JAIN IRRIGATION SYSTEMS GREEN BOND

SECOND PARTY OPINION BY SUSTAINALYTICS

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1 PREFACE

Jain Irrigation Systems Ltd. (JISL) is issuing a green bond that aims to finance / refinance (including through acquisition) renewable energy, micro-irrigation, and water efficiency projects. JISL has engaged Sustainalytics to provide a second-party opinion on its green bond issuance and the bond's environmental credentials. Sustainalytics' Opinion is based on JISL's projects list which is included in Appendix A. As part of this engagement, Sustainalytics held conversations with members of JISL's sustainability team to understand the environmental impact of their business processes and planned use of proceeds for the bond issuance. Sustainalytics also reviewed relevant public and internal documents.

2 INTRODUCTION

Founded in 1986, Jain Irrigation Systems Ltd. (JISL) is India's largest producer of micro-irrigation systems (MIS), and second largest micro-irrigation company in the world. JISL's diversified portfolio of products includes plastic pipes and products, agro-processed products, renewable energy solutions, tissue culture plants, financial services and other agricultural inputs. The company operates in 126 countries around the world and serves over 5 million farmers, most of whom have less than one hectare of land. JISL is headquartered in Maharashtra, India.

JISL has been recognized as a global leader in modern irrigation systems and innovative technologies in the areas of water security and food security. The company was listed as one of the New Sustainability Champions by the World Economic Forum. On its website, JISL states that its mission is to create a sustainable future by fulfilling the company's vision: "Leave this world better than you found it". JISL aims to achieve this objective by integrating sustainability into agricultural practices and improving the livelihoods of farmers.

In line with this objective, JISL is planning to issue a green bond to finance / refinance expenditures related to the development of micro irrigation systems (MIS) and renewable energy projects.

3 SUSTAINALYTICS' OPINION

Sustainability Performance of the Issuer

Sustainalytics is of the opinion that JISL has a strong sustainability commitment, and a robust internal assessment process to mitigate environmental, social, and occupational health and safety risks.

Contribution of use of proceeds to JISL's sustainability strategy

Sustainalytics is of the opinion that JISL has a strong commitment to sustainability. This is supported by the company's: (i) corporate philosophy[1], (ii) Energy and GHG Policy, and (iii) Water Management Policy (see Appendix B for company policies). Within its mission statement and guiding principles, the company acknowledges its commitment to society and the environment. In its Energy and GHG Policy, JISL commits to energy conservation and continual improvement in energy performance and reduction in GHG emissions. This commitment is supported by the company's Research and Development (R&D) in various projects to promote renewable energy products, including: high efficiency LED solar street lighting systems, solar pumping systems, and solar photovoltaic. Finally, in the company's Water Management Policy, JISL commits to the creation, conservation, distribution and purification of water through all of the company's processes as well as products. JISL's commitment is supported by R&D in micro-irrigation systems (MIS), water supply projects and in the area of hi-tech agriculture.

Given JISL's commitment to sustainability, as captured by its policies, and the alignment of JISL's green bond framework with its overall sustainability strategy, Sustainalytics is of the opinion that JISL is well positioned to issue green bonds.

Well positioned to mitigate common environmental and social risks in emerging markets

Sustainalytics recognizes that a common risk stemming from the manufacturing of renewable energy and micro-irrigation products in emerging markets is occupational health and safety. Additionally, projects in emerging markets are exposed to environmental and social risks such as pollution, poor labour conditions, and negative impacts on community well-being. However, Sustainalytics is of the opinion that JISL has a strong environmental and risk assessment processes to mitigate these risks, including a robust Occupational Health and Safety process and compliance with International Finance Corporation (IFC) Performance Standards.

The robustness of the company's Occupational Health and Safety risk mitigation process stems from the company's (i) Quality, Environment, Occupational Health and Safety Policy (see Appendix B, and also available on the JISL website), (ii) OHSAS 18001 certified management system, and (iii) Occupational Health and Safety Risk Assessments. Through the company policy, JISL outlines the company's commitments to protect and improve the environment, occupational health and safety (OHS) of JISL's associates through sound management and quality practices. This policy is one of the key requirements for the BS OHSAS 18001:2007 international occupational health and safety management system specification which helps JISL manage and control OHS risks. Additionally, the company conducts site

[1] Jain Irrigation Systems Ltd. Corporate Philosophy. Accessed on October 27, 2016: **http://www.jains.com/Company/corporate%20philosphy.htm**

surveys to identify environmental and OHS risks which demonstrates the company's proactive approach. Sustainalytics reviewed JISL's comprehensive risk assessments which both detects potential hazards and determines control procedures.

The rigour of JISL's Environmental and Social (E&S) control procedures was tested in 2007, when the IFC invested and worked with JISL on MIS initiatives as well as for an approved corporate investment[2]. JISL complied with IFC's E&S Performance Standards in order to secure investments. The IFC Performance Standards cover a wide range of issues to address environmental and social risk, including management of environmental and social impacts, community health, resource efficiency and pollution prevention, and labour conditions. The company had created an E&S Action Plan to mitigate E&S risks described in the IFC Performance Standards. This included development of E&S assessment and management systems, and development of processes to manage labour and working conditions, pollution prevention and abatement, and community health, safety and security.

Given the integration of environmental and OHS concerns into its operations, its robust internal risk assessment process for renewable energy and micro-irrigation projects, development of processes to mitigate E&S risks in alignment with the IFC Performance Standards, and the lack of environmental and social controversies associated with the proposed projects, Sustainalytics believes that JISL is well positioned to mitigate the common E&S risks in emerging markets.

