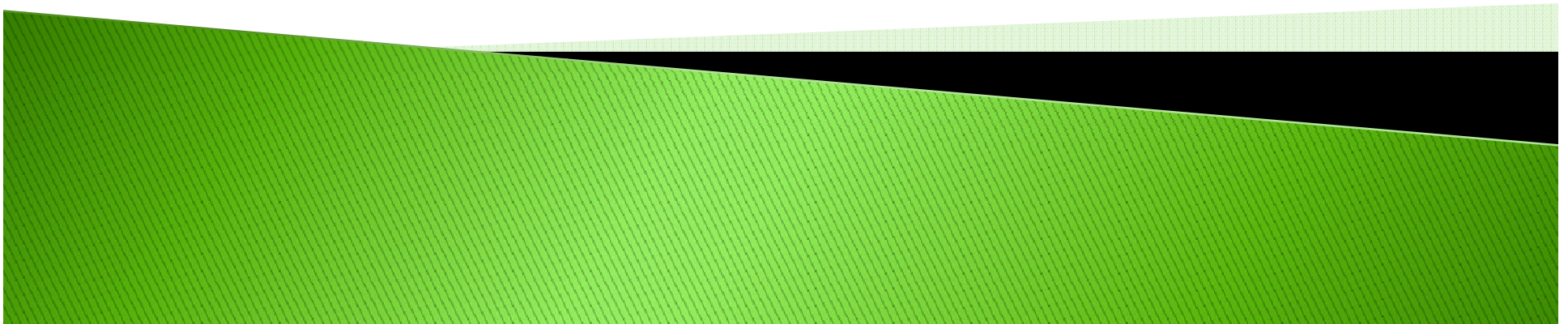


India–Japan Partnership towards a Low–Carbon Economy: An Indian perspective

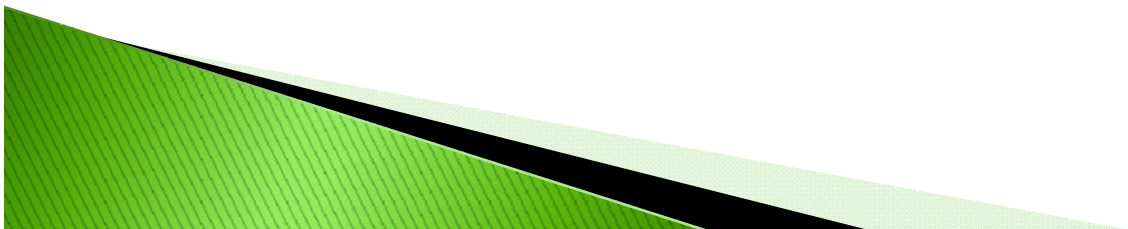
Aparna Sawhney

Centre for International Trade and Development, JNU

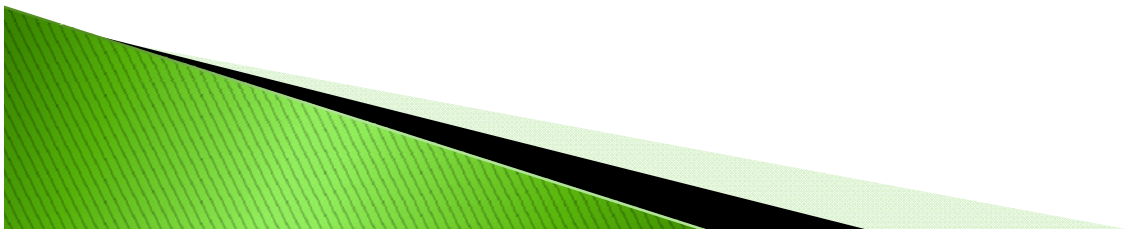


The Low Carbon Growth Thrust

- ▶ Global and national policy focus on low-carbon growth in the run-up to the post-Kyoto negotiations.
- ▶ The multilateral trade negotiation (Doha Round) has also turned towards clean/ low-carbon technology trade liberalization in EG
- ▶ Clean energy and associated technology has become most significant in this context



