

# Gender Assessment

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## **FP081: Line of Credit for Solar rooftop segment for Commercial, Industrial and Residential Housing sectors**

India | NABARD | GCF/B.19/22/Rev.02

30 April 2018



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## **LINE OF CREDIT FOR SOLAR ROOFTOP SEGMENT FOR COMMERCIAL, INDUSTRIAL AND RESIDENTIAL HOUSING SECTORS**

Accredited Entity ("AE"): National Bank for Agriculture and Rural Development ("NABARD")

Executing Entity ("EE"): Tata Cleantech Capital Limited ("TCCL")

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### **Gender Assessment and Action Plan**

#### **Gender Assessment:**

Renewable energy (RE) and more specifically rooftop solar energy can play an important role in providing access to energy for Indian population who either do not have access to electricity or liquid fuels or can access cleaner and cheaper sources of energy. Shifting the energy sector mix can lead to new economic opportunities and strengthened livelihoods for women and men, as well as improved health, safety, and quality of life. As an additional key contribution, rooftop solar energy projects can contribute to the global imperative of reducing greenhouse gas emissions.

While these projects have the potential for broad and far reaching benefits, they are found to be more effective when gender equality is taken into account. To take gender into account requires identification and assessment of a project's potentially different impacts on men and women involved and ensuring equitable benefit sharing. This requires, for example, identifying the roles women and men play and the activities in which they are involved in their households and communities in order to pinpoint how they may be impacted by rooftop solar energy projects. It also means understanding women's and men's different knowledge, experiences, needs, and interests along the rooftop solar energy value chain.

Women's economic empowerment is a key ingredient in overall development. While men are already involved in energy projects, women are not always involved equitably. Energy sector investments can contribute direct economic benefits to women through formal sector employment and by providing them with opportunities to improve their livelihoods through small-scale enterprises, skills development, and training. Such investments can also have indirect positive effects on the education, health and nutrition of women and their households, for example through the provision of lighting and heat. However, all actors along rooftop solar energy value chain do not automatically benefit. For example, discriminatory gender norms may limit women's mobility and thus their ability to work outside the home or community, attend training activities, or engage in selling, installing, and maintaining rooftop solar energy equipment / facilities. These norms also

make it less likely for women to be considered, or qualified for, the types of jobs developed through rooftop solar energy projects. On the other hand, there is potential to create and strengthen women's livelihoods across rooftop solar energy value chains.

This gender assessment and action plan is prepared with the objective of integrating gender into this program of financing rooftop solar energy program. Integration is targeted through the following aspects of Gender equity:

- Employment and procurement by TCCL's rooftop solar energy loan clients
- Enhancing capacity to finance rooftop solar energy projects
- Enhancing skill availability and placement for operation and maintenance of rooftop solar energy projects

### **Gender equity in local procurement of services for development of Rooftop Solar projects**

Construction, operation and maintenance provide several entrepreneurship opportunities or expanding existing enterprises, that can service needs of TCCL's loan clients to develop, operate and maintain rooftop solar energy generation. Men can often more easily access capital (e.g., by leveraging land title or other assets), compared to women who are more commonly involved in informal, small enterprises and without the land rights needed to serve as loan collateral.

In India, women-owned enterprises contribute 3.09 percent of industrial output and employ over 8 million people. Approximately, 78 percent of women enterprises belong to the services sector. Women entrepreneurship is largely skewed towards smaller sized firms, as almost 98 percent of women-owned businesses are micro-enterprises. Access to formal finance is a key barrier to the growth of women-owned businesses, leading to over 90 percent of finance requirements being met through informal sources. TCCL can encourage and track its rooftop solar energy loan clients, to engage women-owned or women-led enterprises for procuring services required to mainly operate and maintain their projects, specifically in residential locations.

### **Gender Assessment - employment to finance, develop, operate and maintain rooftop solar energy facilities**

#### ***Need for capacity building to finance rooftop solar energy***

There is a strong correlation between the gender composition of companies' customer base and the gender composition of their workforce across various industries. As women's workforce

participation rises, they will gain further purchasing power through increased lifetime disposable income. The proportion of business-to-consumer (B2C) and business-to-business (B2B) clients who are women is expected to rise. Tapping into the female talent pool is increasingly regarded as a prominent and promising area for workforce planning. Female talent is a key feature of future workforce strategy. Similarly, women's rising labour force participation and economic power as consumers is increasingly recognized as a key driver of change across several industry sectors and one that is highly correlated with expected employment growth—an unambiguously positive trend in a somewhat turbulent landscape of technological, demographic and socio-economic change.

