

NREL International Program



Ron Benioff
International Program
Manager

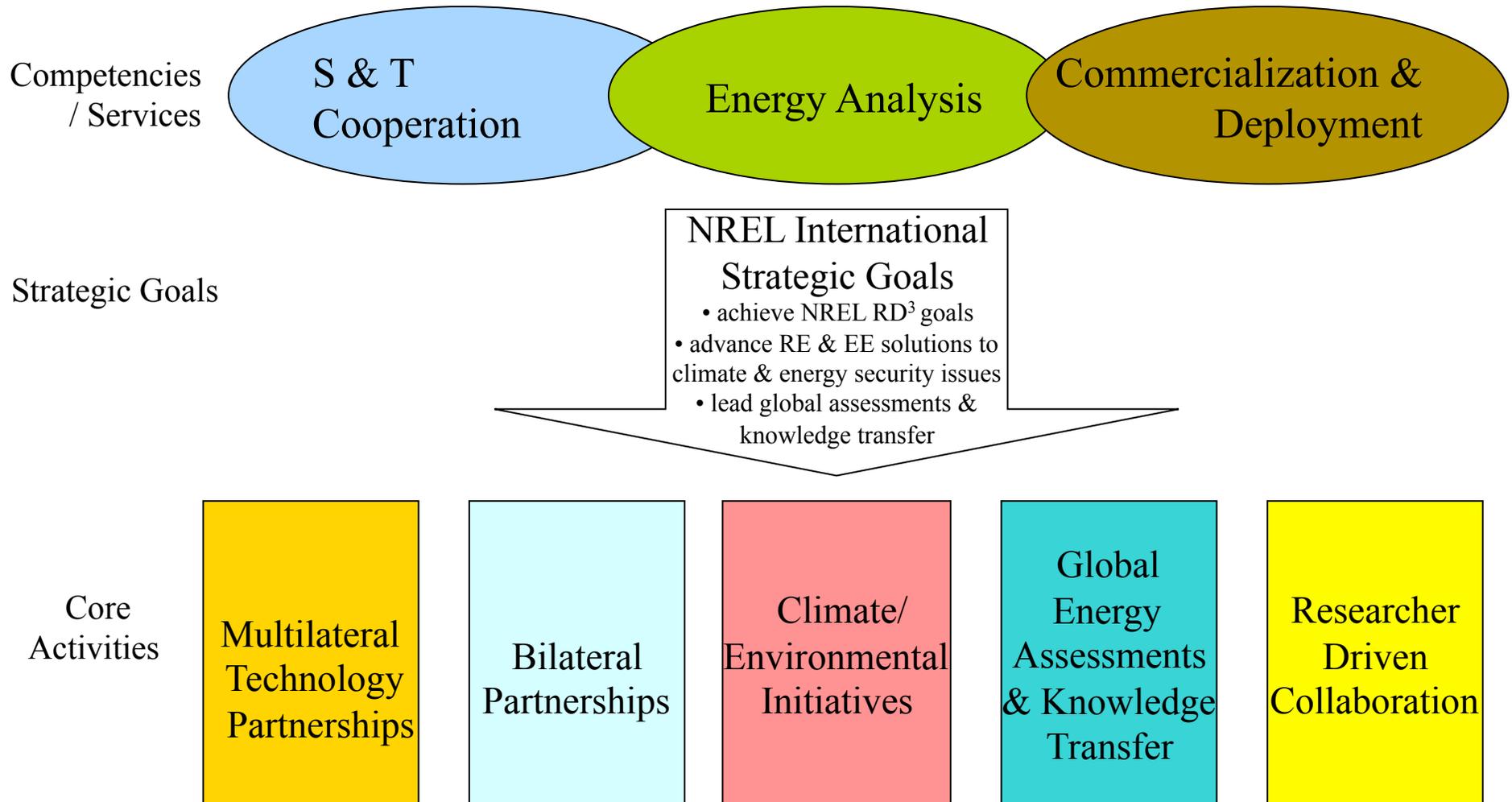
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NREL International Activities

- NREL has had an international program since 1992 with funding from DOE, USAID, EPA, State Department, UNEP, and others
- > 50 lab personnel engaged in international activities
- NREL International Goals
 - Accelerate achievement of technology RD³ goals through international cooperation
 - Advance DOE and USG international energy security, economic vitality, and environmental objectives
 - Play a leadership role in global RE assessments and knowledge transfer



NREL International Framework



NREL International Framework



Key Multilateral Initiatives

- **IEA Implementing Agreements**
 - Biomass, Buildings, Hydrogen, Solar, Wind
 - **Low Carbon Communities of the Americas**
 - **International Partnership for Energy Efficiency Cooperation (IPEEC)**
 - **International Renewable Energy Agency (IRENA)**
 - Working groups on global RE potential and scenarios
 - **Asia Pacific Partnership & Major Economies Forum**
 - **Energy Development in Islands Nations**
 - U.S., New Zealand, and Iceland partnership
 - **UNEP SWERA**
 - Renewable energy resource assessment in 13 countries
 - **Asia Pacific Economic Cooperation**
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Bilateral Partnerships – Developing & Transition Countries

