



INNOVATION RESEARCH
INTERCHANGE

Accelerating Value Creation

Transforming Inspiration for Environmental Sustainability into Self-Organized Action at Lam Research

SUMMARY:

This case study focuses on the way in which Lam Research recognized employee passion for environmental sustainability through the development of the Lam Employee Sustainability Community (LESC). As an employee-led initiative, LESC has nurtured an inclusive and diverse community of Lam employees furthering environmental sustainability by leveraging education, employee-led projects, and community volunteerism. The top-level corporate strategy at Lam supports the work of LESC, and LESC itself operates at two reinforcing levels of activity. At the first level are projects focused on corporate campus and community. Here, LESC facilitates the self-organization of teams to tackle environmental sustainability issues in the workplace or close to where employees live, the results of which are shared widely and made very visible in the organization. These actions also help to set a culture that drives initiatives at the second level: the pursuit of sustainable product and process innovations that are evaluated for implementation across product lines. These two levels of action support each other, and the case further illustrates a top-down and bottom-up approach to transform sustainability-inspired initiatives into action.

Key take-aways

The case study generates four key take-aways for corporate leaders who want to engage employees with self-organized sustainability efforts aligned with a corporate sustainability strategy:

1. Give employees autonomy and voice for gaining ownership in sustainability initiatives.
2. Empower employees to move from passive participation to active engagement.
3. Leverage corporate campus and community efforts to help reinforce broader product and process innovations.
4. Connect top-down support with bottom-up community.

CONTEXT

Lam Research (Lam from hereafter) is a leading provider of wafer fabrication equipment and services to the global semiconductor industry. Founded in 1980 and headquartered in Fremont, California, in 2022 it had over 18,000 employees and revenues of \$19 billion. Lam provides products such as etch and deposition equipment used to create integrated circuits. Much of this equipment uses an array of chemicals and consumes a significant amount of energy, hence there is a great deal of focus on environmental sustainability in this industry.

Lam defines its mission as *“to drive semiconductor breakthroughs that define the next generation.”* In guidance of its mission, the company’s stated aim is to combine systems engineering, technology leadership, a values-based culture, and customer focus to identify and deliver for their customers’ emerging technological needs. While Lam’s objective is to deliver best-in-class solutions and achieve financial success, it also operates with the guiding principle of “acting with purpose for a better world” and has a value-focused environmental, social, and governance (ESG) strategy.¹



Figure 1: Example Lam Semiconductor Etch and Deposition Equipment (image: Lam Research)

1. Environmental, Social, and Governance at Lam

Before delving into the main focus of this case, the background context for Lam’s environmental sustainability efforts is found within the six pillars of its ESG strategy:²

1. Developing long-term business and governance for sustainability;
2. Designing products for environmental principles and customers’ ESG goals;
3. Minimizing environmental impact of operations,
4. Engaging employees in an inclusive and diverse workplace;
5. Managing ethical and responsible supply chain in collaboration with suppliers; and
6. Supporting empowered, resilient, and inclusive communities.

To deliver outcomes with respect to these six ESG pillars, the company aims to commit to transparency with proof points that the ESG strategy is generating desired results. The critical component of this top-down approach is to create ESG-focused value with employee involvement. The top-down approach has generated impressive results for Lam. In 2022, Lam received approval from the Science Based Targets initiative (SBTi) for near-term emissions-reduction goals, and the company became one of the founding members of the Semiconductor Climate Consortium. Lam was also listed in 2022 Dow Jones North America Sustainability Index. Lam has set 2050 as its target year to reach net zero emissions from all its corporate operations.

Regarding its efforts on pillar 4, to engage employees in an inclusive and diverse workplace, Lam's approach is to follow an engagement strategy of listening to its employees, learning from key insights, and improving the workplace with teams that have the power to act.³

As Jami Haaning, Director of ESG, explained, at Lam they like to **“challenge our executives to share what our opportunities are, what our challenges are, and how employees across the business can help contribute to solving those.”**

Besides the top-down strategy as set out in the six pillars, Lam works with employees to encourage bottom-up idea generation and initiative development, recognizing the value of employee enthusiasm and dedication. In this respect, the launch and growth of the Lam Employee Sustainability Community (LESC) illustrates the combination of top-down and bottom-up approaches to sustainability: how employees started and gained enough momentum towards environmental sustainability (bottom-up) and how Lam harnessed their enthusiasm for sustainability (top-down).