While national cultures and policies shape women's participation in national workforces, sectoral cultures and practices also play a significant role. Today's leaders have inherited company and industry cultures in which women participate to varying degrees. Across all industries, women currently make up on average 33% of junior level staff, 24% of mid-level staff, 15% of senior level staff and 9% of CEOs. Having invested in women as they enter in junior positions, employers appear to frequently lose their investment by failing to retain talent up the ladder. The industries with the lowest junior level intake also expect more dramatic drop-offs along the talent pipeline, with low intake at the junior level translating to similar underperformance later on. The participation of women in line and staff roles highlights some of the additional barriers to progressing to top level positions. Women are under-represented in line roles in the Mobility, Information and Communication Technology, Energy and Basic and Infrastructure sectors, with line roles more likely to equip women with the skills and experience that would prepare them for senior positions.

Companies expect some improvement, spread unevenly across different industries. Workforce strategies employed to promote gender parity will be successful in retaining and promoting the majority of incoming female talent, against past experience. Companies are focusing primarily on progressing women through the pipeline to avoid losing already developed or developing talent. Few industries are targeting strong increases when it comes to hiring women into junior and entry level roles. Across all industries, companies reported that they found women harder to recruit, with the reported ease (or in this case, difficulty) of recruiting women directly proportional to the existing gender composition of the industry. Persistent gender wage gaps are reported across all industries, even in industries where female participation is comparatively high.

NABARD and TCCL can demonstrate leadership in deploying policies that can bring in better gender equity by addressing barriers to the same. NABARD and TCCL are committed to creating a safe and conducive work environment that enables employees to work without fear of prejudice, gender bias and sexual harassment. Accordingly, a policy has been framed with the intention of preventing Sexual Harassment at workplace, that includes prohibition and redressal of sexual harassment should it occur. The policy takes complete cognizance of the latest legislation by the Government of India “The Sexual Harassment at Workplace (Prevention, Prohibition and Redressal) Act 2013 and its notified rules whose primary objective is to provide protection against sexual harassment of women at workplace and for the prevention and redressal of complaints of sexual harassment and for the matters connected herewith or incidental thereto. Similarly, TCCL also adopts leave policies and other benefits to encourage employees take care of their changing family roles in the society.

***Need for gender equity to construct, operate and maintain rooftop solar energy facilities***

India seeks to produce 100GW of solar photovoltaic power by 2022, through rooftop (40GW) and large-scale (60GW) projects. The CEEWNRDC study projects that doing so would require 237,980 FTE jobs in rooftop solar and 58,697 in ground mounted solar. Combined jobs between ground mounted and solar is the greatest in the construction and commissioning phase.

In many areas, women can find work in the construction, operation or maintenance of rooftop solar energy facilities. Women may also find formal or informal (intermittent or contract) employment in this sector. To help both men and women seek employment opportunities in this sector, government of India is promoting development of skill development centers. While new investments in rooftop solar energy projects provides new employment opportunities, experience shows that men’s labor force participation sees increases first, particularly in traditionally male-dominated occupations (e.g., construction, transport), compared to employment for women. Women account for only 20-24% of total jobs in the renewable energy sector worldwide. While in India there is no specific data available, women’s participation in these employment opportunities is typically constrained by discriminatory gender norms and stereotypes about suitable employment for women. Women are also underrepresented in attainment of the advanced degrees and technical skills needed for energy employment at higher skill levels.

