

05

Conclusion & Recommendations



Three generations of Indian women looking at all of room ACs with India Star Label. Credit: Shutterstock

5.1 Conclusion

Energy-efficient appliances are proven, cost-effective climate solutions that enable governments to limit global warming, improve resilience, and achieve their sustainable development objectives. But the global community has not taken full advantage of this opportunity. Emissions from inefficient appliances are projected to significantly surpass the IEA's Net Zero by 2050 targets, jeopardizing efforts to achieve the goals of the Paris Climate Agreement. Meanwhile, billions of people around the world still lack access to appliances that are increasingly vital as temperatures rise, hindering a just energy transition.

Fortunately, a clear pathway to planet- and people-friendly appliances exists. CLASP has identified the ten appliances that should form the basis of an urgent global push—the Net Zero Heroes—and provided ambitious efficiency targets for each.

The Net Zero Heroes include LED lighting, air conditioners, comfort fans, refrigerator-freezers, heat pump space heaters, heat pump water heaters,

electric motors, electric cookers, televisions, and solar water pumps. Chosen for their climate mitigation potential, they also offer significant resilience benefits, from cooling to information access, and are closely linked to a number of SDGs.

Getting appliances on track to meet global net zero goals will require governments to push harder on efficiency than ever before. CLASP's new targets for the Net Zero Heroes are ambitious, yet achievable, but only if swift action is taken. Many of these goals significantly exceed current global benchmarks, which are not strong enough to prevent an overshoot of the mid-century net zero goal even if they were universally adopted. As a result, proven policies, programs, and initiatives will need to scale at unprecedented rates.

By taking immediate action to focus narrowly on Net Zero Hero targets and align efforts across nations and sectors, we can achieve rapid transformation of the appliance sector, creating a better world for all.



Jemaa el-Fnaa Market in Morocco at night fall. Credit: Shutterstock

5.2 Recommendations

CLASP calls on all actors to align their efforts with the Net Zero Hero targets and do their part to ensure initiatives for Net Zero Heroes are funded, implemented, and scaled at a rate never seen before. Concerted action is required. Achieving the targets for all Net Zero Heroes will require governments, manufacturers, and others to act with speed and focus. In many cases, governments and others may face trade-offs between actions for the Net Zero Heroes and other appliance efficiency solutions. With little time left to meet Net Zero Hero targets (see Table 6), it is imperative to prioritize Net Zero Hero targets even if it leads to a delay in other solutions.

Improved efficiency can also lead to greater climate resilience and adaptation by improving affordability, thereby bringing appliances within reach of more people. To support a just energy transition, CLASP also advocates for broadening the climate adaptation and energy access agendas to include and prioritize appliances. This would require acknowledging the critical role of appliances in climate-resilient development at global climate forums and expanding the focus of the existing energy access agenda, including access targets for appliances and equipment along with new connections and kilowatt hours (kWh). Additional analysis is needed to identify, assess, and calibrate appliance access goals and map the pathways to closing existing access gaps.

GOVERNMENTS

- **Increase the stringency of appliance policies and the frequency of revision at the speed and scale needed to achieve Net Zero Hero Targets.** Appliance policies such as minimum energy performance standards (MEPS) and energy labels are critical tools. Adopting the levels recommended in United for Efficiency (U4E)'s [Model Regulation Guidelines](#) and CLASP's [World's Best MEPS](#) is a good start, but will not be enough. Governments will have to redouble their efforts and go much further to reach CLASP's Net Zero Hero targets, outlined in Table 6.
- **Bring other measures to bear.** CLASP recommends a suite of policies and market development programs that work to clear the market of the most inefficient products (via MEPS), promote the adoption of efficient appliances (via comparative labels, financing and financial incentives, bulk procurement, and awareness-raising efforts), and drive technology innovation (via research and development funding, awards and competitions, and endorsement labels). Governments will need an “all of the above” approach to drive efficiency improvements and electrification at the speed and scale necessary to achieve the targets in Table 6.
- **Plan, track, and measure.** Develop roadmaps with specific, time-bound targets for appliance efficiency improvement and enhanced access to efficient appliances. Parties to the United Nations Framework Convention on Climate Change (UNFCCC) should incorporate appliance efficiency into their Nationally Determined Contributions (NDCs) and Net Zero Roadmaps. Countries with significant energy access deficits should integrate access to efficient appliances into their national electrification plans, clean cooking strategies, and sustainable economic development plans. Regular data collection about appliance ownership and usage should be utilized to help governments track which interventions are supporting households and the marketplace, and inform additional action. Market surveillance should be used to confirm compliance with policies.
- **Maximize the multiple benefits of efficient appliances by taking an intersectional approach to designing ambitious plans and policies.** Appliance-focused measures can deliver important equity, health, economic, environmental, climate, and energy security benefits simultaneously. Policies designed with only one of these as a goal risk missing out on the others. Stakeholders will need to