Sustainalytics' Opinion of JISL Projects

JISL's eligible projects have a clear environmental impact, specifically in the context of India. Proceeds will be used to support generation of renewable energy, and achieve water and energy efficiency, particularly in agricultural irrigation. Sustainalytics is of the opinion that JISL's eligible projects offer clear environmental benefits that are aligned with India's strategic priorities, and the Sustainable Development Goals (SDGs).

Sustainalytics recognizes that the use of proceeds will be allocated to CAPEX (capital expenditures) as well as OPEX (operational expenditures) that are specific to eligible projects. Given the nature of the projects, Sustainalytics believes that OPEX will be important to maintain projects and will contribute to sustaining positive environmental impacts. Sustainalytics has reviewed JISL's internal system to track OPEX, and is of the opinion that it is robust. The systems ensure that OPEX is tracked project-by-project and that it is project specific, rather than for the company.

Additionally, Sustainalytics has been assured that any possible acquisition activities would be for the purpose of expanding the company's ability to deliver green products and services, as defined in the project list.

[2] Jain Irrigation Systems Ltd. Environmental and Social Action Plan (2007). Accessed on October 23, 2016: **http://jainpipe.com/PDF/JISL%20ESAP%20and%20Summary.pdf**

Impact of Use of Proceeds

The importance of renewable energy in India

At the twenty-first meeting of the Conference of Parties (COP21) of the United Nations Framework Convention for Climate Change (UNFCC) in December 2015, India submitted its Intended Nationally Determined Contribution (INDC). INDCs require countries that are signatories to the Paris Agreement to make commitments that address climate change and to update those commitments every five years. Key goals identified by India in its INDC include (i) reducing the emissions intensity of its GDP by 33-35% by 2030, using 2005 as the baseline and (ii) achieving 40% cumulative electric power installed capacity from non-fossil-fuel-based energy resources by 2030.[3]

India hopes to meet this international pledge through ambitious national targets. The National Solar Mission is one of the several initiatives under India's National Action Plan on Climate Change with a target of achieving 20GW[4] of solar installed capacity by 2022.

In addition to its international commitments and corresponding national targets, renewable energy has a particularly high strategic importance in India. India is home to 30% of the world's global poor, and has 300 million people who live without access to electricity.[5] Currently, India's two primary sources of energy are coal and imported oil[6], both of which have been recognized as unsustainable in the face of a transition to a lower carbon economy.

Given these two realities, India faces the tremendous challenge of fostering socio-economic development while transitioning to a more sustainable economy. In the face of this challenge, renewable energy in India can be seen to play the crucial dual role of mitigating climate change and aiding socio-economic development. Sustainalytics is of the opinion that JISL's renewable energy products offers clear environmental benefits within the Indian context.

The importance of micro-irrigation systems in India

Agriculture contributed to 18% of overall GHG emissions from Indiain 2010[7]. The net sown area in India is approximately 141 million hectare out of which 60% is irrigated with groundwater which in turn contributes to 40% of India's food production and 17.4 per cent of the country's GDP[8]. Groundwater in India is depleting at alarming rates in the populous regions of the country due to withdrawals exceeding the rate of recharge and replenishment[9]. The rapid growth in groundwater use in India compared to other

[3] Ernst & Yong, The Paris Agreement, A Universal Call to Action for Governments and Businesses: What it means for India, **http://www.ey.com/Publication/vwLUAssets/ey-the-paris-agreement-what-it-means-for-india/$FILE/ey-the-paris-agreement-what-it-means-for-india.pdf**

[4]UNFCC, India's Intended Nationally Determined Contribution **http://www4.unfccc.int/submissions/INDC/Published%20Documents/India/1/INDIA%20INDC%20TO%20UNFCCC.pdf**

[5] UNFCC, India's Intended Nationally Determined Contribution **http://www4.unfccc.int/submissions/INDC/Published%20Documents/India/1/INDIA%20INDC%20TO%20UNFCCC.pdf**

[6] US Energy Information Administration, India Country Analysis Brief, **https://www.eia.gov/beta/international/analysis.cfm?iso=IND**

[7] Government of India. First Biennial Update Report to the United Nations Framework Convention on Climate Change. December 2015. p.58. Accessed on October 21, 2016: **http://unfccc.int/resource/docs/natc/indbur1.pdf**

[8] WWF, 2013. Water stewardship for industries: the need for a paradigm shift in India.

[9] NASA Earth Science News Team (2009). NASA Satellites Unlock Secret to Northern India's Vanishing Water. Accessed on October 27, 2016: **http://www.nasa.gov/topics/earth/features/india_water.html**

nations is shown in Appendix C which illustrates the total number of mechanized wells and tube wells which rose from less than 1 million in 1960 to 19 million in 2000[10].

Micro-irrigation technologies involving drip and sprinkler irrigation are key interventions in water conservation. Micro-irrigation systems (MIS) deliver water directly to the root zone of crops resulting in better water use efficiency as well as energy efficiency. Replacing flood method of irrigation with MIS also reduces electricity consumption required for pumping water which eventually reduces GHG emissions through reduced consumption of grid power or fossil fuel based captive power[11].

Micro-irrigation has been highlighted as one the important GHG emissions mitigation measure in India's First Biennial Update Report to the UNFCCC (December 2015)[12]. Moreover efficient irrigation is one of the few technologies which are recognized as one of the important mitigation as well as adaptation measure to climate change by the Ministry of Environment, Forest and Climate Change (MoEFCC)[13].

