



Semiconductor  
Climate Consortium

# A Holistic Approach to Sustainability

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# Building Sustainable & Responsible Businesses

*"The best way to predict the future is to create it." Peter Drucker*



## In Context of the recent Global Disruptions:



Businesses will have to transform, accelerate innovation and leverage on the power of collaboration



## No matter what – we must deliver a “Sustainable Business”

1. Protect the Planet (Environmental Stewardship)
2. Protect our employees, community and ecosystem (CSR)
3. Protect the supply chain (BCP)



**PLANET**



**PEOPLE**



**PROFIT**

# The Microelectronics Industry

## Enabling Solutions

- Advancements in semiconductors are critical to enabling solutions
  - Healthcare, Manufacturing, Food and Agriculture, Mobility and Transportation
  - Technologies that conserve energy and water and reduce carbon footprint



## Part of the Problem

- Large semiconductor fabs can consume electricity at 100 MW / hour – enough to power 50K houses
- A single fab can use up to 9 million gallons of water / day
- Factor in 70+ new fabs coming online over the next few years



# What is our responsibility as a business?

Focusing on the Triple Bottom Line – Environmental Stewardship, Social Responsibility, Economic Value

## Planet



Responsible  
Manufacturing

- Overconsumption
- Overproduction
- Overpopulation

Manage Energy; Emissions;  
Waste; Water

## People



Responsible Workforce  
Social Responsibility  
Responsible Sourcing

- Responsible hiring
- Inclusion and Equity
- Forever chemicals
- Conflict mineral
- Diverse suppliers

## Profit



Sustaining Business

- Business Continuity
  - Supplier
  - Supply Chain
  - Technology

# Planet – Our Responsibility; Our Action

Collaboration, Transparency, Ambition

## Planet



### Responsible Manufacturing

- Overconsumption
- Overproduction
- Overpopulation

Manage Energy; Emissions;  
Waste; Water

## SEMI and Member Action

- SEMI Sustainability Advisory Council now has more than 70 members and 13 working groups
- Focus on critical Climate topics: Scope 3, Reporting Standards, Scope 1 High GWP GHG replacement, Climate Risk reporting and mitigation and many others.
- Successful launch of the 1<sup>st</sup> Semiconductor Climate Consortium at COP27. Endorsed by the Hon. Al Gore



# AI Gore Adds Challenge to Perform at SCC Launch at COP27

# Keynote Remarks





# 65 Members Have Already Joined

As of Nov. 1, 2022

Advantest • AICELLO • AMD • ams OSRAM Group • Analog Devices • Applied Materials  
Arkema • ASE • ASM • ASML • ASMPT • Athinia™ • Axcelis • Brewer Science  
DAS Environment Expert • Donjin Semichem • DuPont • EBARA • Edwards • Entegris  
GlobalFoundries • GlobalWafers • Google • Hermes Epitek • Hitachi High-Tech • imec  
Intel Corporation • JSR • KLA • KOKUSAI ELECTRIC • Kulicke & Soffa • Lam Research • Lasertec  
Longi • Marvell • Micron • Microsoft • Monument Chemical • MYCRONIC • Nanya Technology • Nikon  
NXP • onsemi • Ovivo • Pfeiffer Vacuum • Plexus Corp. • Samsung Electronics •  
Schneider Electric • SCREEN • Showa Denko Materials • SK hynix • SkyWater • Sphera  
STMicroelectronics • Sumitomo Chemical • Tokyo Electron Limited • Tokyo Ohka Kogyo  
Tokyo Seimitsu • Tri Chemical Laboratories • TSMC • UCT • ULVAC  
UTAC • VAT Group • Western Digital



## 10 Reasons to Join SCC\*

1. Bolster Your Climate Action Plan
2. Join a community of experts
3. Collaborate to help solve common challenges faster
4. Define the semiconductor value chain's carbon footprint
5. Define climate action deliverables
6. Access trends and statistics for the value chain
7. Better evaluate vendors with green component scoring
8. Influence decisions to launch new sustainability projects
9. Speed and Scale climate change action
10. Build the industry voice

### Climate Impact Tools

- Evaluation of climate related risks on semiconductor value chain
- Quantification of semiconductor sector impact
- Business analytics for better decision-making
- Energy Coalition

### Reporting Standards

- Provide simplified guidelines for Scope 1, 2, 3 reporting to encourage transparency in the value chain
- Provide market intelligence to stay aligned with disclosure requirements

### Technical Workstreams

- Demystify Scope 3 calculations & reports
- Identify infrastructure and process improvements (Scope 1 impacts)
- Support start-ups and innovation

### Outreach

- Active member engagement
- Support ESG journey in our value chain
- Partner with NGOs, and local and global Communities
- Partner with NGOs, local and global communities, promote climate equity

\*[Top 10 Reasons to Join New Semiconductor Climate Consortium | SEMI](#) by John Golightly | ASM Int. 10 Oct. 22

**Move Faster**

**Get Clarity**

**Show your Commitment**

**Build Awareness**

**Pool your Resource**

**Lead the way**

# People – Our Responsibility; Our Action

In Scope: Employees, Community and Suppliers



## People

Responsible Workforce  
Social Responsibility  
Responsible Sourcing

- Responsible hiring
- Inclusion and Equity
- Forever chemicals
- Conflict mineral
- Diverse suppliers

## SEMI and Member Action

- Strong focus on Workforce Development. Active programs around reskilling for the Semiconductor business
- Community engagement through SEMI Foundation
- Climate Justice and Equity. Using our innovation for Just transition. Circularity rather than dumping.
- Supplier Equity – Small, medium business owner support (MOD)

# Profits – Our Responsibility; Our Action

## Profit



### Sustaining Business

#### Business Continuity

- Supplier
- Supply Chain
- Technology

### SEMI and Member Action

- Building a sustainable supply chain: extension of the Sustainability efforts upstream – climate risk and mitigation
- Concerted focus on Supply Chain Resilience build out
- Promoting inclusive innovation; accelerating technology adaptation. S3: Startups for sustainable semiconductors

# A Paradigm Shift – Reshaping our Businesses



## Committing to a wholistic approach to a sustainable economy and just society

Businesses and Leaders have to move beyond an adaptive approach and jump start on navigating through the complexity. It is possible to drive towards 1.5°C through the power of our innovation and our diverse eco-system

### Business Plan

Business plan will need to include long term socio-economic considerations. They have to be designed for achieving the triple bottom line. ESG needs to be on the boardroom agenda

### Purpose driven leadership

- (i) Guided by purpose
  - (ii) Cultivating Green Literacy
  - (iii) Reflective, resilient and entrepreneurial
- Achieve commercial success;  
Shape the context of business;  
Delivering a sustainable future

### Green Skilling

Businesses cannot afford to lose the opportunity for sustainability. HR, ESG and Learning teams need a consolidated plan to address skills gap for employees at all levels



Semiconductor  
Climate Consortium

**THANK YOU**

**Join us in building a  
resilient world and  
resilient businesses**

 **SUSTAINABILITY**