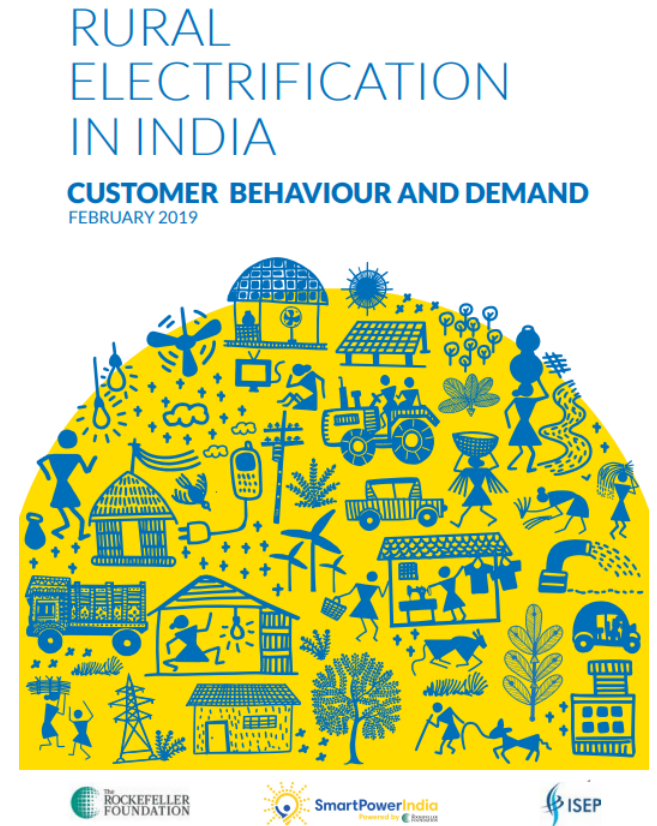


# Poll

**In a typical Indian rural village, how much of total electricity use is dedicated to appliances for air circulation (e.g. ceiling/table fans, coolers)?**