Alignment with the Sustainable Development Goals (SDGs)

The Sustainable Development Goals (SDGs) were set in September 2015 and form an agenda for achieving sustainable development by the year 2030. These goals are widely considered to be the next step to the Millennium Development Goals (MDG), which were time-bound to 2015. Of particular importance for JISL's green energy projects is SDG 7 Affordable and Clean Energy, which includes a target to (i) ensure universal access to affordable, reliable and modern energy services, (ii) increase substantially the share of renewable energy, and (iii) double the global rate of improvement in energy efficiency.

In terms of JISL's micro-irrigation projects, of particular importance is SDG 6 Clean Water and Sanitation, which includes targets to substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity, and SDG 15 Life on Land, with targets to combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world. Under the JISL Green Bond Framework, eligible green projects may include those related to green energy and micro-irrigation systems. These projects contribute towards the protection of resources and are aligned with the SDGs.

Alignment with Green Bond Principles 2016

Sustainalytics has determined that the Jain Irrigation System Ltd. Green Bond aligns to the four pillars of the International Capital Markets Association (ICMA) Green Bond Principles 2016[14]. For detailed information please refer to Appendix D: Green Bond/Green Bond Programme External Review Form.

[10] UN Water. The United Nations World Water Development Report 2015. p. 77. Accessed on October 27, 2016: **http://unesdoc.unesco.org/images/0023/002318/231823E.pdf**

[11] Government of India. First Biennial Update Report to the United Nations Framework Convention on Climate Change. December 2015. p.83. Accessed on October 21, 2016: **http://unfccc.int/resource/docs/natc/indbur1.pdf**

[12] Government of India. First Biennial Update Report to the United Nations Framework Convention on Climate Change. December 2015. p.93. Accessed on October 21, 2016: **http://unfccc.int/resource/docs/natc/indbur1.pdf**

[13] UNFCCC. India's Intended Nationally Determined Contribution: Working Towards Climate Justice. p.20, 36. Accessed on October 21, 2016: **http://www4.unfccc.int/submissions/INDC/Published%20Documents/India/1/INDIA%20INDC%20TO%20UNFCCC.pdf**

[14] International Capital Market Association (ICMA), Green Bond Principles, 2016. 16 June 2016: **http://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/green-bonds/green-bond-principles/**

Conclusion

JISL's green bond framework is transparent and provides clarity regarding use of proceeds and the outcomes of the green bond investments. Renewable energy, sustainable water management and eco-efficient products are all recognized by the Green Bond Principles as eligible green project categories, offering clear environmental benefits. In the context of India's sustainable development challenges, Jain Irrigation System's development of green power and micro-irrigation system projects contribute to an important national priorities and the country's transition to a low-carbon economy. Furthermore, in Sustainalytics' view JISL's internal environmental, social, and OHS risk assessment process positions it well to address and mitigate potential environmental and social risks associated with the projects elegible under the green bond. Sustainalytics is of the opinion that Jain Irrigation System's green bond is credible and robust.

APPENDICES

Appendix A: Jain Irrigation Systems Ltd. Example Green Bonds Project List

Sl. No.	PROJECT TITLE	SCOPE
	RENEWABLE ENERGY	
1.	8.5 MW Solar Photovoltaic Power Project at Jalgaon, Maharashtra	One of the largest solar based power generation projects in the region. It is a grid connected renewable energy generation at Green Energy Park In Jalgaon.
2.	1.67 MW first of its Kind Biogas Based Power Generation Project in Maharashtra, India	Certified as first of its kind biogas project by Ministry of New and Renewable Energy (MNRE) India. The project not only processes the food waste produced at Jain Food Park but also takes the waste from nearby agro based industries and converts it into energy. It is also connected to Grid, however in this case the electricity generated is utilized for operations at Jain Food Park
3.	Manufacturing and installation of Solar Pumps	Jain Irrigation has pioneered the development of complete DC Solar Agri Pump systems in India. It is one of the few manufactures of such pumping systems in the in the World. Perfectly matched components such as solar panels, controllers, pumps, screen pipes, casing pipes, filters are all designed and manufactured in-house by JISL leading to superlative performance over long life. Over last few years, JISL has installed more than 20,000 Solar Agri Pump sets across India in 8 to 9 states which is more than 50% of the total installations in the country till date. JISL has also recently bagged Maharashtra State Electricity Distribution Co. Ltd's ("MSEDCL") largest tender for supply and installation of 8,959 Solar Agri–Pumps in 20 districts of Maharashtra
4.	Manufacturing and Installation of Solar Panels, Water Heating Systems and Appliances	Manufacturing of products required for implementation of green energy products and promotion of renewable energy: This includes manufacturing of Solar Photo-Voltaic, (SPV) module through mono/multi crystalline silicon solar cells in the state of the art manufacturing facility that demonstrate very high level of automation at Jain Green Energy Park. These solar panels are used to convert solar radiation into energy in all above solar based projects. Other groups of solar products that promote green energy include Solar Water Heaters and Solar Appliance (e.g. solar LED).

