Committee on Energy and Commerce
U.S. House of Representatives
Witness Disclosure Requirement - "Truth in Testimony"
Required by House Rule XI, Clause 2(g)(5)

1. Your Name: Ashley Finan		
2. Your Title: Policy Director		
3. The Entity(ies) You are Representing: Nuclear Innovation Alliance		
4. Are you testifying on behalf of the Federal, or a State or local government entity?	**Yes**	**No** X
5. Please list any Federal grants or contracts, or contracts or payments originating with a foreign government, that you or the entity(ies) you represent have received on or after January 1, 2015. Only grants, contracts, or payments related to the subject matter of the hearing must be listed. **None.**		
6. Please attach your curriculum vitae to your completed disclosure form. **Please see attached.**		

Signature: [redacted] **Date: 2/2/18**

Ashley E. Finan, Ph.D.

A nuclear energy strategist with technical expertise, leadership skills, and a commitment to advancing US nuclear energy innovation leadership.

Education

Massachusetts Institute of Technology
Ph.D., Department of Nuclear Science & Engineering
Massachusetts Institute of Technology
Master of Science, Department of Nuclear Science & Engineering
Massachusetts Institute of Technology
Bachelor of Science, Department of Nuclear Science & Engineering
- Irving Kaplan Award for "academic excellence by a junior in the department"
- Roy A. Axford Award for "academic achievement by a senior in the department"

Massachusetts Institute of Technology
Bachelor of Science, Department of Physics

Experience

Nuclear Innovation Alliance **April 2013 to Present**
Policy Director
- Managed development of the organization's strategy, business plan, incorporation, board, membership, and identity from its inception
- Leads the Nuclear Innovation Alliance (NIA) during its transition to an independent organization
- Leads several NIA working groups including one focused on matching US testing capabilities with the most pressing technical development needs of advanced reactors
- Conducts and oversees special project-related research, as well as analysis and synthesis of relevant issues in the field, for use in strategic decision making on new projects and initiatives
- Establishes and maintains relationships with leaders in the field (analysts, policy experts) and provides insight into opportunities for collaboration
- Manages the NIA's advanced reactor regulatory initiative, including development of new projects, regular presentations to the Nuclear Regulatory Commission, DOE, NEI, and other stakeholders
- Directed and was lead author on the NIA's April 2016 report: "Enabling Nuclear Innovation: Strategies for Advanced Reactor Licensing;" provided expert input to policymakers drafting related legislation in 2016 and 2017, and testified before the Senate Committee on Environment and Public Works on April 21, 2016 and March 8, 2017
- Directing, with partners, formation of a multi-national working group focused on international cooperation on advanced reactor demonstration and licensing; participants in concept development included the IAEA, OECD Nuclear Energy Agency, World Nuclear Association, GenIV International Forum, and the US, UK, Canadian, and South Korean governments
- Provided NIA support for inaugural "Nuclear Innovation Bootcamp" at UC-Berkeley in 2016
- Responsible for stakeholder engagement for the NIA, including interactions with advanced nuclear companies, utilities, industry organizations, national laboratories, government agencies, universities, philanthropic donors, and NGOs
- Organized several workshops and conferences of the NIA and of expert advisors
- (Prior to November 2015, led and staffed the NIA, but became Policy Director upon NIA incorporation in 11/15)

Clean Air Task Force **February 2013 to Present**
Director of Nuclear Innovation
- Directs Clean Air Task Force's (CATF's) nuclear energy program
- Responsible for CATF collaboration and cooperation on nuclear energy with advanced nuclear advocacy groups, industry groups, utilities, environmental NGOs, government agencies, and others
- Oversight of contracts, payments, and performance of all subcontractors
- Held detailed interviews with many advanced reactor startup companies, discussing their designs, challenges, and plans for development, testing, engineering, and commercialization; investigated the nuclear innovation capabilities of the US, Canada, and the UK, including meeting with key researchers, major national laboratory facilities, industrial partners, government officials, academics, and nuclear

technology companies to understand the technical and political assets of each country for advanced nuclear energy
- Testified on The Future of Nuclear Energy before the Subcommittee on Energy of the Committee on Science, Space, and Technology in the U.S. House of Representatives on December 11, 2014
- Provided expert guidance to environmental NGOs considering whether to support nuclear energy
- Led a study on improving incentive structure for wind energy in the US
- Researched and wrote background briefing papers on advanced nuclear topics
- Leads CATF's work developing and supporting the Nuclear Innovation Alliance