- A) 10%**
- B) 31%**
- C) 57%**

Source: Rockefeller Foundation, Rural Electrification in India, 2019





# Access to cooling risk

## Buildings and Urban Environments



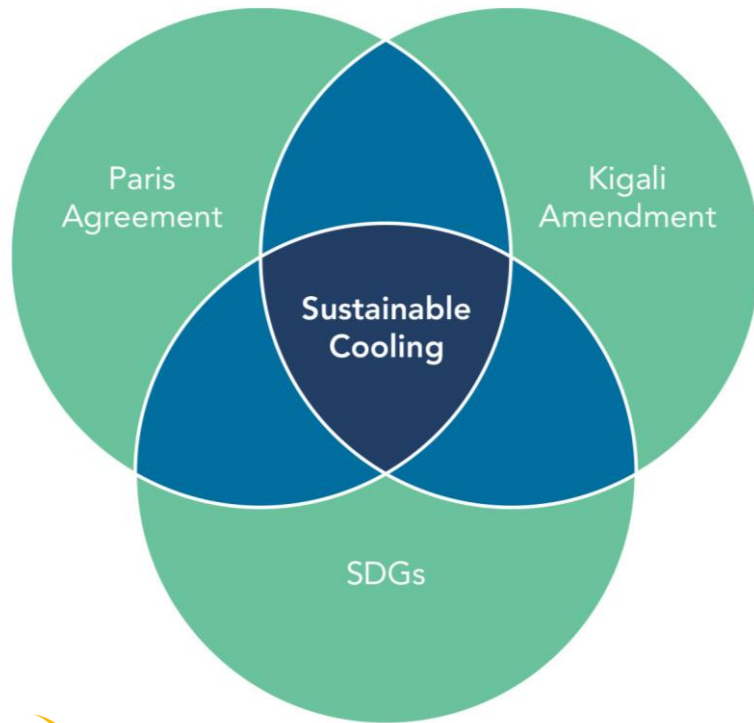
## Agricultural Cold Chains



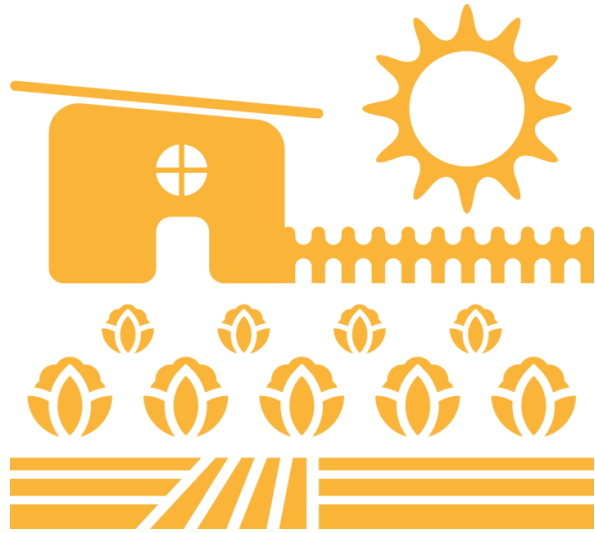
## Medical Cold Chains



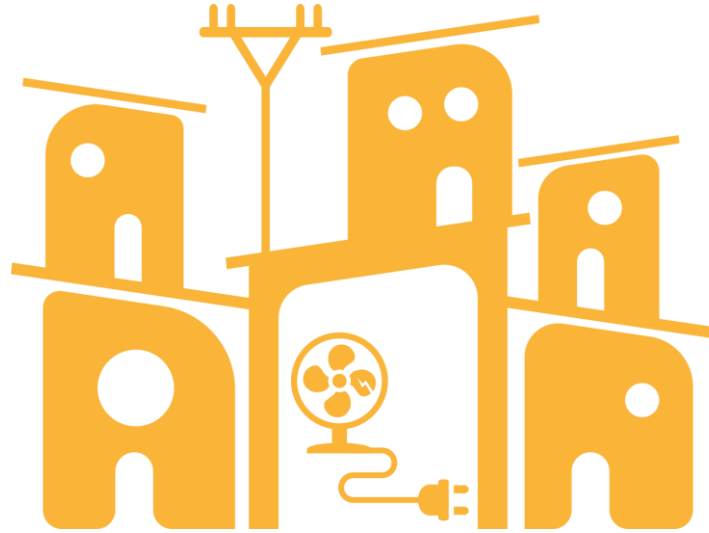
# Cooling at the intercept of the Kigali Amendment, Paris Agreement and SDGs