MICRO IRRIGATION SYSTEMS (MIS) AND MIS BASED TURNKEY PROJECTS		
5.	Manufacturing of Micro Irrigation Products	Manufacturing of products required for implementation of micro irrigation and water supply projects. The Micro-Irrigation Division manufactures a full range of precision-irrigation products and provides services from soil survey, engineering design to agronomic support.
6.	Narmada Canal Project, Sanchore (Rajasthan)	Providing network of HDPE pipelines for Sprinkler irrigation to farmers. This includes construction of diggies pump rooms sump wells and boundary wall of Choura minor of Sanchore lift and construction of VRB on Sanchore lift distributary on 10.05 to 46.35 km (tail). The major work includes; execution of earth work, single P.C.C. block lining, pucca structure, diggies, pump room, sump well etc. & supplying, laying, jointing, testing & commissioning of distribution network (main &sub mains) of High Density Polyethylene (HDPE) pipe with electrically operated motor with desired accessories including designing and layout of mechanical work on turnkey basis.
7.	Community Micro Irrigation Project in Kandi belt of Talwara and Hajipur Blocks of Hoshiarpur, Punjab	Providing network of HDPE pipelines for Sprinkler and drip irrigation to community of farmers.
8.	KNNL Shiggaon, Integrated Micro Irrigation Project, Karnataka	Providing network of HDPE pipelines and distribution network with PVC pipes for Sprinkler Irrigation to farmers through water user associations. The scope covers surveying including for 9900 hectare command area, designing supplying, installing, testing& commissioning suitable pumps & motor wherever required for individual blocks, detail design for different diameter & pressure rating PVC/HDPE pipes with valves wherever necessary from Lift Irrigation System (LIS) delivery chamber to distribution line and distribution line to sump, from sump to pump house, from pump house to main line of sprinkler unit, from main line of sprinkler to to lateral line then to sprinkler set in farmers field. Construction of sump, valve chambers & pump house, location with dimensions for individual block from six delivery chambers of LIS including civil works. It includes: construction of 110KV/33KV substations & construction of 33kKV overhead line, construction of 33KV/11KV substation, construction of 11KV overhead lines providing 11KV/433volts transformers & further service connecting to pump houses and providing training to water user & departmental staff, two year maintenance after commissioning & one year defect liability period after completion of maintenance period etc. complete on turnkey basis.

9.	Medium Irrigation Project in Nadaun Distt. Hamirpur (HP)	Providing network of HDPE pipelines and distribution network with HDPE pipes for Sprinkler/Drip irrigation to farmers and Operation & Maintenance of the Scheme for 5 Years.
10.	Balh Valley (Left Bank) Nedium Irrigation Project in District Mandi H.P.	Providing network of HDPE pipelines and distribution network with HDPE pipes for Sprinkler/Drip Irrigation to farmers. The project includes survey, Investigation, planning, designing, estimation and execution of the project in a time bound manner of 2 year along with submission of PERT/CPM Chart & further O&M of the project for 5 year in Balh Valley of District Mandi H.P.
11.	Gujarat Water Resource Development Project, Gujarat	Construction of PINS (Pressurized Irrigation Network) along with micro irrigation for area under tube wells in various districts of Gujarat.
12.	Ministry of Agriculture & Animal Resources (MINAGRI) Project, Rwanda	The scope includes supply & execution of micro & sprinkler irrigation system on turnkey basis. The project is implemented under rehabilitation scheme implemented by the Government. The Government has given 1 acre land to each shelters to earn bread & butter & keep engage under agriculture. The crops covered under project are short duration cash crops; Tomatoes, Cabbage, Cauliflowers, Cucumber, Egg Plant, Pigeon peas, Maize, Banana, Orange etc.
13.	Kiwbezi Cluster Micro Irrigation Development Project, National Irrigation Board, Nairobi, Kenya.	The scope includes supply & installation of micro irrigation system on turnkey basis. The project area is scarce of water resources and prevailing conditions are drought like. The rainfall in the area is less than 200 mm. There is no water available for drinking and irrigation at project site. Available water in 'Kiwbezi' river is not sufficient to fulfill the need of drinking and irrigation of 800 acres. Apart from limited water, there is no power available to operate irrigation system. It has been informed that since many generations, farmers could not grow crops because of short rainfall. Considering all hurdles JISL has planned and executed successfully, powerless micro irrigation system under gravity.
14.	Sardar Sarovar Nigam Limited Project, Ahmedabad, Gujarat	Constructing UGPL Sub Minor work including survey, documentation, alignment for pipeline work, supplying & installation of pipelines & ancillaries, construction of valve chambers & outlet chambers & commissioning of the UGPL SM & handing over to farmer groups as per specification of SSNNL & design of WAPCOS.

15.	Krishna Bhagya Jal Nigam Limited (KBJNL), Bagalkot Dristrict, Ramthal Project	Providing network of HDPE pipelines and distribution network with PVC pipes for Drip Irrigation to farmers through water user association. This includes design, supply, Installation, testing and commissioning of Ramthal (Marol) flud stage 2 automated Drip Irrigation system, pumping machineries, rising main including civil work, electrical work and supply of spare parts, tools related with Drip Irrigation system etc. including operation & maintenance of the system for five years on turnkey basis.
16.	Kantai Bandhara, A Water Conservation Project at Girna River	Kantai Bandhara (a weir on seasonal river Girna in Jalgaon), with water backed till 5 kilomiters, and a capacity of 180 crore liters was constructed by Jain Irrigation at a cost of Rs. 7.86 cores. 50% of this water will be used by the surrounding eight villages for drinking and farming and the remaining 50%, will be used by Jain Irrigation.
17.	Solar Powered Micro Irrigation Project at Kurukshetra, Haryana.	Providing network and distribution up to chak (field) using solar pumps Micro Irrigation to farmers. It further covers planning, design, supply, installation, testing, commissioning and comprehensive operation & maintenance for 3 Years of community based solar/ grid powered micro-irrigation infrastructure schemes in existing canal commands in various districts of Haryana – EPC towards successful commissioning plus 1 year of assured performance demonstration after commissioning and comprehensive O&M of the schemes for 3 years thereafter.
18.	Drip Irrigation Project at Raipur Chhattisgarh	Providing network of PVC pipelines and distribution network with PVC pipes for Drip irrigation to farmers. This includes; surveying, design, supply, installation, testing and commissioning along with the civil works such as intake structure, intake pipe, sump well overhead pump house, pumping machineries, including supply and erection of PVC pipe distribution network with micro (drip) irrigation system and three years operation and maintenance of the system for 500 ha area of proposed Hardi Anicut irrigation project on Mahanadi.
WATER EFFICIENCY		
19.	Drinking Water Supply Project at Bhilai, Chhatisgarh	Providing MDPE Pipe Network and House Service Connections under Bhagirathi Nal Sanyojan Yojana in Bhilai MC
20.	Drinking water supply Project for Gokak Municipal Corporation, Belagavi, Karnataka	Construction of works & services for operation & management of 24x7 water supply system for city municipal corporation of Gokak. This includes providing HDPE distribution network for 24x7 water supply, using MDPE pipe for house service connections with water meter, operation & maintenance of distribution network for 5 years including billing and setting up customer care centre