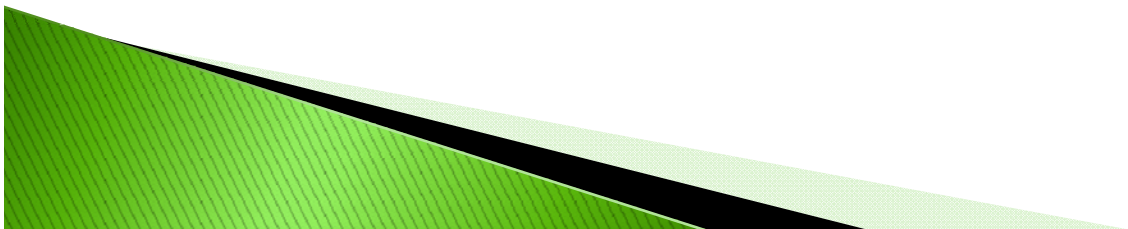
- ▶ Energy-related emissions account for an overwhelming 70% of global emissions of greenhouse gases, due to dominance of conventional fossil fuels in global energy consumption
- ▶ Imperative for India to balance between high economic growth, poverty reduction and carbon emission reduction
- ▶ Maximum potential for emission reduction in the growth path is offered by a clean power sector



India: 2008 National Action Plan on Climate Change

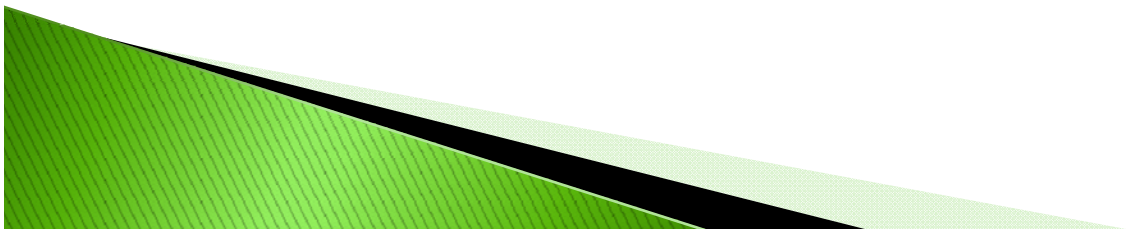
Thrust on clean energy, and energy efficiency:

- ▶ Investment incentives for carbon-free power generation (e.g. in wind, solar) in the form of accelerated depreciation, concessional custom duty for specific critical components, excise duty exemption, etc.
- ▶ Other policy support instruments in power generation: feed-in-tariff, renewable portfolio standard



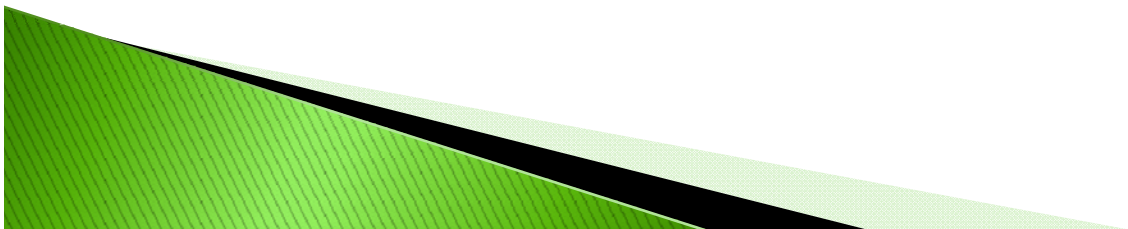
Japan: 2009 Vision

- ▶ Vision to lead the world in low-carbon emission revolution.
- ▶ Become the “Number One Solar Power Nation in the World”.
- ▶ Domestic focus to enhance demand of solar energy through policy in order to increase supply capacity and reduce generation cost.
- ▶ Instruments including subsidy, feed-in tariff, etc.



Solar technology

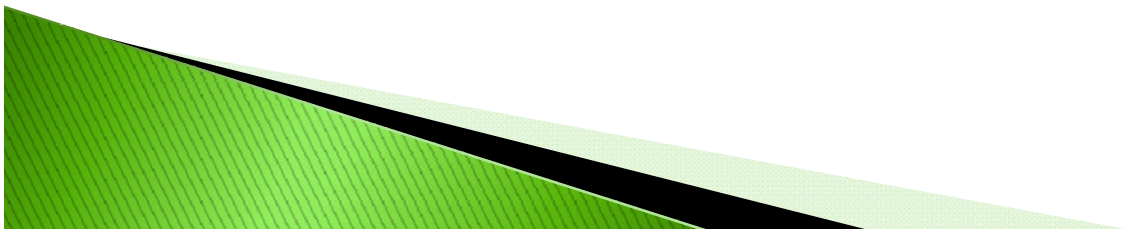
- ▶ In the global renewable power sector, the fastest growing segment in 2008 was the grid-connected solar photovoltaic.
- ▶ In solar energy (photovoltaic and concentrated solar power for electricity, and solar heating and cooling) the highest current public R&D expenditures are in the United States, and Italy, Germany, Korea, France, etc.



India's National Solar Mission

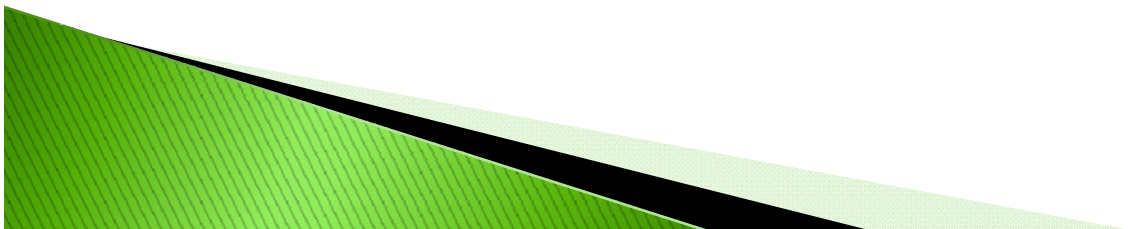
Target for development and deployment of solar power

- ▶ Increase solar power capacity to 20,000MW by 2020
- ▶ Achieve interim grid parity with coal-based thermal power by 2020 and parity by the year 2030



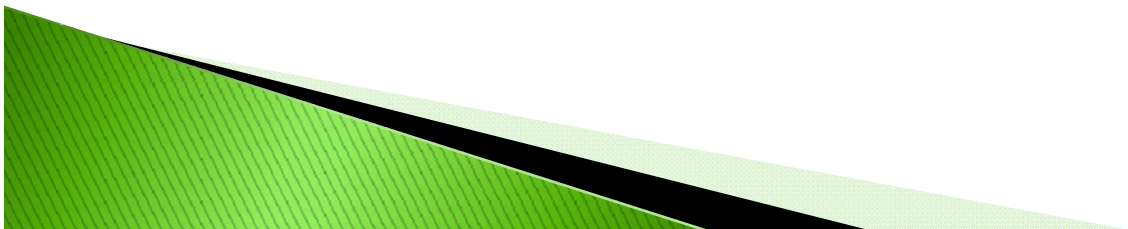
Supportive policies

- ▶ Obligatory solar power purchase, fiscal investment incentives, subsidies and R&D in manufacturing concentrated solar collectors and receivers.
- ▶ In Special Economic Zone, national and state governments have offered capital investment subsidies of 20% to support solar PV manufacturing (solar technology manufacturing parks)
- ▶ Generation based incentives: proposed at Rs10/Kwh for the first three years (with reviews in subsequent years)