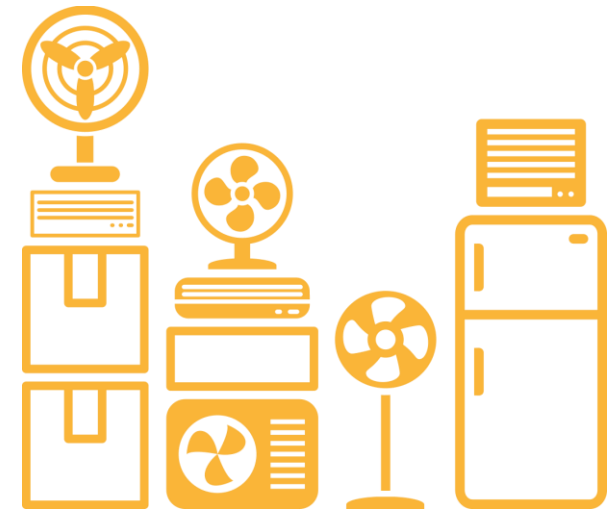
# Three population groups are at risk



**Rural poor**  
**470 million**  
Electricity access  
Poverty



**Slum dwellers**  
**630 million**  
Dwelling quality



**Carbon captives**  
**2.3 billion**  
Income

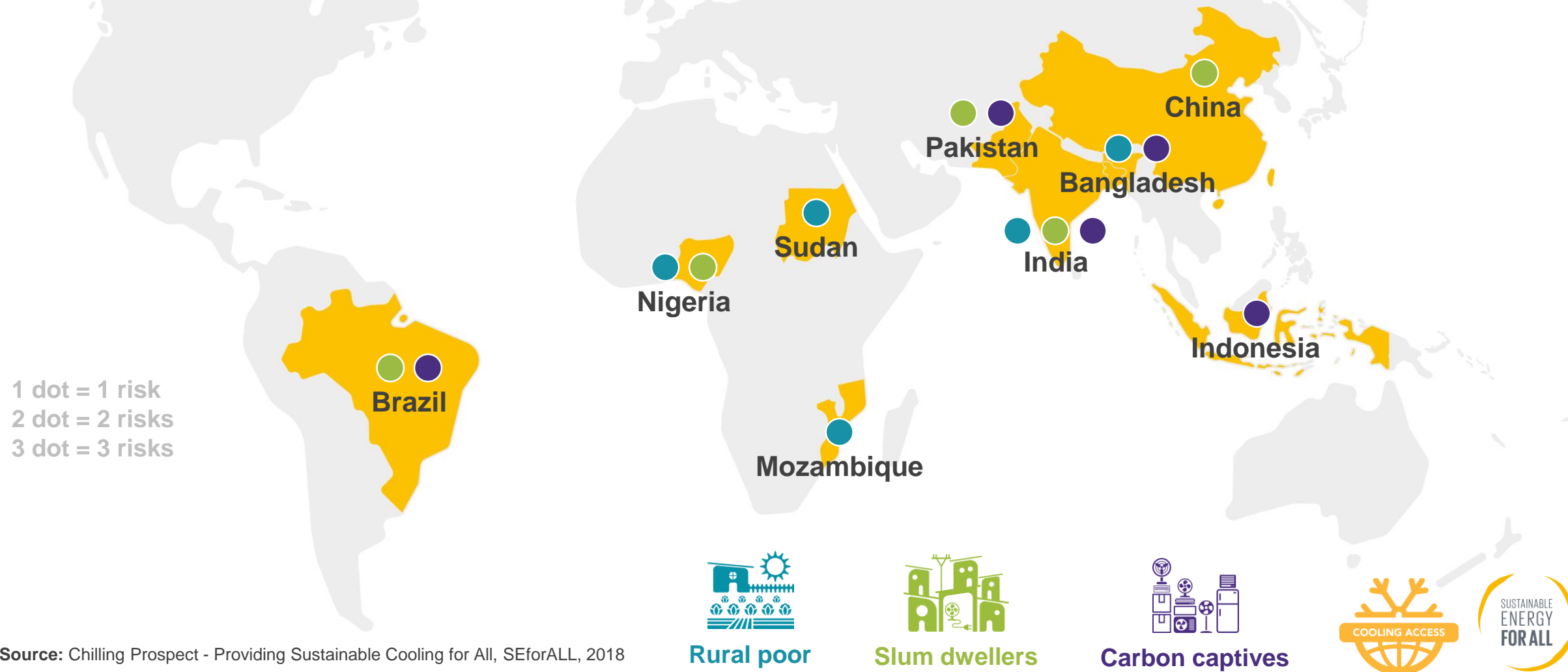
1.1bn





**Governments need to understand who is most at risk and must develop national cooling plans that address the needs of vulnerable people**

1 dot = 1 risk  
2 dot = 2 risks  
3 dot = 3 risks



Source: Chilling Prospect - Providing Sustainable Cooling for All, SEforALL, 2018

# Spectrum of risks in high temperature environments



## High risk

- No access to electricity
- Income below poverty line
- Poor ventilation and construction
- No access to refrigeration for food
- Farmers lack access to controlled cold chains
- Vaccines exposed to high temperatures

## Medium risk

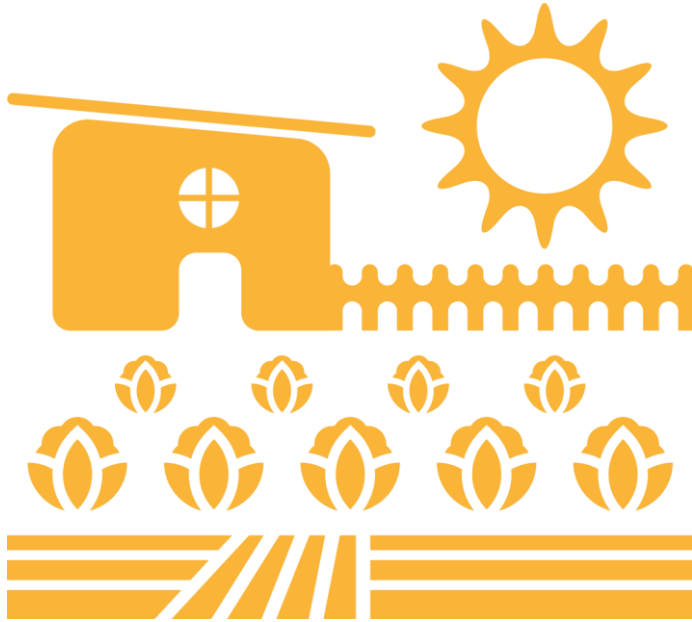
- Access to intermittent electricity
- Lower income levels
- Buildings constructed to older standards, ability to run a fan
- Farmers have access to intermittently reliable cold chains
- Vaccines may have exposure to occasional high temperature

## Low risk

- Full and stable access to electricity
- Middle income and higher
- Well built home, can include insulation, passive design, air conditioning
- Food is refrigerated reliably
- Farmers' goods and vaccines have well controlled cold chains



# Rural poor



470 million people who don't have good electricity and have access to reliable cold chains to sell their goods.

