THE 2013 ZAYED FUTURE ENERGY PRIZE FINALISTS

2013 Finalists

LARGE CORPORATION

- BYD Company Limited
- Sharp Corporation
- Siemens LLC

SME

- Clean Power Finance
- d.light design
- EcoNation
- Grameen Shakti
- Mainstream Renewable Power

NGO

- Ceres
- Fraunhofer ISE
- Rocky Mountain Institute

GLOBAL HIGH SCHOOLS

ASIA

- Fujimigaoka Educational Institution
- Kalkeri Sangeet Vidyalaya
- Sheikh Khalifa Bin Zayed Bangladesh Islamia School

AFRICA

- Kirya Secondary School
- Waterford Kamhlaba

EUROPE

- Okehampton College
- Queen Elizabeth II High School

THE AMERICAS

- Bronx Design & Construction Academy
- Secundaria Tecnica 120
  (Technical High school 120)

Large Corporation

Finalists

- BYD Company Limited
- Sharp Corporation
- Siemens LLC

Build Your Dreams

BYD COMPANY LIMITED

BYD (Build Your Dreams) is ranked #1 at the top of Bloomberg's and BusinessWeek's 2009 Tech 100 List and is the leading manufacturer of advanced, environmentally-friendly battery technologies like the BYD's Iron Phosphate battery.

BYD's photovoltaic and LED Lighting systems have CEC, TUV/CE and UL listings, and the company enjoys rapid growth in consumer electronics space and electrified transportation sector (including EVs, electric buses and EV chargers) manufacturing under its BYD brand.

BYD is the fastest-growing Chinese automotive and green energy technology enterprise with its four R&D centres, 180,000 employees and 13 manufacturing bases globally. BYD's sustainable vision is to get the free power from BYD solar farm; shave the peak, fill the valley and stabilise the output from BYD battery energy storage; 80% CO^2 emission reduced from BYD LED lighting, 50% energy saving to CFL light; direct zero CO^2 emission from BYD electric vehicle transportation. BYD with its partners is creating a total green city solution.

www.byd.com

SHARP CORPORATION

Sharp's corporate vision is to become an Eco-Positive Company. By "Eco-Positive Company," Sharp means a company that works with all stakeholders in creating solutions that have significantly more positive impact on the environment than the negative impact caused by business activities. One important effort towards this vision is the reduction of greenhouse gas emissions. In addition to reducing greenhouse gas emissions from its business activities, Sharp is developing and spreading the use of energy-creating solar cells and energy-saving products.

For more than 50 years, Sharp's efforts in research and development have led to groundbreaking solar solutions from lighthouses to space satellites to mega solar power plants. Cumulative shipping volume of Sharp's solar cells has reached to 5.5GW, the world's largest. Recently, Sharp has achieved the world's highest solar cell conversion efficiencies of 36.9% by using its proprietary technology for new triple-junction compound solar cell. On the way to realise over 45% efficiency under concentrated light, 43.5% efficiency, which is the world-record for concentrated cells too, already has been achieved. This technology of world highest efficiency will open the way to a bright future for solar PV society.

www.sharp-world.com

www.sharp-solar.com/en/

SIEMENS

SIEMENS LLC

Siemens history in the Middle East dates back to 1856, when Werner von Siemens first travelled to the region to supervise the laying of the undersea cables for the London-Calcutta telegraphic line. Since then, Siemens has been at the forefront of contributing to the rapid transformation of the region's infrastructure.

From supplying healthcare technology to building some of the world's largest power plants to providing and implementing industrial and building automation, and traffic management and security systems and solutions, Siemens has been a pioneer in innovation, excellence and responsibility across the Middle East. Today, the company holds leading positions in its Energy, Healthcare, Industry, and Infrastructure & Cities sectors in the Siemens Middle East region, which spans from Libya in the west to the countries of the Gulf Cooperation Council to Pakistan in the east.

