Industrial Symbiosis Eco-Industrial Development Section Update

May, 2012

Peter Lowitt, FAICP

This update service is provided by the Industrial Symbiosis Eco-Industrial Development Section of the International Society for Industrial Ecology. We welcome your announcements, call for papers and announcements of academic publications, corrections, insights and feedback.

The Section board consists of Marian Chertow (Professor, Yale U., USA), Weslynn Ashton (Board Secretary and Assistant Professor, Illinois Inst. Technology, USA), Ankit Aggarwal (Student, TU Munich, Germany, Student Member), Professor Shi Han (Board Treasurer and Assistant Professor, City U of Hong Kong, China), Rachel Lombardi (Research fellow U. Birmingham, UK and Practitioner with NISP), and Peter Lowitt (FAICP, practitioner, Devens Enterprise Commission USA and board Chair). The board serves for a two year period from 2011-2013.

- **Communications**: this committee will work on establishing protocols for communicating with members and be responsible for sending out updates. The group should examine the various existing communications platforms and determine how best to communicate with members of the section and non-members. An active linked in discussion group has been one result of this initiative. ([http://www.linkedin.com/groups?about=&gid=1845383&trk=anet_ug_grppro](http://www.linkedin.com/groups?about=&gid=1845383&trk=anet_ug_grppro)). We encourage you to join up and add to the discussion. The active exchange of ideas on this site ranges from discussions of orange by-products as a source for biofuel to discussions of parallels’ between the financial and climate crisis (see below for a summary of this update’s topics).

- **Programming and events**: this committee will work on defining (co-)sponsorship of events, assist in planning events; determining ways goals and deliverables for the section, examining ways to fund initiatives such as PhD student exchanges or graduate consortium events. The 9th Annual Industrial Symbiosis Research Symposium (ISRS) will take place on October 19, 2012, in Tianjin Economic-Technological Development Area (TEDA), about 150 km southeast of Beijing. ISRS will be followed by the 3rd ISIE Asia-Pacific Meeting to be held in Tsinghua University, Beijing on October 20-21,
2012, which will focus on theme “Asia-Pacific Toward Eco-Industrial Development”. http://www.cern.org.cn/. The section is participating in the International Working Conference Applied Industrial Symbiosis, Birmingham, UK June 12-14, 2012. International Synergies and Birmingham City Council will host a groundbreaking practical International Working Conference on Applied Industrial Symbiosis (IWCAIS 2012). IWCAIS will bring together 150 advocates of Industrial Symbiosis from the world’s leading businesses, institutions and academia to work alongside experienced Industrial Symbiosis practitioners and develop plans that will demonstrate how the methodology can be used to address many of the issues debated at Rio+20.

- Database and information sharing: this committee will work on determining the best means of sharing information about projects and synergies, utilizing existing platforms or suggesting new ones, and working together to organize this initiative. We need volunteers for this committee.

- Shi Han and Marian Chertow will represent the Section at a meeting of ISIE Sections held as part of the Gordon Research Conference in Switzerland this summer.

- The United Nations General Assembly recently announced the list of 800 non-governmental organisations accredited to attend the “Rio+20” conference on Sustainable Development, to be held in Rio de Janeiro on June 20-22. ISIE is one of these accredited organisations (thanks to an initiative by Susan Spierre and Melanie Quigley).

- Anne Hewes (IS Section member) will be carrying the Society’s banner at the conference. If any other members will be there, can you please tell the Society’s office? We also ask you to indicate your association with ISIE when you register.

**Linked In Questions and IS Case Studies:** Much thanks to Ines Costa for jump-starting this group. The following are some of the recent postings. Be sure and go to our Linked-in site for more in depth information on these and other items. This effort assists the Section in implementing our communications plan.

Member Graham Aid asks: Active vs Passive IS Facilitation: “Does anyone have specific data showing the success rates (using metrics such as transfers created) regarding passive (such as web based waste exchanges) and active facilitation (such as quick win workshops or strategic brokering)? Also interesting could be resources input / weighted consequential connections.” This conservation has generated a healthy exchange on the listserv over the past month, with numerous commentators chiming in on the subject. It morphed into a discussion of business facilitation models for waste management firms leading to some interesting exchanges.
An invitation to attend the Greater Chicago Area Waste to Profit network meeting was extended to interested parties via the site.