## **Gender Assessment in Skill availability for rooftop solar segment**

Rooftop solar systems offer tremendous advantages such as lower transmission and distribution losses, lower investment amounts, lesser number of clearances, public participation and higher employment and entrepreneurship opportunities. One of the most critical component of aggressive rooftop solar deployment is the availability of highly skilled and qualified installers. It is estimated that India will need approximately 10,00,000 solar technicians by 2022 to meet its targets. National Certification Programme for Rooftop Solar Photovoltaic Installer is framed keeping this requirement in mind. This can not only train and certify rooftop solar photovoltaic technicians, but also open doors towards successful entrepreneurship in this segment. Typical skill sets required for a rooftop solar technician is:

- Understand the basics of electricity and solar energy,
- Survey a rooftop solar PV installation site,
- Understand all equipment related to the rooftop solar PV system,
- Design a rooftop solar PV system as per Customer's requirements as well as appropriate codes and standards,
- Prepare the necessary technical documents related to the design, installation and operation of the rooftop PV system,
- Install a rooftop solar PV system based on the relevant designs and drawings,
- Operate and maintain a rooftop solar PV system including identification and troubleshooting of faults,
- Ensure safety while installation and operation of the rooftop PV system,
- Undertake project management for installation of a rooftop solar PV system,
- Understand necessary formalities with authorities for applications, submissions, approvals, interconnections, inspections, certifications, commissioning, etc.,
- Prepare preliminary techno-commercial proposals for Customers, and
- Communicate professionally and act responsibly with Customers and Suppliers/ Sub-contractors.

Over the past few years, the number of women entering the job market has been consistently growing in India. An increasing number of women, especially from metro cities, wish to get back to their jobs after maternity leave. Career-centricity among women is at an all-time high. In rural areas too, vocational education initiatives are ensuring women can have a career of their choice.

However, there are a lot of challenges, such as literacy rate. According to 2011 Census, there is wide gender incongruence in literacy rate in India: 82.14% for men and 65.46% for women. Further, the 2015 McKinsey Global Institute report called 'The Power of Parity' highlighted a strong link between gender parity in society and gender equality at work. Gender disparity at work is a universal phenomenon. But the degree of disparity varies from region to region. According to this report, women are half the world's working-age population, but generate only 37% of the GDP. In India the share of regional output generated by women is only 17%.

There are many reasons for gender inequality in society and, along with other measures, it is imperative to take corrective steps to improve economic participation of women in a big way. Such a change cannot happen overnight. A lot of steps at different levels are necessary to bring about desired changes. While it is important to have proper policies in place to increase women's economic participation, it is also necessary to open up skill development opportunities for women in different sectors to make them job-ready.

One of the root causes for slower growth in women education is the attitude of parents towards their role in society, along with poverty. However, this is changing by the day. As compared to a decade ago, women participation in, say, organised manufacturing labour force has increased. Likewise, is the case with women's contribution in small-scale industries. Vocational training in the fields of stitching and other embroidery work has led to the creation of thousands of jobs for women.

Now, skill development initiatives are focusing more on young women in the age group of 16 to 20 years. This means a large group of women who are homemakers and who may be keen to enter the world of work get neglected. They can be brought into active workforce with appropriate skill training. Many women choose to be homemakers because of the responsibility of taking care of young children. But they cross that stage when children grow up and are relatively independent. At this stage, because they got married at a young age, they are still quite young, may be in the early thirties, and can easily start working. Their need to stay at home decreases substantially. However, at this stage, the confidence to start working is generally low; such women may also lack the skills that are needed in an ever-changing job-market. Depending upon their basic qualification, a variety of skill development courses of appropriate durations can be made available to make them job-ready or ready for self-employment.

Skill training programmes in rooftop solar energy sector in partnership with industries can serve as a model for companies interested in improving gender parity in workforce. Depending upon the need of the industry for workforce, and their skilling needs, it is possible to design and offer customized courses. In fact, the existing skills training courses can be offered or customized courses can be designed if companies decide to promote women's participation and recruit homemakers who are a bit older than the fresh students. It is possible to offer similar work integrated training programmes for them, and the gap between the skills needed and the skills available can be bridged to a large extent. For the companies, one of the advantages of recruiting a little older group of women is that they come with more maturity and life experiences, which may be helpful in job situations. They may also be able to concentrate better on their work since they are over with the critical period of child bearing and childcare. A judicious mix of youngsters along with homemakers in a batch can be beneficial.

The industry partnership with skills training institutes can go a long way in developing skilled manpower in general and in increasing women's economic participation in particular, if we use the right kind of approach to tackle the issue. TCCL can both directly through its CSR programs or encourage its loan clients to sponsor both men and women in such upcoming institutes that can provide training and placement of skills for construction and O&M of increasing rooftop solar energy facilities, to build better gender equity.