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1. <https://www.lamresearch.com/company/company-overview/>
 2. <https://www.lamresearch.com/company/environmental-social-and-governance/>
 3. <https://www.lamresearch.com/esg-report/our-workplace/>

2. The Lam Employee Sustainability Community (LESC)

The Launch of the LESC Initiative

LESC was founded in 2021 by the Dr. Wojciech (Wojtek) Osowiecki with a group of about twenty individuals gathering periodically to discuss topics on environmental sustainability. As Osowiecki reflected, *“A lot of my experience in founding and governing LESC has been enabled in my participation in the Berkeley Energy and Resource Collaborative⁴, where I was a Vice-President for a year, among other functions I've held.”* At Lam, the newly formed group had a target of making a positive impact on the environment, no matter how small it might be. The focus from the start was to bring like-minded individuals together to form a community and enable them to engage on environmental sustainability issues. This resonated strongly with various groups across the global corporation of Lam.

LESC set their mission to build an inclusive and diverse community of Lam employees furthering environmental sustainability through education, employee-led projects, and community volunteerism. As Osowiecki stressed in discussing the community aspect of their group:

“People get the sense of community, and I did choose the word ‘community’ for us. I felt that community is exactly what I want to be. Some people confuse it with ‘committee.’ So, we have it as joke that every time somebody says ‘committee’ I laugh and say: ‘No, no, no. We're not a ‘committee,’ we're a ‘community,’ and those are very different things!”

LESC was established to cover three types of activities: Individual, including training programs or environmental sustainability activities you can do with your family; corporate campus and community-focused, such as facility improvement, establishing community gardens, involvement in clean-ups; and business-focused leading to product and process improvements. After the founding of LESC, there was soon an organic growth of volunteers to participate in self-organized projects, guest speaker events, monthly meetings, and local projects geared toward making positive change toward environmental goals. The community's efforts, as well as its welcoming atmosphere, led to new members joining from across the geographical branches of Lam. Osowiecki described their attitude with this approach: *“[LESC]'s meant to be fun. If it doesn't feel right or meaningful, something is wrong.”*

4. <https://berc.berkeley.edu>

As LESC has gained momentum, there have been three important developments in its evolution: **1) a defined organizational structure within Lam, 2) broad cultural transformation, and 3) geographical expansion:**



Figure 2: LESC Logo

ORGANIZATIONAL STRUCTURE. In a relatively short time, LESC grew both in size and also with regard to its position within Lam, and was registered as an Employee Resource Group (ERG) focused on environmental sustainability. ERGs in Lam are required to create a governance structure with a board and deliver events and projects that fit with the goals of the ERG program. As an ERG, the LESC board meets every two weeks and holds monthly meetings with corporate advisors. These monthly meetings are important to align LESC activities with the corporate sustainability goals, allowing the motivation and drive created by LESC to create a sustainability-oriented culture and help transition Lam into a more sustainable organization.

CULTURAL TRANSFORMATION. LESC members typically summarize their dedication and mindset with the phrase: *"Every job should be a climate job."* The community aspect of LESC also serves as what they term a "culture creator," where the success of LESC sustainability projects gives momentum to a broad-based shared sustainability culture. A stronger sustainability culture helps recruit new members and encourages LESC to take on new sustainability projects, creating a virtuous loop of strengthening sustainability culture and value creation at Lam.

GEOGRAPHICAL EXPANSION. LESC has a global network of membership, forming chapters (US, Europe, India, Malaysia, and East Asia) and creating joint groups and virtual connections. Each individual chapter is active with its own board members and leads various projects fitting into its local context. At LESC meetings, the members share their local projects with each other. The decentralized governance and autonomy allow the local chapters to operate with the pace and interest that best fit to their group, contributing to LESC's mission of *"a community where all members are empowered to actively advocate for environmental sustainability in the workplace and beyond."*

In addition to providing personal development through heightened individual understanding of environmental issues, the LESC community has been sustained by operating at two levels: one focused on corporate campus and community initiatives (Figure 3), and the other on more technical issues related to product and process improvements.



Figure 3: LESC Malaysia E-waste recycling event

Corporate Campus and Community Initiatives

Aligned with LESC's mission, the diverse community of Lam employees engages in many employee-led projects, community volunteerism, and education initiatives. LESC's approach to community-led environmental sustainability has nurtured an open, action-oriented, and autonomous mindset. This mindset has created a sustainability-oriented culture with dedicated individuals, who want to act, rather than just comply.

For example, some self-organized projects are local corporate campus efforts that bring visibility and engagement to members of the community. One early effort was in developing principles for more sustainable cafeterias, where a wide variety of ideas about food sourcing and utensil supplies were debated and re-evaluated. As a result, in one location, all single-use non-biodegradable plastics were entirely eliminated in the cafeteria through employee efforts. While this example represents just a small step toward environmental sustainability, these types of changes are very visible to the employee population, advancing cultural expectations of how Lam takes sustainability seriously.

LESC also has “Green Teams,” which are local self-organized teams focused on a specific geographic area, with examples in the Bay Area of California; Tualatin, Oregon; and at the Silfex subsidiary in central Ohio. These Green Teams help LESC to build more close-knit communities. They also enable contractors—who cannot formally join an employee resource group—to also engage in these initiatives.

LESC creates meaningful impact where its members learn about environmental sustainability and design events for action as part of their own broader societal community. In an example of community volunteerism, the global “Grow Your Food” challenge has connected members at different chapters, spanning over twelve cities across four countries. The shared enthusiasm for gardening led to the formation of two employee community gardens on corporate campuses, in Tualatin, Oregon and Fremont, California. LESC Malaysia chapter organized a volunteer-led beach cleaning day in Kuala Lumpur, and LESC India chapter learned about dense forestry methods and participated in a planting drive (Figure 4). These examples and others demonstrate LESC members coming together to learn about environmental sustainability and getting actively involved in projects with impact on their corporate campus or the broader community in which they live.



Figure 4: LESC India Chapter Tree Planting Initiative

Product and Process Improvements

The second level of actions occur with a more technical focus to advance Lam’s environmental sustainability goals. One type of initiative falls under the umbrella of Sustainability Innovation Teams (SIT) which can take on environmental sustainability issues tied to Lam products and processes. While LESC is not directly involved in setting corporate direction, the spillover effect of cultural transformation that started with LESC helps address improvements in products and processes across the company, supporting strategy execution. One way SIT does this is in hosting multi-day ECO hackathons, which can involve approximately thirty engineers, mentored and judged by Lam technical leadership. Through this process, the best new ideas are able to be passed onto the appropriate business groups.

One of the main features of LESC is in helping teams get the right contacts and access to information, and the engineers who led this project reported that the LESC community was instrumental in helping them make contacts that could move the project forward. As one engineer related,

“Definitely one of the challenges we face [in a large organization] sometimes is finding the right contacts. But I think one of our strengths is the network that we have at LESC... there's someone that knows someone.”

This engineer was able to get to the right people, a statistical modeler in this particular case, to advance her project such that she was able to complete a proof of concept of the new direction. The LESC network helps to catalyze connections within the company, alongside formal organizational roles and networks.

In another example, one employee-led project investigated ways to reduce the release of certain chemicals that are inherent in some semiconductor processes. The specific project fit within the broad goals of the company but at the start had not been in the plans. A multi-disciplinary team self-organized to investigate new ways to tackle this issue, motivated by the broad impact it would have. As one engineer related, *“we knew that we wanted to do something more product focused, something that would have more of an impact to our mission, not just when we're at the office or in the manufacturing site, but once our tools actually leave the facility.”* The move to have self-organized teams work on technical challenges was novel within Lam. Osowiecki recalled that one of the people with the senior-most technical designation, a Fellow within the organization, had reflected that “We've never done that. We've never had volunteers working technical problems. It was a new direction, and it worked.”

To make this process work and be connected with the broader organization, two main things have to be in place as pre-conditions: first, knowing what the business cares about and what should be prioritized; and second, knowing what product groups are already doing at a high level. In any large organization there can be the danger of reinventing the wheel. With the connections through LESC, reinvention is minimized. And with consistent communication about the firm's direction, individuals are better poised to identify and tackle priority issues.

With so much to explore, there can be burnout among members of these technical initiatives, and, as one member put it, you don't want people "feeling like you're working as an unpaid intern." So, LESC members came up with a vision for what they do or do not do with product and process innovations. The vision consists of three parts:

1. BRING PEOPLE TOGETHER FROM ACROSS THE BUSINESS UNIT:

This encourages cross-collaboration and buy-in through discussions on how to address environmental concerns.