## 10 countries with largest Rural Poor population

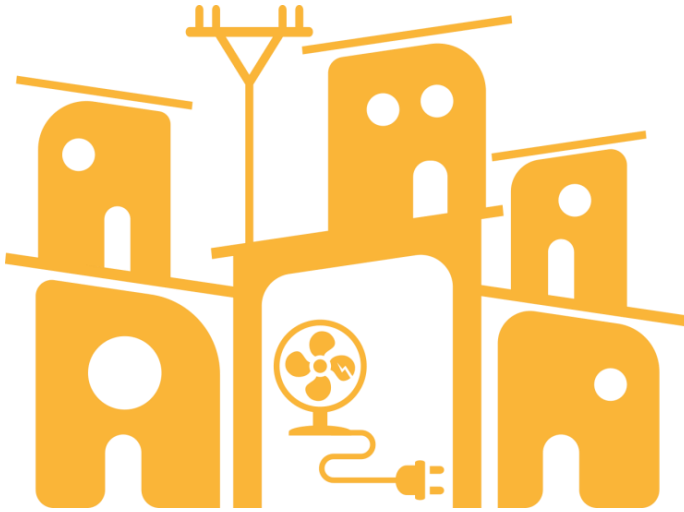
- |               |           |
|---------------|-----------|
| 1. India      | 6. Niger  |
| 2. Nigeria    | 7. Malawi |
| 3. Bangladesh | 8. Uganda |
| 4. Sudan      | 9. Angola |
| 5. Mozambique | 10. Yemen |

## Key solutions

**Solar power / Decentralized solutions can help rural people run fans and fridges.**

# Slum dwellers

630 million people. Children and adults who may have only unreliable access to electricity.



## 10 countries with largest Slum dwellers population

- |             |                |
|-------------|----------------|
| 1. China    | 6. Bangladesh  |
| 2. India    | 7. Indonesia   |
| 3. Nigeria  | 8. Philippines |
| 4. Brazil   | 9. Sudan       |
| 5. Pakistan | 10. Iraq       |

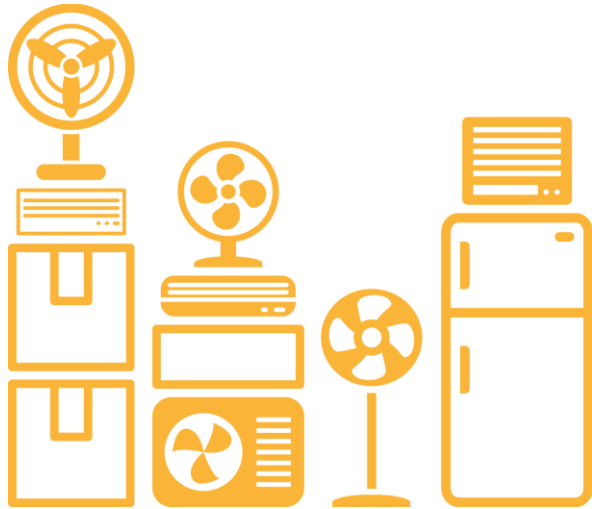
## Key solutions

Simple solutions like cool roofs and walls can keep temperatures down.



# Carbon captives

2.3 billion people who may soon be able to afford an air conditioning system or a fridge but only with inefficient available options.



## 10 countries with largest Carbon Captives population

- |               |                |
|---------------|----------------|
| 1. India      | 6. Vietnam     |
| 2. Indonesia  | 7. Philippines |
| 3. Pakistan   | 8. Iran        |
| 4. Bangladesh | 9. Egypt       |
| 5. Brazil     | 10. Nigeria    |

## Key solution

**Performance standards ensure they have efficient, affordable appliances.**

# ACCESS TO COOLING | **NEXT STEPS**



**All countries produce more granular data to measure access gaps**



**Finance and technical assistance for access to cooling solutions, including through National Cooling Plans**



**Engage industry and finance to scale-up affordable and sustainable technologies**

## **Cooling for All**

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