Conferences, workshops, courses and other events

- 2013 International Society for Industrial Ecology Society Conference, 2013, Ulsan, Korea
- International Working Conference on Applied Industrial Symbiosis (IWCAIS) is scheduled for June 12-14, 2012 in Birmingham, UK. See above for more information
- Martin Anderson is chairing and presenting ISKalundborg at the EU Presidency Conference 19-21 June in Aarhus, Denmark.
- Leo Baas invites colleagues to the 18th Greening of Industry Network (GIN) conference in Linköping, Sweden, during 21-24 October, 2012. The website of the GIN 2012 conference is developed. A reference group with representatives of industry, government and university, chaired by the County Governor, is currently working on the organization of on-site workshops as integrated part of the GIN2012 conference. All information about the GIN2012 conference, can be found on www.gin2012.se


- 118th Annual International Sustainable Development Research Conference: People, Progress and Environment UK, June 24-26 2012. This interdisciplinary conference includes a number of opportunities to discuss
to meet sustainability scientists with other specialisms. For the full call for papers and programme, please see the conference website at www.hull.ac.uk/isdrc18

The conference will provide a forum for discussion on sustainability, comprising both empirical and theoretical contributions, considering developed, developing and/or transition economy perspectives around the following themes:

• Sustainable production and consumption
• Critical perspectives on sustainable development
• Regional approaches to sustainable development
• Effectiveness of governance, institutional and economic structures for sustainability
• Science of Sustainability: determining the need for transitions, assessing progress and trends.

Scientific contributions (based on peer reviewed abstracts) are organised into tracks which relate to these themes. Tracks and their chairs are displayed on the conference website.


- ReuseConex 2012 (10/18-20/12): ReuseConex 2012, the 2nd National Reuse Conference & Expo, will be held at the DoubleTree in Portland, Oregon. The Reuse Alliance Portland Chapter's Steering Committee will be spearheading the event planning efforts. To get involved (planning committee, exhibit, sponsor, or attendee), please contact us at reuseconex@reusealliance.org.

- US Eco Industrial Development networking event September 12-14, 2012 to be held at Devens Conference Center, Devens, MA. All US Eco Industrial Development projects are invited to attend a gathering to establish a network in order to share information about our initiatives and lessons learned. A call for papers and proposals for presentations can be found at www.devensec.com/sustain.html

- The first Organizing Sustainable Consumption and Production Chains ISIE topical section workshop in the form of "un-conference" will be held in Rotterdam, NL June 14-15.

More details available: http://sites.google.com/site/isieoscpsection/section-announcements/upcomingsectionworkshop

The idea of the meeting is to gather people who are interested in research on sustainable product chain organization. The main purpose is to get to know each others research (all disciplines welcome!) and also to brainstorm about topics and activities the section would promote. Rather than a formally structured meeting, we will "un-conference". The un-conference is a meeting that is participant-defined. If you come, think of a topic for a session (More about unconferencing: http://www.unconference.net)

For more information and registration, please contact Vered Blass (vblash@post.tau.ac.il)

We look forward to seeing you in Rotterdam!

Publications and presentations of interest:

- A selection of previously published articles on industrial symbiosis has been compiled at http://jie.yale.edu/symbiosis. Included in the compilation is a comprehensive list of all articles and columns published in the Journal of Industrial Ecology on industrial symbiosis.
The Natural Resources journal has issued a call for papers. A quick perusal of their requirements indicates that IS papers would be welcome. nr@scrip.org for more information.

Professor Shi Han will be presenting a session and paper on “The development of industrial ecology in the Chinese ports” at the 13th World Conference on Cities and Ports in St. Nazaire, France this June.

China has witnessed rapid industrialization in the past 30 years. Due to China’s policy opening to the world, many portal cities become the development fronts and grow into large industrial bases. However, these cities have to cope with the ever-increasing resources depletion pressure and environmental burdens. In the first decade, some efforts were taken to make industrial development more sustainable, including eco-industrial parks and urban symbiosis. Eco-industrial parks seek enhanced environmental, economic, and social performance through collaboration in managing environmental and resource issues in a community of manufacturing and service businesses located together. The presentation aims to give some industrial symbiosis stories in Chinese ports, including Shanghai Chemical Industrial Park, Zhuhai Gaolangang Port Park, Ningbo Beilun Industrial Park, Tianjin Binhai New Area and Qingdao E-wastes Recycling Park. Some key measures will be presented, such as waste exchanging, cascading usages of energy and water, infrastructure sharing. Some influencing factors will be discussed, such as the consequences for governance (local cluster governance and chain governance), consequences for local upgrading, the double externality problem of eco-innovation, the regulatory push/pull effect of policy and the increasing importance of social and institutional innovation. Finally, some policy implications will be presented to make eco-industrial parks from strategic niches to mainstream development, including: 1) to put industrial development into mainstream technological trajectory; 2) to provide more spaces for experimentation; 3) to open windows for technological support, information, and funding; 4) to make government as enabler; and 5) to foster the regional social embodiedness.