2. EDUCATE PEOPLE TO FACILITATE IDEA GENERATION: This provides them with the contacts and resources to investigate the area of interest.

3. DON'T GO BEYOND THE PROOF OF CONCEPT STAGE: After this, a review can transfer it to the best business unit to further test and scale the improved product or process as appropriate.

3. Scaling the Community, Scaling the Impact

As of 2023, LESC had over seven hundred members across chapters in the USA, India, Malaysia, Europe, and East Asia. While it started as a small effort of just a few like-minded individuals, it now has a board structure to oversee governance of the community, and it is allocated a small budget to help host events. After such strong growth in the first few years of LESC, the goal has been in how to scale the community. This goal is also key to creating impact that is most effective in three regards.

First, while maintaining the status of an ERG, LESC must grow organically as a bottom-up approach with autonomy and a robust governance structure. More and more members have engaged with the community on disparate projects, and there has been a need to tap into the energy of such membership to open up roles and responsibilities across the community. After its first two years of engagement, in the fall of 2023 the US Board of LESC held their first leadership elections. This was followed by a three-month transition period with both incoming and outgoing boards working to create room for the next generation of leadership. Second, it is crucial that LESC governance represents key leadership involvement, but it also should be able to excite new members and turn them into active participants. It is common for employees to have different points of emphasis and passion when it comes to environmental sustainability, so it is critical as things scale to hold a diverse group of events and projects, always led by individual passion and what has resonated with employees. Finally, LESC, as with any sustainability-oriented organization, must have the ability to prioritize its community's ideas with the highest impact, utilizing resources and motivation optimally.

To address these three elements in its scaling efforts, three important scaling principles have emerged:

ENGAGE REGULARLY ON THE DIRECTION. LESC runs surveys twice a year to understand what should be prioritized among the community.

ENSURE CO-OWNERS OF INITIATIVES. By having co-owners, there is built-in accountability to get things done, and to maintain the focus on moving from passive participant to active engagement. As Osowiecki reflected, “having joint owners increases a sense of ownership and likelihood of success.”

PROVIDE STRUCTURE. It was important in the evolution of the community that the monthly meetings have a regular structure, such as times for updates among members and guest speaker engagement. The biweekly LESC board meetings and monthly meetings with advisors have kept LESC aligned internally and with Lam’s ESG strategy.

Members of the LESC leadership team have also been expanding their connections outside of the firm. LESC is involved in a multi-company collaboration through the Climate Equity and Social Impact (CESI) working group at SEMI, the industry association for the global semiconductor electronics supply chain⁵. Through CESI, LESC is connected to external employee groups focused on environmental sustainability, across approximately ten different companies. Together, these groups are working to share methods to help both streamline functions as well as to further scale each community’s scope and impact.

5. See: <https://www.semi.org/en/industry-groups/sustainability/themes>

4. Key Takeaways

Lam's approach to facilitating employee passion and harnessing the power of LESC illustrates how to create the alignment between employee-led initiatives (bottom up) and ESG strategy (top down). In this relationship, LESC does not replace official business action and responsibility for sustainability, while at the same time Lam recognizes the importance of employee inspiration, involvement, and organic roots of cultural transformation. To engage employees across the organization with sustainability efforts, several major takeaways emerge in running a self-organized action group within a large corporation:

GIVE EMPLOYEES AUTONOMY AND VOICE FOR GAINING OWNERSHIP IN SUSTAINABILITY INITIATIVES. The dedication and drive in action-oriented sustainability initiatives is highly associated with how invested employees feel about those initiatives.

EMPOWER EMPLOYEES TO MOVE FROM PASSIVE PARTICIPANT TO ACTIVE ENGAGEMENT. Anything to get employees not only thinking about sustainability issues but also engaging in even small projects has catalyzing effects across the organization.

LEVERAGE CORPORATE CAMPUS AND WIDER COMMUNITY EFFORTS TO REINFORCE BROADER PRODUCT AND PROCESS INNOVATIONS. Actions at two levels of environmental sustainability can support each other and further a culture of sustainable action.

CONNECT TOP-DOWN SUPPORT AND BOTTOM-UP COMMUNITY. While it is important to have support of top-level management on the overall ESG direction of the organization, this needs to be aligned as best as possible with employee-driven initiatives.

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