Kuwait-MIT Center for Natural Resources and the Environment **May 2012 to January 2013**
Postdoctoral Associate
Characterized the past and present desalination infrastructure in Kuwait and several other countries with the purpose of determining the optimal path forward for Kuwait; evaluated the costs and benefits of several technologies and the decision to develop or to purchase new technology for industrial diversification, water security, employment, education, and water production costs

MIT Department of Nuclear Science & Engineering **February 2008 to April 2012**
Research Assistant
- Performed a case study of U.S. nuclear energy innovation policy to derive lessons for future policy from past experience; applied lessons to current energy policy and to small modular reactor investment and policy; developed recommendations
- Developed an original model for investments in a two-stage energy innovation process applicable to private and public sectors; derived several characteristics of "front-end" versus "learning-based" innovation investments
- Using the International Energy Agency MARKAL model, estimated the capital investment requirements of a transition to a lower-carbon energy system under several carbon constraint and energy demand scenarios
- Participated in workshops, roundtable meetings, and conferences for collaborative discussion among energy system stakeholders
- Worked on a team exploring the technical design options for a sodium fast reactor, seeking optimal cost and safety outcomes using probabilistic risk assessment and economic modeling to evaluate decisions such as metal versus oxide fuel and various other design choices

Stone & Webster Management Consultants (Now CB&I) **May 2006 to January 2008**
Consulting Associate
- Analyzed economy and strategy of nuclear power and nuclear process heat applications to new markets for a client in South Africa; prepared feasibility analysis and business plan reports
- Edited papers for submission to conferences and clients; participated in conferences, kickoff meetings, and strategy/status meetings with clients
- Participated in analysis of modular construction, safety, and investment protection issues for new nuclear reactors
- Traveled to conferences and workshops in Canada to present results of analysis of nuclear energy for oil sands applications on behalf of the firm and the client
- Assisted with analysis for investment due diligence reports and an electric power sector analysis for New England grid operator capacity planning; assisted in presentation and answered client questions

MIT Department of Nuclear Science & Engineering **July 2006 to May 2007**
Research Assistant
- Independently assembled an advisory board composed of a number of oil company representatives, a ministry of energy representative, academics, and the president of an independent research institute. Interacted closely with a number of oil and nuclear companies to obtain technical data and review
- Performed a feasibility analysis of the use of CANDU or HTGR reactors for Canadian oil sands energy and steam supply; assessment included technical heat and size match, economics, public and government policy, licensing, and other issues

MIT Department of Nuclear Science & Engineering **June 2005 to May 2006**
Research Assistant
Worked on a team and performed laboratory experiments, problem solving, and system failure analysis involving 5MeV neutron accelerator and related imaging setup; performed infrared camera analysis of target temperature behavior during deuteron bombardment

Idaho National Laboratory **June 2004 to June 2005**
*Research Assistan*t
Instructed INL research group on VSOP reactor physics code with which they were previously inexperienced; wrote user manual and delivered tutorial to pebble bed reactor research group at INL; began task of modeling HTR-10 pebble bed approximation in order to benchmark the new "PEBBED" reactor physics code written at INL; contributed to the project remotely from September 2004 to June 2005

MIT Department of Nuclear Science & Engineering **September 2002 to September 2003**
Research Assistant
Analyzed a simulated collision of a 747-400 jet aircraft on a nuclear power plant in order to explore additional safety features to lower the risk of critical damage; wrote final report detailing findings

Presentations (selected)

