

In 2019, India experienced some of the hottest temperatures on record with future summer heat waves only predicted to get worse. With such intense heat stress on a billion and a half people, a massive surge for thermal comfort is inevitable. Although cooling technologies are becoming more efficient, unfortunately, many people still rely on older generations of technology. This issue is further exacerbated by a large number of informal and ill-trained Service Technicians. Considering climate change and all of its impacts, India needs to take leadership and be the champion of the cooling process.

Heat stress is one of the leading causes of mortality from environmental and natural factors in India and over the next few decades there will be an eleven fold demand for air conditioners and other coolant technologies. India is a rapidly developing country and although half of its population is without modern energy, these statistics will change drastically as the climate continues to warm.

Now, in order for India to become resilient to these rising changes, the critical factor relies on the Servicing Sector with the growing demand for installations, operations and maintenance of cooling systems. Figures from 2018 show that there are a total of 200,000 service technicians, with research conveying the numbers to grow ten times over. And these statistics do not account for the tens of thousands of technicians within the informal sector. For the reasons of necessary good servicing practices, energy savings with newer technology and refrigerant transitions, the entire Servicing Sector must be addressed.

Fortunately, over the last decade, India has spearheaded a renewable energy revolution. In 2008, India introduced its National Action Plan on Climate Change (NAPCC) which has ramped up its ambitions for climate mitigation. It has also become more cognisant of climate impacts, as a preferred country for projects under the Clean Development Mechanism (CDM), which was established by the Kyoto Protocol. Further with the Montreal Protocol 2015, the India Cooling Action Plan (ICAP) was established that took a focus on the Coolant Sector.

However, two research studies conducted by CEEW have indicated several gaps within the Institutional Structure of the Servicing Sector as well as certain challenges that have inhibited better energy efficiency. One of the obstacles within their findings conveys the lack of training and skill development within both the formal and informal sectors. This can be seen mainly through the mismanagement of refrigerant gases. Moreover, technicians need to learn the proper handling and disposal of refrigerants as well as better management of recycling and reusing of the gases as opposed to direct release into the air. For this reason, there is an urgent need for policy makers and institutions to redevelop the skilling landscape throughout India to address this lack of uniformity in knowledge and skill among the Coolant Sector as the efficiency of equipment is largely dependent on their practice.

A second obstacle is within the formalization process. The idea behind the ICAP Act was to encourage service technicians to take up opportunities within the formal sector. However, this was on a voluntary basis and has been implemented at a snail's pace. Policy makers must enforce a legal requirement on these technicians as a means for professional advantage; as when it is mandatory, there is more often a strong incentive to comply as well as speed up the process.

Hence, the solution for India, although complex in nature, can be concentrated on two areas in the Service Sector. The first is with its Formalization, which would empower service technicians with employability skills to become part of formal sector enterprises: to contact them for regular up-skilling programmes and to enhance their learnings for better livelihood opportunities. This also includes the facilitation for access to different social security programmes, on-job insurance schemes, minimum wages as well as health insurance for the technicians and their families. In tandem, it would be imperative for Coolant & Refrigerant companies to participate in an incentive scheme for the public procurement of all servicing technicians.

The second focus for Policy Makers should be to institute a proper Certification structure for the entire Coolant Service Sector. There is a desperate urgency for consistent training that needs to include subjective indicators of competence and define the performance of technicians to continually meet standards. CEEW suggests specific criteria listed within a Qualification Pack (QP) that is maintained under National Occupational Standards (NOS). These NOS-QP's would be required for all technicians and incorporate a formal training on energy efficiency, including methods for its improvement, its relation with good maintenance practices, and methods and tools for measurement. This would be incorporated with a benchmark process through a National Skills Qualification Framework, which would evaluate the Technician. As a result, this certification system would play a huge role in formalising the sector and recognising technicians who already work in this field.

A third recommendation was suggested by CEEW, which places an effort for mass consumer awareness. Since resilience against extreme heat requires both individual and collective efforts, the required certification formalization would encourage the consumer to check for specific servicing practices.

We must treat climate change as a threat to our national (regional and global) security. With the growing heat problems and more access to better technologies, India's government and institutions must implement a Formalization structure and Certification process for the Coolant Sector as it brings many benefits to the servicing technicians, the environment, and for the millions seeking thermal comfort in our warming climate future. If diplomats and political leaders learn the lessons of past failures and strive to build action-oriented institutions, they could map a new geography for institutional leadership on climate change.