China

- Biofuels
- Buildings
 - Wind
 - PV
- Electric Vehicles
- Climate Analysis

India

- Biofuels
- Solar
- Buildings
 - Wind

Brazil

- Biofuels
- RE & EE Innovation & Commercialization
- Rural Electrification

Latin America

- Argentina, Caribbean, Chile, Costa Rica, Dominica, Mexico, Peru, others

South Asia

- Afghanistan, Maldives, Nepal, & Sri Lanka

Central Asia

- Iraq, Kazakhstan & Turkey
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Bilateral Partnerships – Developed Countries

- **Canada** – biofuels, vehicles
 - **Denmark** – wind, resource assessment, RE integration, hydrogen
 - **Germany** – CSP, resource assessment, PV
 - **Finland** – biofuels
 - **France** – PV, CSP, batteries, smart grid
 - **Israel** – vehicles, biofuels, CSP, PV
 - **Japan** – vehicles, hydrogen, PV
 - **Netherlands** – PV, wind, biofuels, analysis
 - **Singapore** – PV, biofuels
 - **Spain** – wind, CSP, PV
 - **Sweden** – biofuels, PV
 - **UAE** – PV, buildings
 - **U.K.** – wind and ocean

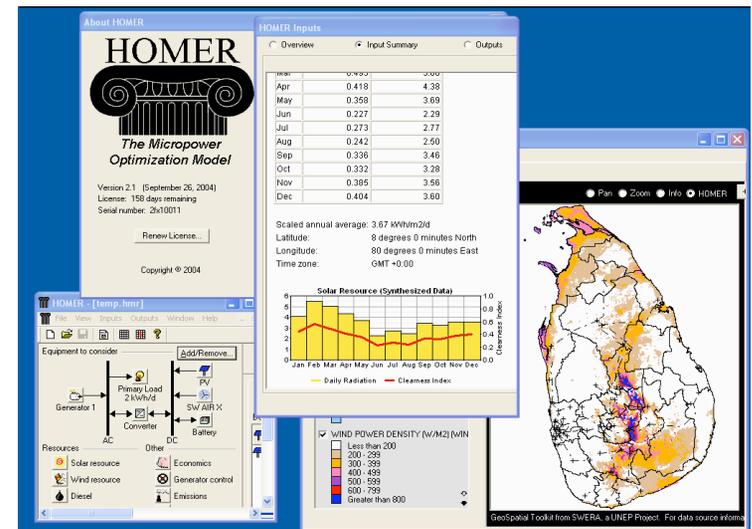
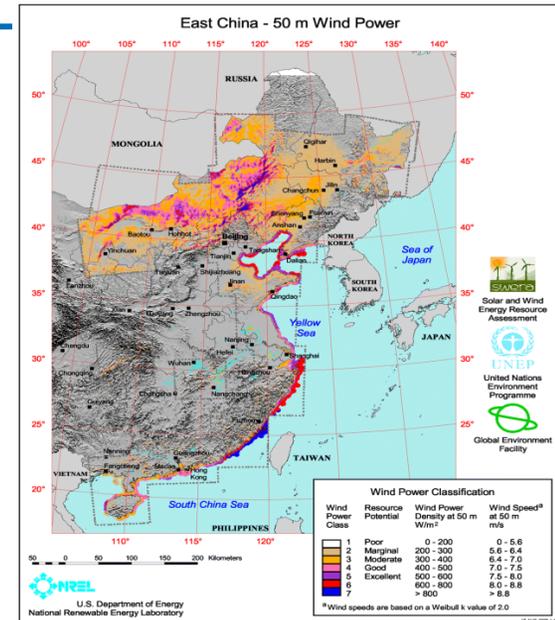
 - Collaboration with many other countries and on other topics
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International Climate Initiatives

- Coordinated Low Emissions Assistance Network (CLEAN)
 - Partnership with other international institutions supporting developing countries with climate – clean energy analysis and plans
 - Low Emission Development Strategies
 - Preparing methodology and toolkit to support preparation of low carbon growth strategies by developing countries
 - Climate co-benefits and carbon mitigation analysis assistance and methods
 - Analysis of technology cooperation frameworks for the UNFCCC
 - IPCC special report on renewable energy
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Global Energy Analysis Projects

- Regional solar and wind resource assessments with UNEP, AID, and others
- OpenEI community information platform
 - www.openei.org
- Global Energy Assessments
 - IPCC Special Report on Renewable Energy
 - Global Energy Assessments conducted by IIASA and others
 - Improving representations of renewable energy in integrated assessment models
- Comparative RE and Climate Policy Analysis
- IRENA Global RE Scenarios and RE Potential Initiative



Contacts

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