1. "Enabling Advanced Reactors." Testimony before the U.S. Senate Committee on Environment & Public Works. March 8, 2017.
2. "Advanced Nuclear Energy: Promise, Challenges, and Current Status." *Bulletin 2016 Clock Symposium.* November 14, 2016.
3. "Enabling Nuclear Innovation: Strategies for Advanced Reactor Licensing." Nuclear Regulatory Commission Stakeholder Meeting. July 26, 2016.
4. "Enabling Nuclear Innovation: Strategies for Advanced Reactor Licensing" *DOE-NRC Advanced Non-LWR Workshop*. June 7, 2016.
5. "Enabling Advanced Reactors." Testimony before the Subcommittee on Clean Air and Nuclear Safety of the U.S. Senate Committee on Environment & Public Works. April 21, 2016.
6. "Strategies for Advanced Reactor Licensing." *International Congress on Advances in Nuclear Power Plants*. April 18, 2016.
7. "Strategies for Advanced Reactor Licensing." *International SMR and Advanced Reactor Summit*. April 15, 2016.
8. "Demonstration Platforms" *U.S. NIC Advanced Reactors Technical Summit III*. Oak Ridge National Laboratory. February 11, 2016.
9. "Enabling U.S. Leadership in Advanced Nuclear Energy" *Nuclear Energy Technology Innovation: The Road Ahead*. The White House. June 15, 2015.
10. "Nuclear Innovation Alliance Initiatives" *Advanced Reactors Technical Summit II*. February 11, 2015.
11. "The Future of Nuclear Energy." Testimony before the Subcommittee on Energy of the U.S. House of Representatives Committee on Science, Space, and Technology. December 11, 2014.
12. "Commercialization of Advanced Reactors." *Special Technical Symposium: Technology & Process Innovation in Advanced Reactor Economics*, Argonne National Laboratory. January 28, 2014.
13. "U.S. Nuclear Energy Innovation Policy: Lessons from History," MIT Energy Conference, Boston, MA. March 5, 2011.
14. "Integration of Nuclear Energy into Oil Sands Projects," 4th International Topical Meeting on High Temperature Reactor Technology, HTR2008. Paper No. HTR2008-58239. September 2008.
15. "Integration of Nuclear Energy with Oil Sands Projects for Reduced Greenhouse Gas Emissions and Natural Gas Consumption" A. Finan. *Petroleum Technology Alliance Canada Alternative Energy Solutions Workshop*. Kananaskis, Alberta, Canada. November 8, 2007. (as invited speaker)

Publications (selected)

1. "Enabling Advanced Reactors." Written testimony before the U.S. Senate Committee on Environment & Public Works. March 8, 2017.
2. "A Path to Updating the Regulatory Process for Advanced Nuclear Reactors." *Nuclear Power International Magazine,* volume 9 issue 3, June 20, 2016.
3. "Enabling Nuclear Innovation: Strategies for Advanced Reactor Licensing." April, 2016. http://www.nuclearinnovationalliance.org/advanced-reactor-licensing
4. "The Future of Nuclear Energy." Written testimony before the Subcommittee on Energy of the U.S. House of Representatives Committee on Science, Space, and Technology. December 11, 2014.

5. A. Finan "Energy System Transformation: An Evaluation of Innovation Requirements and Policy Options." Ph.D. dissertation, Massachusetts Institute of Technology, 2012.
6. R. K. Lester and A. Finan "Quantifying the Impact of Proposed Carbon Emissions Reductions on the U.S. Energy Infrastructure" MIT Industrial Performance Center Energy Innovation Working Paper 09-006. http://web.mit.edu/ipc/research/energy/pdf/EIP_09-006.pdf October, 2009.
7. A. Finan and A. C. Kadak "Integration of Nuclear Energy into Oil Sands Projects" *Journal of Engineering for Gas Turbines and Power* Volume 132 Issue 4 April 2010.
8. A. Finan and A. C. Kadak "Integration of Nuclear Energy with Oil Sands Projects for Reduced Greenhouse Gas Emissions and Natural Gas Consumption." Center for Advanced Nuclear Energy Systems, MIT. August 2007.
9. A. Finan "Integration of Nuclear Power with Oil Sands Extraction Projects in Canada." S.M. Thesis. May 2007
10. O. Bolthrunis, R. W. Kuhr, A. E. Finan. "Using a PBMR to Heat a Steam-Methane Reformer: Technology and Economics." Proceedings HTR2006: 3rd International Topical Meeting on High Temperature Reactor Technology October 1-4, 2006, Johannesburg, South Africa. I00000118.