An emphasis on R&D and investment in local talent has put Siemens at the helm of localisation efforts in all of its regional markets, demonstrating the company's commitment to knowledge transfer and the strategic development of local resources. Siemens is also making great strides in encouraging science and technology education in the Middle East together with regional partners, while at the same time pursuing initiatives aimed at raising environmental awareness.

The company's continuous presence in the Middle East over the past 150 years has ensured that Siemens is being looked at as a trusted long-term partner and employer, and a responsible corporate citizen.

www.siemens.ae

Small and Medium Enterprise (SME)

Finalists

- Clean Power Finance
- d.light design
- EcoNation
- Grameen Shakti
- Mainstream Renewable Power

Clean Power Finance

CLEAN POWER FINANCE

Clean Power Finance operates a business-to-business marketplace that connects capital sources (up to half a billion dollars to date) committed to investing in residential solar with qualified solar professionals who need finance products to accelerate the mass adoption of solar by consumers.

Clean Power Finance's transparent, scalable model improves on earlier generations of solar financing mechanisms and is helping get solar installed on thousands of homes in communities nationwide. As the online marketplace for renewable energy, Clean Power Finance's vision is to empower 10,000 customers and enable the installation of $1BN of solar systems for 100,000 property owners annually.

The solar systems Clean Power Finance has financed and manages have generated 9 gigawatt-hours of solar electricity to date (within a mere 18 months). This clean electricity has prevented 2,656 tons of coal or 5,260 barrels of oil from being burned, saving our environment from increasing greenhouse gas and deadly poisons like mercury. The systems have also provided carbon sequestration equivalent to that of by 6,027 mature trees (the size of a small forest).

www.cleanpowerfinance.com

d.light™
A Brighter Future

d.light design

A for-profit social enterprise, d.light manufactures and distributes solar lighting and power products targeting the 2.6 billion people globally without access to reliable electricity. Through10 field offices and four distribution hubs in Africa, China, South Asia and the United States, d.light has sold more than 1.5 million solar lanterns, improving over 7.5 million lives. d.light has leveraged its leadership in portable solar lanterns to introduce modular, upgradeable solar systems for homes and small businesses which, combined with a new and affordable payment system, have the potential to revolutionise the adoption of solar power in the developing world.

http://www.dlightdesign.com

LightCatcher®
Smart daylight by EcoNation

ECONATION

EcoNation (Belgium) developed and commercialised the 'LightCatcher', the first active and intelligent daylight system in the world which captures, enhances, filters and optimises daylight through a skylight, motorised mirror and lenses. LightCatcher allows users to switch off artificial light fittings for 3,650 hours per year while making use of only 1% of the roof surface. Thanks to its direct, high efficiency, the LightCatcher's impact on environment and energy bill is eight times higher than solar panels.

Combined with a daylight quantification and monitoring technology, LightCatcher allows EcoNation to offer an alternative business model whereby EcoNation absorbs the complete investment for its (industrial and/or public) customers. This is a revolutionary approach in daylight industry and allows for enormous energy and ecological savings without any upfront investment.

Step 1: EcoNation installs LightCatchers on a customer's roof and a light control system inside the building.

Step 2: EcoNation absorbs the complete investment through a 'LiCom' (Light Investment Company) and monitors the energy savings together with the customer, thanks to proprietary quantification and monitoring technology.

Step 3: EcoNation invoices only part of the generated savings, at a guaranteed lower price than the customer pays today.

In three years' time, EcoNation has initiated projects in nine countries (in Europe, Africa and South East Asia).

www.lightenergy.be

Grameen Shakti

GRAMEEN SHAKTI

Grameen Shakti (GS) has been, delivering renewable energy technologies (RET) through micro finance to the Bangladeshi rural off-grid population since 1996. As a social business, GS creates employment, fosters entrepreneurship, empowers women, youth and communities and breaks energy poverty without damaging nature. GS has already installed about 950,000 SHS with over 23,000 monthly installations till date, constructed 23,500 Biogas plants and set up about 550,000 Improved Cooking Stoves. GS will have installed more than 1 million SHS at the end of 2012 benefitting over 7 million people.