An Eco Industrial Design Blog I came across that might be of interest to our readers. http://ecoindustrialdesign.blogspot.ca/


The Huffington Post on May 16, 2012 featured an opinion piece by Professor Marian Chertow entitled “Gains in Plain Site, the Common Sense of Cooperative Resource Management”. Great article Marian, who knew you could make IS jokes (that work)!

Bilateral Industrial Symbiosis. An assessment of its potential in New South Wales to deal sustainably with manufacturing waste

Branson, Robin

Industrial symbiosis
Manufacturing takes place in NSW on sites that are dispersed throughout the state. They may be isolated, remote from one another and hence from likely users of their waste. This scenario is not conducive to industrial symbiosis which is conventionally understood to be a network of organisations in close geographic proximity that share resources, cascade energy and use each other’s waste. Regulations governing the disposal of waste are stringent and associated costs are significant, largely due to the highest landfill levies anywhere in Australia. The state government’s strategy is to increase levies to a level that ‘induces’ generators of waste to find alternatives to landfill. Responding to these challenges will necessitate a fundamental change in the approach to dealing with waste. The way in which manufactures might accomplish the change sustainably and systematically is the underlying issue addressed in this thesis. The concept of physical bilateral symbiosis, specifically an arrangement between a generator of waste and its user, has been developed to suit geographic conditions in NSW. However, an attempt to establish trials of its autogenous form was unsuccessful. Nevertheless, results of the attempt indicated that broader issues should be investigated: managers’ perceptions of waste disposal, their willingness and their capacity to meet the challenges imposed by government; collectively, what I have called a generator’s internal infrastructure. These issues, in turn, led to an investigation of how third parties, that is, the external infrastructure, might be able to facilitate bilateral symbiosis. The principal findings are that while some generators may develop uses for their waste others will simply not be able to do so. There is, in practice, no external infrastructure capable of facilitating systematic, bilateral symbiosis on behalf of a generator. Furthermore, government action, particularly in relation to policy on funding, is neither appropriate nor adequate for sustainable development in relation to waste. The overall conclusion is that much could be done by the private sector to increase the use of waste, if government policy were to support the effort. However, that support is expected to be very difficult to achieve, even in the form of appropriate legislation in NSW, let alone coordinated among the various jurisdictions in Australia. In regard to what actually happens in practice, the current scenario in general is unlikely to change significantly within the foreseeable future.

Jim Lane has produced another interesting article with his May 22, 2012 piece “Waste Lines – the Hottest Trends with Bio’s Coolest Feedstock”. The piece addresses why Symbiosis is Cool! Among other items. Check it out online at Biofuels Digest.
Eco-Industrial Development and Industrial Symbiosis in Practice:

Eco-Industrial Projects:

**COUNTRY: USA**

**Massachusetts:** The Devens Eco-Efficiency Center and Devens Enterprise Commission announced a call for presentation ideas for their fall event. Plans are being made for the September 12-14, 2012 US Eco Industrial Park networking event at Devens. Interested parties should contact Peter Lowitt at peterlowittatdevensec.com.

**Minnesota:** An interesting article in the ReUse Connex Newsletter for May, 2012 reports that “The Great Reuse Race MN was a Great Success!

The Great Reuse Race MN, a scavenger hunts through the Twin Cities Minnesota's reuse community, was a great success thanks to our fabulous volunteers, sponsors, race sites, and racers!

Over 260 people in the Greater Minneapolis/St. Paul Metro Area registered for The Great Reuse Race to learn more about reuse businesses and organizations within their community. The event also generated interest from several major news outlets - which helped us spread the word about reuse even further. On Earth Day we we held a "Finish Line Party" at Arc's Value Village for racers and their friends and family which featured how to sew clinics, reuse-friendly give-aways and a fantastic ReFashion Show. Arc was able to exceed their daily sales goal in one hour during the party. Thank you to our generous fashion show models for showing that reuse can be fashionable! “

**North Carolina:** Charlotte – ReVenture Park announced that over 90 tons of steel and scrap metal from an abandoned textile dye manufacturing facility will be recycled and reused through transformation into new metal products and sculpture as part of the redevelopment of the site into Charlotte’s first Eco Industrial Park. Click [here to watch](#) a video clip of recycling crews in action. This video is HD quality and free for your use thanks to good folks at ReVenture Park.