come together across sectors (e.g., health, development, agriculture, and environmental justice) to set goals consistent with the targets in Table 6 and design policies and programs to reach them.

- **Collaborate internationally to stop the dumping of inefficient appliances.** Regional harmonization of standards and cooperation on market surveillance across borders can help block substandard appliances. These efforts benefit all countries in the region. Appliance-exporting countries should go further and discourage the production of all appliances that do not meet domestic efficiency, refrigerant, or

other requirements. Uniform guidance across importing and exporting markets can send clear signals to manufacturers that inefficient appliances are no longer acceptable.

- **Expand the capacity of local manufacturers to produce efficient appliances.** In some countries, training and technology transfer will be needed to ensure Net Zero Heroes can be manufactured domestically. Where appliance manufacturing provides jobs, such measures could be indispensable to obtaining broad support for appliance policies and effecting a just energy transition.

MANUFACTURERS & DISTRIBUTORS

- **Produce only appliances and equipment that meet Net Zero Hero targets and avoid dumping low quality products in lower income markets.** Appliance manufacturers should stop producing appliances that do not meet minimum standards in their countries of origin and exporting them to markets that have less stringent standards. They should instead use their influence to promote the sale of more efficient appliances across the globe. For greater impact, manufacturers can join forces through industry associations and global initiatives such as U4E, EP100, and the We Mean Business Coalition. Such efforts can help companies achieve their own NZE and other climate targets.
- **Steer consumers toward the Net Zero Heroes.** Distributors' stocking decisions have enormous influence on what consumers buy. Distributors also influence how appliances are labeled and presented in stores and online. Appliance distributors should work in concert with manufacturers and governments to shift consumers' purchases toward high-efficiency appliances and accelerate the phase-out of fossil-fueled appliances.



TVs on display in shop. Credit: Shutterstock

DONORS & FINANCIAL INSTITUTIONS

- **Increase funding for appliance efficiency and access programs.** All actors from both the public and private sectors will need to do more to accelerate the pace of progress. Energy supply has benefitted from subsidies for many years. Financial support on the demand side will be needed for everything from appliance policy development and technology transfer to market surveillance and consumer financing. Efficient appliances sit squarely at the nexus of climate mitigation and adaptation and can deliver benefits for people and the planet simultaneously. Appliance programs should be funded accordingly.
- **Leave no one behind.** Governments and development partners must deploy end-user subsidies and concessional financing to ensure everyone can access energy-efficient appliances, as a just energy transition demands. Consumer financing plays a critical role in lowering the first-cost barrier, especially for low-income consumers and those living beyond the reach of the electric grid. Stimulating demand for efficient appliances is just as important in rural electrification efforts as ensuring that the electricity supply is sufficient, reliable, and sustainable. Financing that enables rural households to purchase and operate good-quality appliances will lead to an increase in electricity demand, which in turn improves the economics of further investment in grid extension and distributed renewable energy.

CIVIL SOCIETY ORGANIZATIONS

- **Advocate for efficient, affordable appliances.** Efficient appliances deliver important benefits to consumers. Policymakers, manufacturers, and others need to know that these benefits matter to consumers, especially to low-income consumers who struggle most with high energy costs and low access to energy services.
- Consumer, energy, environmental, and health advocates must argue vigorously for ambitious, people-centered climate action and hold decision makers accountable for meeting the targets in Table 6.



Woman looking in fridge. Credit: Shutterstock