The goal is 2 million systems by 2015. Yearly CO^2 emission reduction by GS reaches approximately 723,598 ton. Currently, GS is the only company in Bangladesh to have registered two CDM projects – SHS & ICS. Innovative financing makes RET cost-effective for the poor to traditional energy and creates ownership at the cost of kerosene.

GS programs are integrated with local communities for income generation, poverty reduction, better quality of life, GHG emission reduction and sustainable development. It directly employs about 12,000 staff through 1,400 offices creating 500 green jobs every month and 46 rural technology centres solely run by 200 female engineers. The company has already trained 3,500 women technicians making them self-reliant.

www.gshakti.org

MAINSTREAM RENEWABLE POWER

Mainstream Renewable Power is one of the world's leading independent developers of renewable energy projects. With a development pipeline of over 15GW globally it has started construction on its first wind farm in Ireland and is about to start building five further wind and solar projects in South Africa, Chile and Canada this year.

As Europe's leading independent offshore wind developer Mainstream is developing just under 8GW of offshore wind projects in England, Scotland and Germany with 4.45GW of secured grid connection for these offshore projects.

It employs more than 150 experienced staff across four continents with offices in Berlin, Cape Town, Chicago, Dublin, Glasgow, Johannesburg, London, Ohio, Santiago and Toronto.

www.mainstreamrp.com

Non-Governmental Organisation (NGO)

Finalists

- Ceres
- Fraunhofer ISE
- Rocky Mountain Institute

CERES

Ceres is an independent, non-profit advocacy organisation that mobilises investor and business leadership to build a low-carbon, clean energy global economy. In 1997, Ceres launched the Global Reporting Initiative (GRI), now the international standard for corporate sustainability reporting.

In 2003, Ceres reframed climate change as an investment and fiduciary issue, and founded the Investor Network on Climate Risk (INCR), now comprised of 101 pension funds and other investors with combined assets of $10.7 trillion.

Ceres harnesses investors' influence to move the high-polluting companies they own to reduce their carbon emissions and embrace cleaner energy. Ceres also combines thought leadership analysis and investors' influence to move capital market institutions including the US SEC, ratings agencies, stock exchanges, and the insurance industry, to steer capital and shape company behaviour toward climate solutions.

With its policy coalition of global consumer brands, Ceres mobilises business leaders to move policymakers to take bold action on climate change and clean energy.

Now, Ceres is launching a major campaign to move the world's largest industry - insurance - to use its political clout, its $23 trillion in assets, and its ability to incentivise virtually every company and household to speed the transition to a clean energy economy.

http://www.ceres.org

Fraunhofer
ISE

FRAUNHOFER ISE

With a staff of 1,200, Fraunhofer ISE is the largest solar energy research institute in Europe. The work at the institute ranges from the investigation of scientific and technological fundamentals for solar energy applications, through the development of production technology and prototypes, to the construction of demonstration systems. Furthermore, it conducts research on the technology needed to supply energy efficiently and on an environmentally sound basis in industrialised, threshold and developing countries. To this purpose, staff is committed in the following business areas: Energy-Efficient Buildings, Applied Optics and Functional Surfaces, Silicon Photovoltaics, Alternative Photovoltaic Technology, Renewable Power Generation, Hydrogen Technology and Solar Thermal Technology.