**COUNTRY: Thailand.** Rayong. “IRPC Plc, a subsidiary of national oil company PTT Plc, is planning to develop an ecological industrial estate project on its existing industrial estate. With a total area of 8,000 rai on two plots of land in Muang and Ban Khai districts in Rayong province, the new eco-friendly industrial estate is supposed to produce less waste and emissions, and increase safety and energy savings, said president Atikom Terbsiri.” in the Bangkok Post. The Thai Ministry of Industry's Department of Industrial Works has signed an agreement with IRPC Public Company Limited to jointly promote eco-industries under the so-called Eco Industrial Complex initiative.

Samut Prakan could be pilot project for a Japanese style Eco Town in Thailand, according to the Bangkok Post.
COUNTRY: Malaysia

COUNTRY: United Kingdom  Birmingham – Coseley Eco Park which proposes a holistic approach to development in this industrial district of the city encountered opposition from environmental groups alarmed at an energy recovery facility proposed as part of the redevelopment. “Set to create more than 1,300 jobs, the scheme will also see 219 homes, a food store, two car showrooms, trade wholesale, a community hall, football pitch and a household waste recycling facility built on the site.” The Dudley Council voted to approve the project once the energy recovery facility was removed from the park’s development plans.

Salford: Another Eco Park proposing an incinerator and recycling plant in the Green Lane Eco Park was rejected by Salford Council.


Northern Ireland: Excellent results are being reported for firms participating in the industrial symbiosis program delivered by Invest Northern Ireland. “World leading premium drinks manufacturer Diageo is among the companies that Invest Northern Ireland’s Industrial Symbiosis Service has helped to implement a zero waste to landfill policy” a news release reports.

COUNTRY: Azerbaijan

COUNTRY: Australia

COUNTRY: China. Representatives from Singapore and China met at the Tianjin Eco City to discuss the success of their cooperative efforts. “Mr Goh and Premier Wen noted the rapid growth of the Tianjin Eco-city over the past few years, and the significance of the Tianjin Eco-city project in demonstrating how sustainable economic development can be achieved in China.”

COUNTRY: Sweden

COUNTRY: Nepal

COUNTRY: Philippines

COUNTRY: Vietnam

COUNTRY: Canada  Olds, Alberta. The Olds Institute for Community and Regional Development (OICRD) awarded the contract for development of a master plan for the its new Eco-Industrial Park to Light House, a nonprofit in British Columbia. According to the June 2012 Light House Newsletter, “Over the coming months, Light House will be working to develop a Master Plan and Business Plan for a new eco-industrial project that sensitively responds to the needs and economic profile of a smaller community. We will be meeting with key stakeholders in the coming weeks, and developing and implementing a public consultation strategy to engage the community in this innovative green industrial development project.” Thanks to section member Tracy Casavant and the members of her team at Light House for that information.
Southgate, Ontario. The Dundalk Eco Park in Ontario remains mired in controversy as plans to site facility to convert human waste into an agricultural grade fertilizer are literally being blocked by neighbors from the Six Nations Band who have shut off access to the site.


COUNTRY: Switzerland

COUNTRY: Norway

COUNTRY: Denmark Maabjerg –“ Last August, the Danish prospects for expansion took a leap forward with the launch of the Maabjerg Energy Concept, a highly ambitious effort to produce cellulosic ethanol, biogas, district heat, power, and a small amount of industrial CO2. It’s an integrated design concept, as routinely developed, it seems, by the Danes, although rarely so comprehensively elsewhere. The consortium aimed to build a 2nd generation bioethanol plant, a hydrogen production plant and a waste treatment plant in Måbjerg. At the same time, the production of biogas by Maabjerg BioEnergy would be increased significantly, and the biomass-fired cogeneration plant Måbjergværket would be revamped. Today, the project took a major step forward with the news that Novozymes had joined the project as a participant and investor.” By Jim Lane. Novozymes and Dong Energy, partners in Kalundborg are working together on this project as well.

COUNTRY: Netherlands William McDonnough and partners are working on Park 20/20 in the Netherlands:

COUNTRY: Finland

COUNTRY: Bahamas .

COUNTRY: Brazil

COUNTRY: Japan

COUNTRY: Korea

COUNTRY: Nigeria

COUNTRY: Germany

COUNTRY: Hungary and Slovakia

COUNTRY: India

COUNTRY: Trinidad and Tobago

COUNTRY: Romania

COUNTRY: Singapore.

COUNTRY: South Africa.

Professional Changes and Opportunities: