STELLAR ENERGY FOUNDATION

PROPELLING FUSION TO THE GRID

SOON ENOUGH TO MAKE A DIFFERENCE

SEF's Mission

Bring fusion energy to the zero-carbon power portfolio soon enough to make an impact on climate change

Soon Enough to Make a Difference

Why Fusion

- Inherently safe scalable unlimited power source
- Zero-carbon
- The only clean energy solution with suitable density to economically supply the world's foundational energy supply
- A critical power complement to other renewable sources

Why Now

- Global consensus on the need to start working NOW to prevent catastrophic climate change
- Breakthrough advances in computation and simulation, materials, and additive manufacturing
- Timeline to practical deployment much shorter than public perception
- Need for steady state, load securing, distribution supporting, dense energy supply to meet continuously expanding demand for electricity
- Capacity to meet central grid structures as is; future grids and energy supply needs as developed

Soon Enough to Make a Difference

Acceleration of Commercialization

- More than 20 private fusion ventures of varying sizes and maturity; some forecasting energy of the grid by 2030
- Supplier market gaining interest Support from private sector (venture capital) and public sector (ARPA-E, APLHA program in DOE), billions of dollars in aggregate
- Multiple credible technical approaches to demonstrate pilot plants before 2030

Soon Enough to Make a Difference

Why SEF

- People: Experienced team with record of achievement and effectiveness
- Non-profit structure provides a zone of cooperation for the common good
- Only energy & environment NGO with this pioneering mission
  - Unbiased
  - Mission-driven
  - Collaborative

What SEF Does

- Public and private sector stakeholder outreach, education & training
- Direct advocacy to establish fusion as part of the world's clean energy ecosystem
- Government relations
- Creation and distribution of fusion education and messaging materials
- Targeted technology support
- Establish a base of philanthropic support to advance fusion's shared advocacy and technical needs

Soon Enough to Make a Difference

Snapshot of the Mission Pathway

- Develop and grow governmental, commercial, energy and climate fusion network
  - Placing fusion into policies, discussions, planning and partnership approaches
- Attract resources: build a base of public, private, and philanthropic support for a fusion inclusive agenda
- Develop educational materials suitable for opinion leaders, media, educators and advocates
- Develop comprehensive advocacy & technical needs database

Snapshot: Advocacy & Education Ideas

- Link development of synthesized media and advocacy campaigns
- Organize, align, communicate ongoing science and technical partnerships
- Excite the philanthropic and foundation space toward support of fusion advocacy and technology collaborations
- Advocacy Roundtables: bring energy, environmental, scientific and regulatory representatives into a collaborative space to garner a commonality of support for fusion soon enough to make a difference
- Link fusion to national clean energy discussions
- Create Speaker's Bureau / Media Center with talking points to provide fusion proponents as they engage their audiences
- Produce white papers; economic, policy, scientific, regulatory, etc.

Targeted Technology Needs: Background

- Transformative Enabling Capabilities (TEC's) exist which aid multiple commercial and research initiatives
- Supports technology needed occasionally by multiple companies, balance of plant items that all will need, but are not mission central nor proprietary
  - Neutron diagnostic hardware and software (APRA-e Webinar, ARPA-e 1/23 Fusion Webinar-S. Hsu)
  - Plasma physics simulation codes
  - Materials research
  - Develop full list through collaboration with industry members
- 2018 FESAC Report identified many such items;
  - Advanced algorithm, machine learning and AI tech applicable to plasmas and fusion
  - Advanced manufacturing techniques/3D printing/material science, i.e. liquid metal applications
  - HTS magnet materials and manufacturing methods
  - Tritium fuel cycle technology and advanced process control
  - Fast flowing liquid metal systems

Soon Enough to Make a Difference

How SEF Propels Action on Technology

- Implement a private, public, philanthropic - *P3* (P*x*, university, supply chain, etc.) efficient capital schematic to drive timely uptake of TEC development
- Multi-funded strategy brings unique characteristics of each sector to bear on programs
- Private Sector:
  - Validates need and potential for commercialization
  - Risk/reward/patience determined by ROI
  - Mission critical technology is proprietary and IP
  - Culturally entrepreneurial and fast-paced
  - Funding potential large, but limited
- Public sector:
  - Focus is on benefit to the public
  - Culturally institutional and risk-averse (in today's DC and State Houses)
  - Mixed outcomes on tech-to-market
  - Funding potential ($) is significant, but subject to unpredictable and inconsistent nature of legislative bodies

Soon Enough to Make a Difference

How SEF Propels Action

- Philanthropy
  - Valuable additional source of funding, influence and oversight
  - Targeted tech, non-proprietary, public benefit
  - With proper nurturing can be entrepreneurial, fast-paced and aggressive
  - Ability to provide predictable, milestone-based, multi-year funding
  - Non-profit structure provides tax-advantaged vehicle for donors and investors to support R&D and advocacy needed across industry
  - Third party status helps enable multi-group interaction

What Can You Do?

- First and foremost supporting the mission of bringing fusion to the grid soon enough to make a difference is critical
- There are four means to currently support SEF;
  - Make a significant philanthropic contribution to SEF, while unrestricted donations are currently needed, designate the avenue most interesting if you wish
  - Support the mission as an ad-hoc advisor to the staff
  - Join one of our boards
  - Be a supporting leg of one of our P3's directly rather than through us

Who We Are: Executive Staff

- Experienced NGO, Public Advocacy and Tech-to-Market Executives
  - Jane Hotchkiss – Executive Director
    - 30+ year career in clean energy technology
      - Grid Connected Projects
      - Policy Action
      - Advocacy
  - Wally Johnston – Managing Director, Advocacy Program
    - 38 year career in finance, technology and carbon free advocacy
      - Fusion Advocacy
      - Clean Tech Entrepreneurship
      - Finance & Technology Executive
  - Matt Miller, Ph.D. Physics – Managing Director, Tech Program(acting)
    - 40+ year career in leading edge technology
      - Operating Executive, Serial Entrepreneur, Investor and Advisor
      - Venture Capital and Private Equity

Who We Are: Founders & Board of Trustees

- Jesse Treu, Founder, Chair and CEO
  - Ph.D. in physics
  - 35 years Venture Capital experience
  - CEO, Microsonics
  - R&D Mgt, Corporate Staff experience
  - Non-profit leadership experience
- Matt Miller, Founder and President
  - Ph.D. in physics
  - 40 year career in tech companies
  - Serial Tech Entrepreneur
  - CEO of three companies
  - Non Profit Leadership experience
- Peter Burnim, Founder
  - Harvard MBA
  - Senior officer of Citibank/Citicorp
  - Private Equity executive
  - Founder, Bermuda based insurance company
  - Non Profit Leadership Experience

Who We Are: Advisory Board

- Brian McDonald

- Additional members are in consideration for their expertise in;
  - Leaders in climate change solutions
  - Fusion science and technology experts
  - Philanthropists
  - Academicians
  - Clean energy executives

SEF Bio: Jane Hotchkiss, Executive Director

Jane Hotchkiss has spent nearly 30 years in the energy space, beginning in the late 80's at Skadden, Arps focused on the then nascent renewable industry. She brought her passion for carbon free energy with her to Boston, where she became the first renewables advocate at both the Conservation Law Foundation and at the Land and Water Fund of the Rockies. Not only has Jane been engaged in the advocacy, policy and regulatory space, she challenged the fossil fuel industry directly as a co-founder of the Clean Air Task Force after which she became a consultant to PG&E on clean air and climate. She was their lead consultant on the Madison Wind Project, at that time the first utility scale wind development east of the Intermountain West.

Jane then moved into the solar development space becoming the Managing Director of CEI, challenging the MA Municipal Electric sector to develop a 30 MW solar project and bringing in JPM's financing and successfully securing a full complement of sites. It was the regulated grid's consistent fear of overcommitting to renewable energy that brought her to fusion five years ago. Once convinced of its promise, she has dedicated herself to fusion's social licensing process: preparing the external world to believe, invest, license and regulate fusion, soon enough to make a difference.

Jane is currently serving her second elected term on the Concord Select Board in Concord, MA.

Jane holds a BA in History from Yale University.

SEF Bio: Wally Johnston, Managing Director

Wally Johnston joined Stellar Energy Foundation in 2018. Previously, he co-founded Pegasus Fusion Strategies to harness the expertise to build the case for an aggressive move toward fusion energy power production "soon enough to make a difference". In 2014 he co-founded Energy for the Common Good (ECG) to foster carbon reduction, clean energy and efficiency solutions. The work of ECG soon transitioned to helping move fusion power closer to reality.

Wally's early background in municipal finance on Wall Street fed a desire to implement financially feasible, public focused initiatives from the idea generation stage. He has led teams driving complex technical ideas to market in electronic fixed income trading and electric urban transportation.

When not engaged in SEF or Pegasus work Mr. Johnston enjoys his time serving Massachusetts youth through his elected Concord School Committee position and as a member of the Greater Boston Council on Alcoholism funding local nonprofits focused on substance abuse prevention and treatment, especially among youth.

He is a past President of the Bowdoin Club of Boston and past Director of The Coyote Theatre.

Wally holds a BA in History and Government from Bowdoin College.

SEF Bio: Jesse Treu, Ph.D., Chairman & CEO

Jesse is a Co-founder and Partner of Domain Associates, LLC since its inception in 1985. He became Partner Emeritus in 2018.

Domain is a leader in the field of venture capital focused on healthcare and biotech companies. He has been a director of 38 early-stage healthcare companies, 23 of which have so far become successful public companies. Present board memberships include Aldeyra Therapeutics, Sebacia and Veracyte. He has served as a founder, president and chairman of numerous venture stage companies.

Prior to the formation of Domain, Jesse served as President and CEO of Microsonics, a pioneer in computer image processing for cardiology. Previous to that, Jesse held executive positions at Technicon Instruments Corporation (now Siemens Medical Solutions Diagnostics) and at GE.

Treu currently serves on the Board of Trustees of Penn Medicine Princeton Health, the Investment Committee of the American Physical Society, the Investment Advisory Board of the Harrington Discovery Institute, and the Advisory Committee of the School of Science of Rensselaer Polytechnic Institute. He served on the Board of Trustees of McCarter Theatre, Princeton, NJ (2008-2017) and was Treasurer for five years.

In 2016, he co-founded the Stellar Energy Foundation dedicated to helping to bring fusion energy to the zero-carbon power portfolio soon enough to make an impact on climate change. Treu serves as Chairman and CEO of the Foundation.

Since 2013, he has been part of three international cosmology collaborations (the Atacama Cosmology Telescope, the Simons Observatory and the CMB-S4) as a volunteer advisor and researcher.

He received his B.S. in physics from Rensselaer Polytechnic Institute and his M.A. and Ph.D. in physics from Princeton University.

SEF Bios: Matthew Miller, Ph.D.

Matt Miller has worked in the technology industry for more than forty years. He has been a bench-scientist, high tech project manager, large company CTO, and serial technology entrepreneur and CEO. He has contributed to numerous fields including space-based instrumentation, atmospheric photo-chemistry, semiconductor devices, and digital communications. He played a major role in the development, standardization, and practical deployment of US HDTV and high-speed cable modems.

Miller has also consulted extensively to both the private equity and venture capital communities and has served on numerous boards of directors of public and private companies in addition to having served on investor advisory boards.

From 2014 - 2018, he was the President of the Connecticut STEM Foundation, Inc., a Connecticut 501(c)(3) non-profit corporation whose mission is to foster interest among all Connecticut high school students in science, technology, engineering, and math (STEM). He is President and co-founder of the Stellar Energy Foundation, Inc., a New Jersey 501(c)(3) non-profit corporation formed in 2016 with the mission of bringing fusion energy to the zero-carbon power portfolio soon enough to make an impact on climate change.

Miller holds a bachelor's degree in physics from Harvard University and a Ph.D. in physics from Princeton University.

SEF Bio: Peter Burnim, Board Member

Peter has a long and varied career in financial services, private equity, and venture capital industries managing, growing, building, fixing, and starting businesses. He has and currently serves on numerous public, private, and not for profit boards.

Peter worked at Citibank/Citicorp in the US and Europe for over 25 years serving as a Senior Credit, Senior Securities and Senior Corporate Officer. He served as head of U.S. Corporate Banking, European Corporate Finance, European Capital Markets and U.S. Private Banking.

Peter oversaw Citicorp Venture Capital Europe, and then served on the Advisory Board of CVC Capital Partners Europe (advisors and managers of Citicorp's Private Equity Investments in Europe)

Peter is a managing director of iQ Venture Advisors, LLC. a boutique investment advisory group that advises and raises capital for emerging companies, private equity and hedge funds. He currently serves as a Board member of Argus Group Holdings in Bermuda and its various international insurance subsidiaries; as a Trustee of Allianz VIP Trust and Allianz VIP Fund of Fund Trust, Advisory Board of Sterling National Bank; and as Chairman of Emrys Analytics(AI) and EGB Insurance (CyberInsurance). He serves on the Board on Sterling Trust (Cayman) Ltd, and as Chairman of Sterling Bank and Trust Ltd. (Bahamas). He has served the Commonwealth of Massachusetts Department of Revenue as an Expert Witness, and on various other Bank, Insurance, Hedge Fund Boards.

Active in not for profits, he serves on the Boards of the Harvard Glee Club Foundation Finance Committee; Beth El Investment and Spiritual Committees, American Classical Orchestra (past President and Treasurer); AIPAC, and Great Beginnings Montessori School(Finance Committee).

Mr. Burnim is an honors graduate of Harvard College, and Harvard Business School and remains active in both.