Therefore, Fraunhofer ISE works hand in hand with other institutes of the Fraunhofer Gesellschaft, collaborating in groups and alliances or pooling different skills in flexible structures as and when needed. In this context, Fraunhofer ISE is the headquarter of Fraunhofer Energy Alliance, an association of 18 Fraunhofer Institutes collaborating in the research for wide-spread sustainable energy supply. Another example is the project “Morgenstadt” where a carbon neutral city of the future is developed.

http://www.fraunhofer.de/en.html

ROCKY MOUNTAIN INSTITUTE

Rocky Mountain Institute is an independent, entrepreneurial, nonprofit think-and-do tank co-founded in 1982 by Amory Lovins. RMI collaborates with leading businesses and institutions to drive the efficient and restorative use of resources.

The company excels in radical resource efficiency and the integration of renewable energy sources. It drives solutions by transforming design, identifying and busting barriers and spreading innovation to show that:

- A new energy era, based on efficiency and renewables, improves security, economy, environment, and health.
- Whole-system thinking reveals interconnections and systemic solutions, which are often simpler and can solve multiple problems with single investments.
- Saving resources is cheaper than buying them.

RMI's style is non-adversarial and trans-ideological, emphasising integrative design, advanced technologies, and mindful markets. Our strategic focus is to map and drive the transition from coal and oil to efficiency and renewables. In 2011, the company published an ambitious synthesis, Reinventing Fire: Bold Business Solutions for the New Energy Era, showing how shift can be led by business for profit.

www.RMI.org

Global High Schools

Finalists

ASIA

- Fujimigaoka Educational Institution
- Kalkeri Sangeet Vidyalaya
- Sheikh Khalifa Bin Zayed Bangladesh Islamia School

AFRICA

- Kirya Secondary School
- Waterford Kamhlaba

EUROPE

- Okehampton College
- Queen Elizabeth II High School

THE AMERICAS

- Bronx Design & Construction Academy
- Secundaria Tecnica 120

FUJIMIGAOKA EDUCATIONAL INSTITUTE - JAPAN

Fujimigaoka Educational Institute is a private girls' school, located in Shibuya Ward, Tokyo. The school was founded in 1940. A new school building, completed in the year 2000, gives students various opportunities to understand environmentally considerate ways of living. For example, filtered rainwater is used in the washrooms and all the toilet rolls they use come from recycled waste paper collected in the school.

The Great East Japan Earthquake (2011) prompted the school to set up a project team, whose goal is to arouse students' interest in a "sustainable society". The project team, namely the eco-activity committee, consists of seven student leaders (Grade 9 – Grade 11), with the support of three teachers.

The school train its students to become efficient eco-activity leaders, through these three activities.

1. Compost activity: A school and community-involved project where various rubbish materials are converted to compost.
2. Global Environment Meetings: After conducting web meetings with sister schools, Fujimigaoka Educational Institute issues a report on each nation's approach to the problem. The school aims to hold a "2015 Global Environment Meeting".
3. A "Global Environment Library": DVDs on environmental problems are collected in the library for further study on next-generation energy.

http://www.fujimigaoka.ac

KALKERI SANGEET VIDYALAYA - INDIA

Kalkeri-Sangeet-Vidyalaya (Kalkeri-Music-School) empowers children from socio-economically disadvantaged backgrounds to realise their full potential for a better life. This is done through a comprehensive academic and music program undertaken in a peaceful rural residential setting in Karnataka, India.

Through their achievements at KSV, the students will be in a position to attain meaningful livelihoods, thus breaking the cycle of persistent poverty and creating a better future for themselves and their communities.

The project aims at holistically developing KSV: the project potential is to make the school completely grid-free and self-sufficient. The saving in energy expenditure will be used to provide solar home lighting systems for the homes of merit students. Training and awareness modules aim at creating future energy champions that will have the first-hand experience of living under 100% sustainable conditions. Being a musically inclined school, energy access here will directly make education more efficient by making it possible to increase the range of instruments and their possibilities. A green amphitheatre at Kalkeri will immensely improve the output and future of the students as well as the school. Beyond all - utilising sustainable energy here is not just for environmental purposes but is the only reliable, feasible and practical solution.

http://www.ksv.org.in

SHEIKH KHALIFA BIN ZAYED BANGLADESH ISLAMIA SCHOOL - UNITED ARAB EMIRATES

Sheikh Khalifa Bin Zayed Bangladesh Islamia School, Abu Dhabi, was established in 1980 and caters to classes between KG and Grade XII.