21.	Drinking water supply Project for Nipani Municipal Corporation, Belgaum, Karnataka	Construction of works & services for operation & management of 24x7 water supply system for city municipal corporation of Nipani. This includes providing HDPE distribution network for 24x7 water supply, using MDPE pipe for house service connections with water meter, operation & maintenance of distribution network for 5 years including billing and setting up customer care centre
22.	Remodelling of Distribution System in Jamkhandi, Vijaypura, Bagalkot, Karnataka	Providing HDPE distribution network for 24x7 water supply, using PE pipe for house service connections with water meter, operation & maintenance of distribution network.
23.	Drinking water supply Project for Haliyal, Karnataka	Construction of works & services for operation & management of 24x7 water supply system for city municipal corporation of Haliyal. This includes providing HDPE distribution network for 24x7 water supply, using MDPE pipe for house service connections with water meter, operation & maintenance of distribution network for 5 years including billing and setting up customer care centre
24.	Treated Effluent Supply Project for Public Health and Engineering Department, Fatehabad and Tohana, Haryana	Providing HDPE Pumping Main for conveyance of treated effluent to disposal point.
25.	Water Supply project, Dewas, Madhya Pradesh And Public Health Engg. Simhastha Project, Ujjain, Madhya Pradesh	Providing, laying & jointing 110 to 500 mm dia HDPE pipe water distribution network & House service connection work in Dewas Town. Another project's scope include; providing, laying, jointing, testing, commissioning, trial run, operation & maintenance upto Mela (religious fair) period and dismantling after mela period of various components of distribution Network of 21094 meters length.
26.	Sewerage Water Supply Project at Chandigarh, Punjab	Use of sewerage/waste water through Solar pumps and HDPE pipeline network in 13 districts of Haryana. This includes Surveying, Planning, Designing, Supply and laying of HDPE pipeline dia 90mm to 315mm and civil works with material pertaining to construction of sumps, pump houses, renovation of ponds and Installation of Solar Photovoltaic SPV pump sets complete in all respects with commissioning of project at various locations in Punjab state

Appendix B: Environmental and Social policies

Jain Irrigation Systems Ltd.

Small Ideas. Big Revolutions.

ENERGY AND GHG POLICY

We at Jain Irrigation Systems Ltd are committed to energy conservation and continual improvement in energy performance and reduction in Greenhouse Gas (GHG) emissions.

We shall achieve this by -

1. Utilizing energy in effective and efficient manner by appropriate design, operation and maintenance of equipment, processes and work practices.
2. Development, use and promotion of renewable energy products such as solar, biogas and wind energy.
3. Purchase of energy efficient products and services.
4. Ensuring compliance to applicable legal and other requirement with respect to energy use, consumption and efficiency and GHG emissions.
5. Setting and reviewing energy and GHG objectives and targets viz.
   - I. Maintain power factor above 0.967
   - II. Utilizing alternate fuels such as biomass, biogas etc.
   - III. Solar power generation
   - IV. Waste heat recovery
   - V. Increase in plantation/ Green cover
   - VI. Energy efficiency in buildings

We will ensure availability of information and necessary resources to achieve above objectives.

This policy is communicated throughout the division, understood by all concerned and reviewed periodically for its suitability. The policy is made available to public and interested parties on demand.

Ashok B. Jain
Chairman

Jain Irrigation Systems Ltd.

Small Ideas. Big Revolutions.

WATER MANAGEMENT POLICY

We at Jain Irrigation Systems Limited truly believe 'water is life' and are committed to creation, conservation, distribution and purification of this natural resource while ensuring cost efficient use with the help of most advanced technology in agricultural, industrial and household applications with focus on water factor productivity. We shall do this through all our processes as well as products and through continuous spread of awareness of conservation of water across all members of society.

We shall achieve this by,

1. Good water governance, stakeholder involvement, suitable processes and practices to uphold and promote water stewardship.
2. Improvement in water usage efficiency in our value chains through application of efficient and innovative practices and procedures based on basic and applied research.
3. Reduction in environmental impact of our products and services by adopting lifecycle assessment approach.
4. Compliance to water rights, legal and other requirements on water usage at our sites.
5. Taking objectives and action plans on integrated water resource management viz.
   a) Judicious, effective and efficient water utilization in all processes.
   b) Prevent and control water quality degradation.
   c) Direct and indirect loss control to maintain water balance.
   d) Maximum Recovery, Recycling and Reuse of water.
   e) Water harvesting and ground aquifer recharge.
   f) Stakeholder awareness and action orientation.

This policy is communicated to all concerned within the organization and reviewed periodically for its effectiveness. It is made available to public and interested parties on request.

Vice Chairman

Date: October 23, 2015

Note: This policy is applicable to all our units operating in India.

Jain Irrigation Systems Ltd.
Small Ideas. Big Revolutions.

Quality, Environment, Occupational Health and Safety Policy
Jain Plastic Park

We at Jain Plastic Park are committed to total customer satisfaction, quality excellence in our products, maintain market leadership, protect and improve the environment, occupational heath and safety of our associates and other persons at our premises through sound quality, environment, occupational health and safety management practices.

We uphold our commitment through

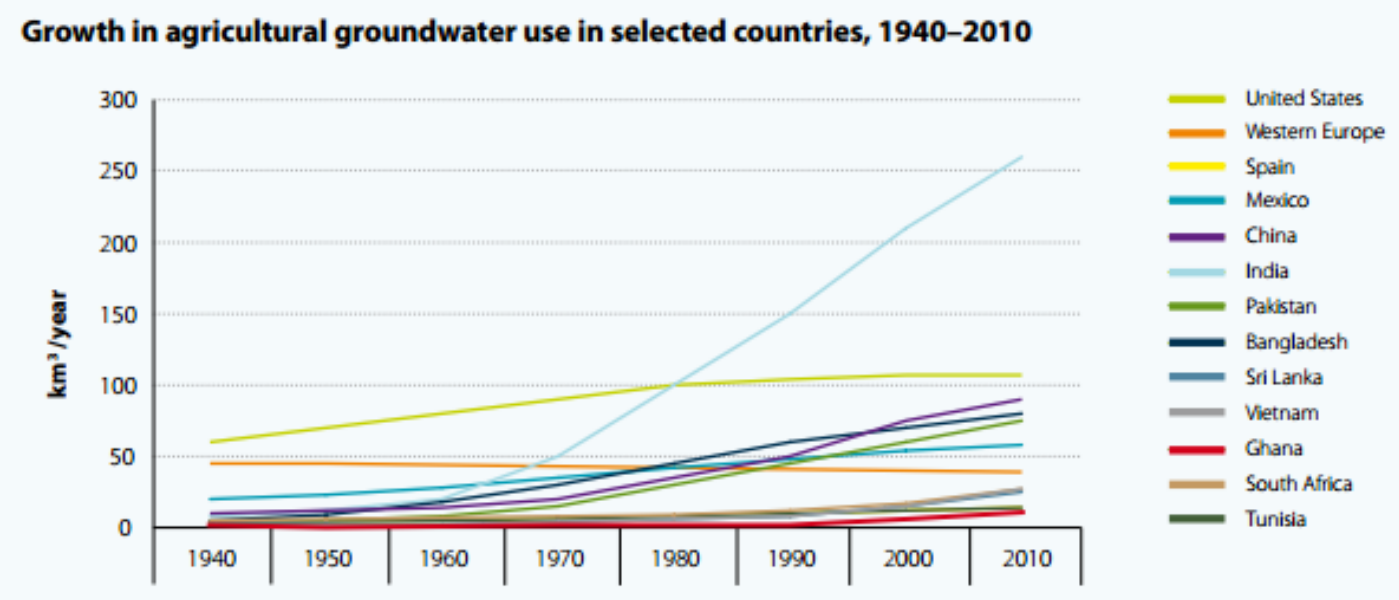
1. Manufacture, supply, installation and servicing of quality products at competitive, reasonable price and keeping to delivery schedules.
2. Conservation of natural resources like water and wood by promotion of Plastic Pipes and Micro Irrigation System for water management and Plastic Sheets for timber conservation in building, construction, advertisement and other industries.
3. Enhancement of Productivity and Quality of Agricultural Produce using optimum resources through promotion of Micro Irrigation and Precision Farming Systems & Products.
4. Protection of the environment including prevention of pollution and other specific commitments relevant to the context of the organization, this shall be achieved by minimizing generation of process waste, sustainable use of resources like energy, water; optimum utilization of raw materials, other inputs and reducing the sound and dust level in the manufacturing process.
5. Prevention of injury and ill health by risk assessment, appropriate processes, practices, incident investigation and analysis system.
6. Ensuring awareness about quality, environment protection, health and safety among all concerned by training, display, other communication methods and securing their involvement through performance assessment.
7. Fulfilling compliance obligation to current applicable quality, environmental, occupational health & safety, legal and other requirements which relate to quality, environmental aspects and occupational health & safety hazards.
8. Continual improvement of quality, environmental, occupational health and safety performance by setting, reviewing objectives by adopting economically viable technologies and active participation of all associates.

This policy shall be communicated to all those working for, on behalf or under the control of the organization with the intent that they are made aware of their individual obligation and shall be made available to interested parties on request.

Date: 01 April, 2016

Director Technical

Appendix C: Growth in Agricultural Groundwater Use in India



Source: UN Water. The United Nations World Water Development Report 2015. p. 65.
Accessed on October 27, 2016: **http://unesdoc.unesco.org/images/0023/002318/231823E.pdf**

Appendix D: Green Bond/Green Bond Programme External Review Form

Green Bond / Green Bond Programme External Review Form

Section 1. Basic Information

Issuer name: Jain Irrigation Systems Ltd.

Review provider's name: Sustainalytics

Completion date of this form: January 13th, 2017

Section 2. Review overview

SCOPE OF REVIEW

The following may be used or adapted, where appropriate, to summarise the scope of the review.

The review assessed the following elements and confirmed their alignment with the GBPs:

- ☒ Use of Proceeds
- ☒ Management of Proceeds
- ☒ Process for Project Evaluation and Selection
- ☒ Reporting

ROLE(S) OF REVIEW PROVIDER

- ☒ Consultancy (incl. 2nd opinion)
- ☐ Verification
- ☐ Other *(please specify)*:
- ☐ Certification
- ☐ Rating

Note: In case of multiple reviews / different providers, please provide separate forms for each review.

EXECUTIVE SUMMARY OF REVIEW and/or LINK TO FULL REVIEW *(if applicable)*

Please refer to Second Opinion Document above.

Section 3. Detailed review

Reviewers are encouraged to provide the information below to the extent possible and use the comment section to explain the scope of their review.

1. USE OF PROCEEDS

Overall comment on section *(if applicable)***:**
Sustainalytics is of the opinion that all the use of proceeds outlined by JISL have a clear environmental benefit, specifically in the context of India. Proceeds of the bonds will be used to invest in the following eligible green projects:

1. Manufacturing of **Renewable Energy Products:** Expenses associated with the production of products that facilitate the generation and use of renewable energy including but not limited to: solar photovoltaic modules, solar water heaters, LED solar lanterns, solar street lighting, solar agri and hand pumps, biogas-based power generation and application development, biogas plants and turnkey projects for these applications.

2. **Micro Irrigation Systems:** Expenses associated with the design, manufacture, supply, and execution of micro-irrigation systems and projects optimized for Indian conditions and designed to increase the crop productivity, reduce water usage and consumption of energy.

3. **Water Efficiency:** Expenses associated with the design, production and installation of products that facilitate the efficient use of water including but not limited to providing municipalities with MDPE and HDPE pipe network for potable water.

These projects will have the clear environmental impact of water use efficiency and reduction of water and energy consumption in the agriculture sector in India, and contributing to renewable energy generation.

Use of proceeds categories as per GBP:

☒	Renewable energy	☒	Energy efficiency
☐	Pollution prevention and control	☐	Sustainable management of living natural resources
☐	Terrestrial and aquatic biodiversity conservation	☐	Clean transportation
☒	Sustainable water management	☐	Climate change adaptation
☒	Eco-efficient products, production technologies and processes	☐	Other *(please specify)*:

☐ Unknown at issuance but currently expected to conform with GBP categories, or other eligible areas not yet stated in GBPs

If applicable please specify the environmental taxonomy, if other than GBPs:

2. PROCESS FOR PROJECT EVALUATION AND SELECTION

Overall comment on section *(if applicable)***:**
Green projects which meet the eligibility criteria will be reviewed by JISL's Sustainability and Environment team.

Projects financed / re-financed through the Green Bond proceeds are evaluated and selected based on alignment with the eligibility criteria. In addition, projects are evaluated based on (i) commercial feasibility, and (ii) alignment with Jain Irrigation's internal environmental and social risk assessment process.

The finance department oversees the commercial feasibility and subsequently selects the eligible projects.The Sustainability and EHS Team oversee the project selection with regards to alignment with eligibility criteria and internal environment and social risk assessment process. The team comprises of members from the departments of Green Energy, Micro Irrigation Division, and Accounting & Treasury.

This is in line with industry norms.

Evaluation and selection

☒ Defined and transparent criteria for projects eligible for Green Bond proceeds

☒ Summary criteria for project evaluation and selection publicly available

☐ Documented process to determine that projects fit within defined categories

☐ Other *(please specify):*

Information on Responsibilities and Accountability

☐ Evaluation / Selection criteria subject to external advice or verification

☐ Other *(please specify)*:

☒ In-house assessment

3. MANAGEMENT OF PROCEEDS

Overall comment on section *(if applicable)***:**
JISL has sufficient oversight over the management of proceeds, and management of proceeds is in line with industry best practice. An amount equal to the net proceeds of the Notes the will be credited to a segregated account that will solely be used to finance/refinance the Eligible Green Projects (including through acquisition). JISL has also established processes to track and monitor the allocation of an amount equal to the net proceeds of the bonds for the financing or refinancing of Eligible Green Projects (including through acquisition).

The accounting department will be responsible for tracking the allocation against the Eligible Green Projects using spreadsheets, which will be reviewed annually by the Sustainability and environmental services team.

Prior to allocation of an amount equal to the net proceeds of the bonds, the funds will be held temporarily in cash and cash equivalents or will be used to temporarily repay short term indebtedness through bank lines.

Tracking of proceeds:

- ☒ Green Bond proceeds segregated or tracked by the issuer in a systematic manner
- ☒ Disclosure of intended types of temporary investment instruments for unallocated proceeds
- ☐ Other *(please specify)*:

Additional disclosure:

- ☐ Allocations to future investments only
- ☒ Allocations to both existing and future investments
- ☒ Allocation to individual disbursements
- ☐ Allocation to a portfolio of disbursements
- ☐ Disclosure of portfolio balance of unallocated proceeds
- ☐ Other *(please specify)*:

4. REPORTING

Overall comment on section *(if applicable)***:**
Within one year of the issuance, and until the full allocation of an amount equal to the net proceeds of the bonds for the Eligible Green Projects is completed, JISL will provide on their website (www.jains.com) (i) annual updates to investors on the amounts allocated for the Eligible Green Projects and assertions by management with respect thereto, (ii) the expected impact metrics related to the relevant Eligible Green Projects, and (iii) an annual external review from an environmental consultant or other third party appointed by the issuer, that the allocation of an amount equal to the net proceeds was applied to Eligible Green Projects. JISL has committed to undertake an external annual review of the allocation of proceeds by an environmental consultant or other third party.

Use of proceeds reporting:

☒ Project-by-project

☐ On a project portfolio basis

☐ Linkage to individual bond(s)

☐ Other *(please specify):*

Information reported:

☒ Allocated amounts

☐ GB financed share of total investment

☐ Other *(please specify):*

Frequency:

☒ Annual

☐ Semi-annual

☐ Other *(please specify):*

Impact reporting:

☐ Project-by-project

☒ On a project portfolio basis

☐ Linkage to individual bond(s)

☐ Other *(please specify):*

Frequency:

☒ Annual

☐ Semi-annual

☐ Other *(please specify):*

Information reported (expected or ex-post):

☐ GHG Emissions / Savings

☐ Energy Savings

☒ Other ESG indicators *(please specify): energy savings (Kwh produced or/and CO2 avoided), water savings (m³ saved/reduced), Acres covered by HDPE pipelines for sprinkler irrigation, number of beneficiaries (# of households)*

Means of Disclosure

☐ Information published in financial report

☐ Information published in sustainability report

☐ Information published in ad hoc documents

☒ Other *(please specify):* reporting will be published on the JISL website

☒ Reporting reviewed *(if yes, please specify which parts of the reporting are subject to external review):* an independent accountant will provide limited assurance on the disbursement of the net proceeds

Where appropriate, please specify name and date of publication in the useful links section.

USEFUL LINKS *(e.g. to review provider methodology or credentials, to issuer's documentation, etc.)*

JISL website: **www.jains.com**

SPECIFY OTHER EXTERNAL REVIEWS AVAILABLE, IF APPROPRIATE
Type(s) of Review provided:

☐ Consultancy (incl. 2nd opinion)
☐ Certification
☐ Verification / Audit
☐ Rating
☐ Other *(please specify):*

Review provider(s): **Date of publication:**

ABOUT ROLE(S) OF REVIEW PROVIDERS AS DEFINED BY THE GBP

(i) Consultant Review: An issuer can seek advice from consultants and/or institutions with recognized expertise in environmental sustainability or other aspects of the issuance of a Green Bond, such as the establishment/review of an issuer's Green Bond framework. "Second opinions" may fall into this category.

(ii) Verification: An issuer can have its Green Bond, associated Green Bond framework, or underlying assets independently verified by qualified parties, such as auditors. In contrast to certification, verification may focus on alignment with internal standards or claims made by the issuer. Evaluation of the environmentally sustainable features of underlying assets may be termed verification and may reference external criteria.

(iii) Certification: An issuer can have its Green Bond or associated Green Bond framework or Use of Proceeds certified against an external green assessment standard. An assessment standard defines criteria, and alignment with such criteria is tested by qualified third parties / certifiers.

(iv) Rating: An issuer can have its Green Bond or associated Green Bond framework rated by qualified third parties, such as specialised research providers or rating agencies. Green Bond ratings are separate from an issuer's ESG rating as they typically apply to individual securities or Green Bond frameworks / programmes.

Disclaimer

The Opinion was drawn up with the aim to explain why the analyzed bond is considered sustainable and responsible. Consequently, this Opinion is for information purposes only and Sustainalytics will not accept any form of liability for the substance of the opinion and/or any liability for damage arising from the use of this Opinion and/or the information provided in it.

As the Opinion is based on information made available by the client, Sustainalytics does not warrant that the information presented in this Opinion is complete, accurate or up to date.

Nothing contained in this Opinion shall be construed as to make a representation or warranty, express or implied, regarding the advisability to invest in or include companies in investable universes and/or portfolios. Furthermore, this Opinion shall in no event be interpreted and construed as an assessment of the economic performance and credit worthiness of the bond, nor to have focused on the effective allocation of the funds' use of proceeds.

The client is fully responsible for certifying and ensuring its commitments` compliance, implementation and monitoring.

SUSTAINALYTICS

Sustainalytics is the largest independent provider of sustainability research, analysis, and services to investors. We serve over 250 institutional investors which include some of the world's largest asset owners and asset managers. Through over 20 years of experience serving the responsible investment (RI) market, we have gained a reputation for providing high-quality ESG research solutions and excellent client service.

Sustainalytics is headed by seasoned professionals in the field of business, finance, and sustainability, with a wealth of experience in the Responsible Investment area. After more than 20 years of local experience and expertise in the Responsible Investment (RI) market Sustainalytics has developed a comprehensive understanding of trends and best practices and a solid process to assist organisations in integrating ESG considerations into their policies and strategies. We have worked with some of the world's financial institutions including pension plans, investment managers and banks providing customised support to help them achieve their RI objectives. Clients include ABN AMRO, APG, BBVA, BNP Paribas, Deutsche Bank, ING Bank, Lombard Odier, Lloyds Bank, Triodos Bank, UBS and over 250 other financial institutions and organisations.

Sustainalytics now has a staff of 250 employees globally, including over 120 analysts, with operations in Amsterdam, Boston, Bucharest, Frankfurt, New York, Paris, London, Singapore, Sydney, Timisoara, and Toronto, and representation in Brussels and Washington DC.

In 2015, Sustainalytics was named the Best SRI or Green Bond Research Firm by GlobalCapital. In December 2014, for the third year in a row, Sustainalytics was named best sustainable and responsible investment research firm in the Independent Research in Responsible Investment (IRRI) Survey, conducted by Thomson Reuters and SRI-CONNECT.