Cynthia Cannady, IP*SEVA, US

Patents and R&D Collaborations in New Energy Technologies: Critical Tools for International Competitiveness: Saleh Al Shunnar, Centre for British Teachers for Education, UAE, chaired this parallel session on Thursday morning. He said having an intellectual property (IP) strategy is the single most important aspect for a country's investment climate and future. Bertram Huber, Intellectual Property for Sustainable Energy Ventures (IP*SEVA), Germany, explained what patents are, how they apply to energy technology products and processes and how to align patents and IP in business strategy.

Referencing the "Patents and Clean Energy: Bridging the Gap Between Evidence and Policy" report produced by the European Patent Office, the UN Environment Programme, and the International Centre for Trade and Sustainable Development, Heinz Goddar, Boehmert and Boehmert, Germany, discussed the role of patents in the transfer of clean energy technology. He described energy technology patents that have been filed and identified the key global energy patent-holders. He emphasized that patent growth is: highest for solar photovoltaic (PV) and wind; steady for hydro/marine electricity; dramatically increasing for biofuels; and still in decline for CCS.

Cynthia Cannady, IP*SEVA, US, discussed the importance of patents in research and development (R&D) and in collaborations. She gave examples of agreements for different patented energy technologies, underlining that collaborations in R&D are ubiquitous and that patent ownership is growing dramatically in a number of green technology fields. She said business IP strategy should be developed to foster continuous innovation and outlined the IP*SEVA model for green technology IP strategy collaboration.

The Challenges for Venture Capitalists in Clean Tech Investing: Gil Forer, Ernst & Young, US, chaired this session on Thursday morning. He highlighted growth in clean energy investment, with US$243 billion invested in 2010, and said that clean technology development cannot be sustained by venture capital, but must shift to private equity and other financial sponsors.

During the discussion, panelists considered, among other things: innovation in venture capital; regional differences in enabling environments; market conditions for initial public offerings; the need for "risk adequate returns"; the extension of the innovation cycle and length of holding periods in the clean technology sector; and regulatory incentives. Panelists agreed on the need to distinguish between types of clean technologies.

Ralf Schnell, CEO Siemens Venture Capital, Germany, said the venture capital investment model remains unproven for clean technology, cautioning that its testing will require time. Ben Cotton, Earth Capital Partners, UK, highlighted the need to "bridge the gap" between venture capital and private equity in clean technology financing, noting the highly capital-intensive "proof of concept" stage in many clean technology projects. Describing the global financial system as "highly leveraged and highly risky," Tayeb Al Dajani, Atlas International Company, UK, highlighted characteristics of the Islamic banking system that he said could be beneficial for clean technology investment.

L-R: **Bertram Huber**, Intellectual Property for Sustainable Energy Ventures (IP*SEVA), Germany; **Heinz Goddar**, Boehmert & Boehmert, Germany; **Cynthia Cannady**, IP*SEVA, US; Chair **Saleh Al Shunnar**, Centre for British Teachers for Education, UAE

On technologies of note for 2011, Ennis Rimawi, Catalyst Private Equity, Jordan, encouraged a focus on practical and affordable technologies like solar and waste-heat driven systems. Karin Larsen Burns, Ambata Capital Partners, US, advised clean technology entrepreneurs to consider not only technology, but also to develop viable business models and foster strong teams.

Innovation in Renewable Energy Financing: Dima Rifai, Paradigm Change Capital Partners, UK, chaired this session on Thursday morning. She described challenges for renewable energy financing, including putting in place appropriate investment frameworks, as markets and capital markets are constantly changing, and determining where different risks are located and who is taking them as the basis for distributing returns. Martin Billhardt, CEO, PNE WIND AG, Germany, observed the need for equity finance in the initial phase of developing wind projects, as it takes several years to receive debt finance. He added that it is crucial to understand the interests and risk profiles of investors and to eliminate as many financing risks as possible to attract debt financing.

Marie-Athena Papathanasiou, EMEA Sun Power, Switzerland, noted the pressure on companies to use innovative finance products due to strong movements in financial markets. She also described experience with a solar bond issued by her company, that attracted the interest of investment banks. Daniel Calderon, Masdar Power, UAE, explained that the vertical integration of Masdar for technology development allows different units, like technology developers and the venture capital element, to learn each others' needs. He added that the company meets its constant demand for finance by working with project and non-project finance companies.

Jules Kortenhorst, European Climate Foundation, the Netherlands, described financial challenges in developing policy plans for decarbonizing the EU's power sector and the African Renewable Initiative. He recommended that governments address the political, regulatory and currency risk of investors, and suggested that R&D for innovative financing should come from the financial sector rather than project developers.

SOLAR ENERGY

New Innovations in Solar Technology: In this panel on Wednesday morning, Chair Eicke Weber, Fraunhofer-Institut für Solare Energiesysteme (ISE), said that recent annual PV installation has increased exponentially but that greater automation, larger market production and new technologies are still needed. Milton Venetos, AREVA Solar, US, described new technology developments in concentrated solar power (CSP). He said Fresnel technology has grown steadily in recent years. On superheated steam generation, he described a solar project