The school actively participates in the Sustainable Schools Initiative and other programmes organised by the Environment Agency, Abu Dhabi. Apart from conservation measures like switching off electricity when unnecessary and efficient use of daylight, planting of trees to create a microclimate of lower temperature, the school has already reduced energy consumption by 15%, replacing existing lights with energy efficient ones.

The school proposes to introduce solar panels on the spacious roof top to supply solar energy for the school. They have chosen the ABT1 Platform because:

1. It can change its direction according to that of the sunlight for harvesting optimum energy.

2. The solar grid will be connected to the main electricity grid so that PV generated energy may be deducted from the conventional electricity usage.

The first phase will supply all the energy demands of the school, except air conditioning.

In the second phase, the school plans to use solar energy to power the AC's. However, as it may not be sufficient by the solar panel alone to fully cover the AC requirements, the school intends to further explore the possibilities of reducing power requirement by means of other innovative methods such as passive cooling. The school hopes to reduce another 35-40% of energy usage.

http://www.skbzbdschool.com/

KIRYA SECONDARY SCHOOL - TANZANIA

Kirya is a secondary school in Kilimanjaro region, Tanzania. It shares a green network with sister schools, Makomu and Kileo.

In 2006, Kirya's teachers and students tapped water from Nyumba ya Mungu hydro-electric dam and planted trees, carrying buckets two kilometres twice a day. Kileo and Makomu also grew trees with better access to water. In 2012, Kirya built a pipeline from the reservoir and expanded agro-forestry.

At Kirya, students and teachers fenced the inner compound using local materials to protect planted trees from animals. Students and teachers recorded weather and tried various soil treatments and watering techniques to enhance survival and growth of local and exotic trees.

Nurturing trees has practical and pedagogical goals: providing shade and cooling the microclimate and teaching the students the importance of living organisms.

Now the schools propose to model three renewable energy options to raise awareness and reduce the schools' ecological footprints: Wind power at Kirya, solar power at Kileo and biogas Makomu. The beneficiaries will be students, teachers, non-teaching staff and the community at large via a final proposal component: environmental learning centres for outreach and co-production of knowledge with local farmers, fishers and herders.

WATERFORD KAMHLABA - SWAZILAND

Waterford Kamhlaba is a United World College situated in Swaziland. It was created in 1962 as a multi-racial school which would offer equal opportunities of good education to students of all races, in protest to the neighbouring regime of apartheid (South Africa).

It now comprises 600 students from more than 50 countries, including many African countries. It is a boarding school offering both IGCSE and the IB Diploma. As a member of the United World Colleges network it has a mission statement committing the school to 'Making education a force to unite peoples, nations, and cultures for peace and a sustainable future'. The team involved in drawing up this energy efficiency proposal comprises IB students and biology teachers all committed to greening this beautiful campus, which already incorporates a nature reserve.

http://www.uwc.org/uwc_education/our_schools_and_colleges/waterford_kamhlaba_uwc_of_southern_africa/default.aspx

OKEHAMPTON COLLEGE - UNITED KINGDOM

Okehampton College is a large comprehensive school with 1,350 pupils drawn from one of the largest UK catchment areas.

As well as providing an solid academic grounding for its pupils, offers 80 extra-curricular activities for students and place great emphasis on sustainability and the need to become responsible global citizens. In recent years, pupils have raised over £100,000 for many charitable causes (local, national and international) which is an important strand of Green Flag. The school proactively engages with all aspects from fair trade and global perspectives to energy efficiency and recycling.

Having focused on energy efficiency (technical matters and better usage habits), the school is now ready to install wind power and biomass heating.

