

Memorandum of Understanding and Support

Between

Your Company

and

Fairconditioning Programme (Fairconditioning)

*f*FAIR CONDITIONING

sponsored by the State of Geneva, Switzerland

Jointly convened by cBalance and Noe21

Towards being a Technology Adopter of the Fairconditioning Programme and to support and promote the Fairconditioning principles of Sustainable and Efficient Cooling throughout your organization

The 'Fairconditioning' Programme is fully funded and sponsored by the State of Geneva, Switzerland. It is a demand side management research, analysis, outreach and pilot implementation programme related to behavioural transformation and reduction of heat loads (cooling demands) and reduction of energy and GHG intensity to satisfy the remaining demand as efficiently as possible. The goals are to avoid power generation, to improve energy access and to lower GHG emissions for developing economies.

Introduction about **NOE21** and **cBalance** - the institutions that have created the Fairconditioning Program.



NOE21 is an independent association of public utility founded in 2003 and based in Geneva, whose mission is to identify, evaluate and promote solutions to climate change, with a constructive approach. Noé21 is a member of the Alliance for Climate, the European Office of Environment and Climate Action Network Europe CAN-E. Noé21 is accredited to the United Nations Framework Convention on Climate Change (UNFCCC).



cBalance is a knowledge-centric social enterprise that specializes in Sustainability Tool Building and Mitigation Strategy Development for integrating Carbon ERP into institutional process and commercial enterprises. It has been appointed as UNEP expert for developing Low-Carbon Development Roadmap for Shanghai (Environmental Review of the 2010 Shanghai World Expo) & DLF IPL 2010, and as GHG Inventory expert by Dr. Anil Gupta of the National Innovation Foundation. We were part of the BEE-USAID ECO3 Project where we conducted the Building Energy Benchmarking Study for 200 Hotels & Hospitals for building the ECOBench Tool.

The Purpose

Enabling your leased / rented and owned properties to operate at lower GHG emissions and energy consumption from Air Conditioning through a combination of sustainable cooling technology integration, efficient operation and incorporation of energy minimizing features into constructions.

The following roles of engagement will be provided free of cost as part of the Fairconditioning program unless otherwise specified.

I. Roles of Engagement

A) Awareness building and knowledge sharing

1. Fairconditioning will help build awareness about sustainable cooling technologies within the YOUR COMPANY organization through the sharing of focused content, case studies as well as conducting short training programs for interested employees on the request of YOUR COMPANY.

As a legacy for this component Fairconditioning will make available data, information and case studies in the public domain which will help sensitize employees and accelerate the understanding and uptake of sustainable cooling technologies within YOUR COMPANY.

B) Advisor for cooling equipment procurement

1. Fairconditioning will suggest sustainable cooling options for the primary and auxiliary cooling needs of commercial spaces used by YOUR COMPANY. This will enable sustainable and efficient cooling in occupied spaces including the peripheral areas of the commercial office spaces.

2. For spaces where YOUR COMPANY has the opportunity to influence the design of the primary HVAC system, YOUR COMPANY can engage Fairconditioning to evaluate the opportunities to install sustainable cooling technologies. Fairconditioning, using its team of experts and service providers will provide a detailed feasibility and cost analysis of the various cooling technologies in its domain (Appendix A) as well as connect YOUR COMPANY with empanelled service providers to accelerate the uptake of sustainable and efficient cooling technologies.

Note: Fairconditioning's role of an unbiased accelerator for the uptake of sustainable cooling technologies will be limited to data analysis, recommendations of sustainable technologies and connections to empanelled service providers. We will not play the role of MEP consultants.

3. YOUR COMPANY will identify auxiliary areas in which either the current cooling is ineffective or inefficient and Fairconditioning will suggest efficient cooling technologies along with the potential for savings over conventional equipment.

4. The legacy for the program will be to create sustainable HVAC procurement guidelines for YOUR COMPANY as well as create a blueprint for energy efficient branches. If these already exist then we will work to enhance its environmental sustainability performance.

5. All travel and living arrangement cost related to data collection and subsequent engagement with the YOUR COMPANY Team will be borne by YOUR COMPANY on actuals. Fairconditioning's personnel costs (time and skill) will not be charged TO YOUR COMPANY for any such engagement.

C) Advisor for new property selection:

1. Fairconditioning will work with the YOUR COMPANY team to evaluate the HVAC efficiency of the various new properties in contention for acquisition.
2. Fairconditioning will create a comparative efficiency analysis report for the properties using data provided by the YOUR COMPANY Team.
3. If needed a detailed HVAC audit can also be carried out of the properties, for a nominal fee. If this option is selected a separate Scope of Work document will be signed outlining the scope of work to be undertaken.
4. The legacy for the program will be to create sustainable HVAC related guidelines for property selection as well as build internal capacity to make efficient decisions.
5. All travel and living arrangement cost related to data collection and subsequent engagement with the YOUR COMPANY Team will be borne by YOUR COMPANY on actuals. Fairconditioning's personnel costs (time and skill) will not be charged to YOUR COMPANY for any such engagement.

D) Advisor for new building construction

1. If requested, Fairconditioning can help YOUR COMPANY connect with eminent sustainable architects across the country for the sustainable design of upcoming buildings.
2. Fairconditioning can work with YOUR COMPANY to undertake low cost (subsidized to 50 %) building energy modeling simulation as part of the BEMA program, to incorporate passive cooling techniques in new or existing constructions. If this option is selected a separate Scope of Work document will be signed outlining the scope of work to be undertaken.
3. All travel and living arrangement cost related to data collection and subsequent engagement with the YOUR COMPANY Team will be borne by YOUR COMPANY on actuals. Fairconditioning's personnel costs (time and skill) will not be charged to YOUR COMPANY for any such engagement.

E) Advisor for framing thermal comfort policies

1. Fairconditioning will devise thermal comfort policies for YOUR COMPANY to reduce energy and GHG emissions from HVAC through behaviour change.
2. If these policies are included into the overall HR manual of YOUR COMPANY, Fairconditioning will engage with YOUR COMPANY to quantify the savings as a result of this intervention.
3. As a legacy of the program Fairconditioning will hold workshops (1 per location) in your offices to sensitize employees on the impact of low thermostat settings and the possible savings that can result from implementation of behaviour change policies.
4. All travel and living arrangement cost related to workshops will be borne by YOUR COMPANY on actuals. Fairconditioning's personnel costs (time and skill) will not be charged to YOUR COMPANY.

F) Up by 2 campaign

Fairconditioning will help YOUR COMPANY organize an internal campaign to promote the Upby2 concept within the YOUR COMPANY group. This will encourage employees of YOUR COMPANY to persuade fellow employees to set their Air Conditioning thermostat settings at a climate appropriate setting, typically up by 2C.

Fairconditioning will also help estimate the savings as a result of the campaign.

II. Usage of Data and Brand Identity

1. YOUR COMPANY will provide data related for the technical evaluation process as and when needed by Fairconditioning. If YOUR COMPANY is unable to provide the data their sites will be made available where data can be collected by the Fairconditioning team.

2. All data provided or collected by Fairconditioning will be confidential and for the sole use of the project. For the purpose of overall project analysis as well as building an Avoided Emissions map of India, the data may be used as a part of meta data for the project or showcased as a case study, anonymously, without disclosing the name of the client unless explicitly allowed by YOUR COMPANY.

3. Fairconditioning will provide YOUR COMPANY with a certificate establishing their participation in the program and identifying them as a conscious business engaged in sustainable HVAC practices.

4. As a supporter of the programme, YOUR COMPANY will allow the Fairconditioning Programme to use its name and logo on its website as well as on project collateral which will be circulated in the public domain.

5. YOUR COMPANY as a beneficiary of the Fairconditioning program will showcase the program as well as its engagement on its sustainability portal as well as other outreach platforms as deemed appropriate by YOUR COMPANY.

For / On behalf of

Decision Maker
YOUR COMPANY

Mr. Vivek Gilani
Programme Director
Fairconditioning India

Appendix A

Sustainable cooling Technologies

1. Natural Refrigerant based Airconditioning : Natural refrigerant split-unit ACs that use natural refrigerants (Hydrocarbons, R290) are available on the Indian market as a world première. These ACs are not only far more energy efficient (25% more energy efficient compared to BEE 3 Star-rated ACs), they also lead to lower greenhouse gas emissions from leakage of conventional refrigerants (known as f-gasses).

The program is geared to enable technology transfer and knowledge sharing from global leaders of R290 air-conditioning manufacturing and design for commercial buildings in Europe (UK, Ireland, Germany and Denmark)

2. Direct / Indirect Evaporative Cooling: The lowest annual energy consumption and GHG emissions per unit area of cooled space in hot and dry climatic regions is achieved through the use of evaporative cooling. However, due to a lack of awareness and overwhelming influence exerted by HVAC consultants who favour vapour compression refrigeration (VCR) systems, the uptake of this alternative is significantly lower than should otherwise be the case. Furthermore, hybrid direct/indirect evaporative cooling systems developed over the past few years indigenously within India have allowed this technology to rise above its limitations of being applicable only in Hot & Dry regions of India.

3. Vapour Absorption is a technology that produces chilled water using a heat source rather than electrical input as in the case of vapour compression cycle(VCR). This makes the system an attractive option when there is cheap source of heat, such as solar heat or waste heat from other processes. Compared with electro-mechanical chillers, almost 95% of electric energy cost can be eliminated by using VAM. It also requires negligible maintenance since there are no moving parts.

4. Structural and Radiant Cooling is based on the physical principle that bodies with varying temperatures exchange thermal radiation until an equilibrium is achieved. Radiant cooling cools a floor or ceiling by absorbing the heat radiated from the rest of the room. Radiant cooling energy savings depend on the climate, but can be estimated to be in the range of 30% compared to conventional system. Radiant cooling is integrated into the structural and design elements of the buildings and typically used in areas with low humidity.