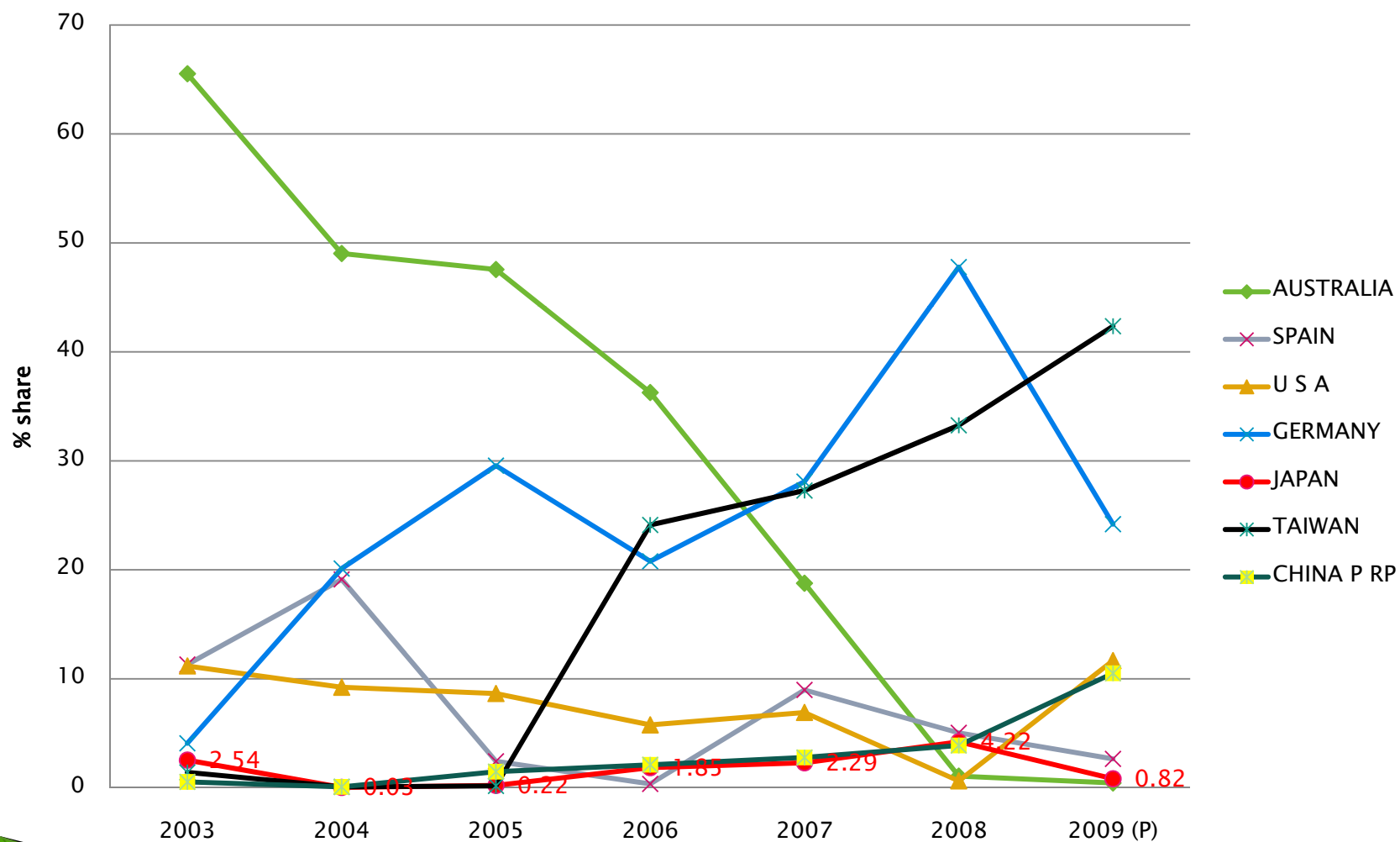


Solar Technology Import into India

- ▶ Solar PV is the most widespread among different solar technologies in India (also true for global solar market)
- ▶ Imports in solar PV technology (as embodied in PV cells/ modules) has been rising steadily.
- ▶ Significance of source countries have been changing (imports from Japan however have been relatively small throughout).
- ▶ Profile of import source nations in recent years:

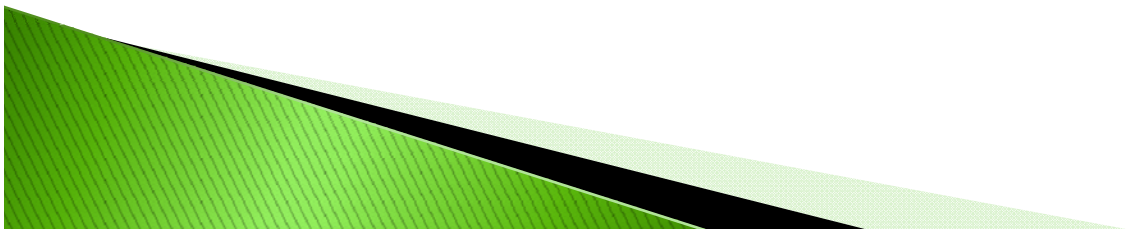


Shares of Top 7 Countries in Indian import of Solar PV Technology, 2003–2009



Scope for cooperation

- ▶ Japan and India have scope for collaborative work as both pursue the goal of making solar energy more cost-effective and commercially viable.
- ▶ In Japan's current pursuit to emerge again as world leader in solar power, enhancing market demand is key
- ▶ India has the potential market opportunities, especially given the current targets and supportive policies



- ▶ E.g. Japanese companies have the highest number of patent applications for solar energy technology – like, Canon, Sanyo Electric, Sharp, Matsushita Electric, and Kyocera
- ▶ Large Indian firms engaged in collaboration/ licensing/ joint ventures (e.g. Tata Power with BP Solar in photovoltaic, Moser Baer India Limited in crystalline silicon cell technology and thin-film technology) in order to access technology for solar equipment manufacturing