Okehampton already has extensive monitoring, a building management system, 3000 low energy lights, insulation upgrades, better heating controls, thermostatic radiator valves and is now developing better habits which are being transferred across the community and beyond. This has led to a 50% reduction in consumption of gas and electricity while either of the projects above will have another massive impact.

www.okehamptoncollege.devon.sch.uk

QUEEN ELIZABETH II HIGH SCHOOL - UNITED KINGDOM

Students at Queen Elizabeth II High School on the Isle of Man are involved in a pioneering project to combine their Biomass heating system with a Wind Turbine. Inspired by a trip to Gambia and seeing the impact of climate change, the students returned wanting to educate people about how to, and why they should reduce their carbon footprint. Their eco work has gained International recognition. They were awarded the first UNESCO Ozone Action Certificate and filmed for BBC Newsround. Their project 'Will Wind Work' brought attention to the students' interest in alternative low carbon energy resources. The Department of Education recognised their enthusiasm in championing energy efficient strategies and chose the school to pilot the first biomass boiler.

The students want to combine this with a wind turbine helping reducing carbon emissions of over 300 tonnes per annum. It will provide a real laboratory, hands on science for examining energy costs, CO^2 etc. Data will be available for analysis through the Department of Education Intranet enabling all schools on the Isle of Man to access a valuable teaching resource. It will provide base line data for future energy systems used by schools and other government buildings.

www2.sch.im/groups/qe2highschool/

BRONX DESIGN & CONSTRUCTION ACADEMY - UNTED STATES OF AMERICA

Bronx Design & Construction Academy (BDCA) is home to the first approved public school green roof in New York City. The ninth grade Ecology class and after-school Green Science Club use the green roof to investigate and develop environmentally sustainable practices. The green roof incorporates solar panels and a rainwater harvesting system, which allow students to harness energy from the sun and store rain from the clouds. BDCA is also collaborating with professors and graduate students from Columbia University's Green Roof Consortium to study water quality and quantify the benefits of green roofs through the monitoring of ambient temperature, ambient relative humidity, and solar insulation. Last year, BDCA students discussed 'Building with Greenwall and Greenroof Technology' at the Horticultural Society of New York. In May this year, a pair of students presented on the mutual benefit of green roofs and solar panels at the American Solar Energy Society (ASES) World Renewable Energy Forum (WREF) to an established international group of professional renewable energy practitioners and researchers. A team of BDCA students also competed in the Alliance for Climate Education's Amazing Race and earned 1st place in the Tri-State region (NY, NJ and DC) for their work to conduct energy audits and reduce energy consumption at school.

Bronx Design & Construction Academy creates a learning environment where career and technical education (CTE) and Common Core-based content classes are taught through the lens of sustainability, environmental awareness, and stewardships. The integrated curriculum leads students to make connections between technology, science, and real world problems to formulate environmentally sustainable solutions to 21st Century development challenges.

www.bxdca.org

SECUNDARIA TECNICA 120 - MEXICO

Technical High school 120 is located in a 10,000 m^2 terrain at the Mexico Cuernavaca high road, sited at the Guarda Parres community; the school has seven buildings with 10 classrooms (a multipurpose and a TICs) and two workshops.

At the time of its opening in 1995, the school had 100 students; currently it caters to 300 kids. As a rural school, Technical High school 120 receives a few resources from the Ministry of Education, additionally the school and the community lack of an indispensible resource: water.

The school is part of the program Green School, coordinated by the Ministry of Environment, to promote the community participation in the reduction of the school environmental footprint.

The project will involve the students, the school principal and the community of Guarda Parres, with the technical support of the city council of Tlalpan, Civil Association Urban Island, the INIFED and the Centre of Technological Studies 154.

Lifetime Achievement

Due to personal nature of the “Lifetime Achievement” category, the Zayed Future Energy prize has refrained from noting the names of the finalists for the “Lifetime Achievement” award category.