

Industrial Symbiosis Eco-Industrial Development Section Update
June 20 – August 12, 2011
International Society for Industrial Ecology
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 newly elected Section board consists of Marian Chertow (Professor, Yale U, USA) , Weslynn Ashton (Secretary) Assistant Professor, Illinois Inst. Technology, USA, Ankit Aggarwal (Student, TU Munich, Germany, Student Member), Professor Shi Han (Treasurer) Assistant Professor, City U of Hong Kong, China , Rachel Lombardi (Research fellow) U. Birmingham, UK and Practitioner, and Peter Lowitt, FAICP, practitioner, Devens Enterprise Commission USA(Chair). The board serves for a two year period from 2011-2013.

The board and members attending the Section meeting held during the ISIE conference this June agreed to work on three initiatives.

- 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>
We encourage you to join up and add to the discussion.
- 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 section plans to participate in the ISIE Asia event in China next year as well as promote anniversary events being held by NISP and Kalundborg, also scheduled for next year. Shi Han announced that Ms. Song Yuyan, Director TEDA ECO Center agreed to co-sponsor the 9th ISRS which is tentatively scheduled to be held on Sept. 13, 2012 in Tianjin, China.
- 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.

- Calling all Eco-industrial designers! [The World Design Impact Prize](#) is a biennial designation created to recognize empower and stimulate socially responsible design projects and initiatives around the world. Presented by the International Council of Societies of Industrial Design (Icsid), the [World Design Impact Prize](#) will honor exceptional industrial design driven projects that are making a positive impact on our social, economic, cultural and/or environmental quality of life. By drawing from the expertise of Icsid’s network, this [competition](#) creates an exciting opportunity for members and the general public to play an active role in recognizing and honoring projects and partners that create a better world through socially responsible design. Entries will be accepted through October 5th, 2011.

Read more: [The World Design Impact Prize | Design Competitions](#)

- Many of us have been contemplating what makes a successful city and the appropriate role of industrial ecology in city. Well, Jack Diamond of the Toronto Globe and Mail took on that question in his August 2, 2011 editorial in which he slams the current Mayor for his cutting of essential services and the cities transportation infrastructure. What I found fascinating was the phrase I underlined below:” the importance of environmentally sustainable growth based on sound planning and industrial ecology principles.” Could it be that industrial ecology is going mainstream?

A 2007 study, Mission Possible: Successful Canadian Cities, by the Conference Board of Canada, identified four cornerstones: a strong knowledge economy to attract business investment and a talented and skilled labour force; a connective physical infrastructure (i.e., a transportation system that can effectively move goods and people); environmentally sustainable growth based on sound planning and industrial ecology principles; and social cohesion, the critical components of which are attractive and accessible housing, a low crime rate, effective immigrant settlement, comprehensive cultural and entertainment amenities (not the least of which are libraries, which act as community centres as much as places to borrow books), and a strong social safety net.

- Minutes of the first committee meeting held in July, 2011 of the Monitoring Committee on Sustainable Industrial Areas and Industrial Parks as part of the EU’s MEID (Mediterranean Eco Industrial Development) project are available. “The Laboratory of General and Inorganic Chemical Technology (LGICT) in cooperation with the Laboratory of Heat Transfer and Environmental Engineering (LHTEE) of the Aristotle University of Thessaloniki, and the Development Agency of Eastern Thessaloniki’s Local Authorities, “Anatoliki S.A”, co-organized on Tuesday 19th July 2011 the 1st Monitoring Committee on sustainable Industrial Areas and Industrial Parks.

The event was held at the “General Meetings” Conference Room of the Polytechnic School of Aristotle University of Thessaloniki within the framework

of two MED Programme projects; project MEID (<http://www.ecomarkproject.eu/>) and project ECOMARK (<http://www.ecomarkproject.eu/>). The co-organization of the event was based on the synergies between the two projects, since project MEID aims to develop a model to plan, build and govern sustainable Industrial Areas in the Mediterranean regions, while project ECOMARK focuses on the application of the “Green Marketing” principle to Industrial Areas where several SMEs are settled, raising environmental awareness among the actors of the industrial sector, without negative impacts onto their entrepreneurial goals.

The event attended representatives of Industrial Areas, Industry Associations and representatives of Industries’ managing authorities.

During the meeting, the objectives and actions of the two projects were presented, aiming at the setting up of the IAs Observatory. The IAs Observatory will monitor the actions of both projects while, at the same time, will provide consultative services, for the formulation of appropriate sustainable management models for both Industrial Areas and Industrial Parks. The IAs Observatory will always take into account the environmental, social and economic factors for the development of innovative services and the promotion of a green marketing plan within the Industrial and Business areas.” • Download minutes of the meeting in English: [click here](#)

- Mitra videos has cataloged a number of industrial symbiosis videos that can be found on the web. Its worth checking out.

Linked In Questions:

"Waste" labeling": Does anybody know any material covering how labeling a material "waste" hinders its reuse? I've heard about general testimony about it, but have difficulties to find a real case study, or any attempt to quantify the effect of the labeling. I also welcome any comments from your own experience!

“An intermediary in resource recovery and sharing”: Ian Holmes shared this link in the main page of Linkedin and I thought it deserved to be featured here in the sub-group.

I believe that examples such as these should also deserve a closer look, because its not uncommon to find that companies such as these actively promoting resource recovery and reuse among other institutions within a region (e.g. schools). I believe there was one of such examples featured in NISP (Rachel, you can jump in :))

Yes, they do it for economic profit. But can they also be considered to be champions or facilitators on their own account?

Always the data... Just got the news today that the EU is pushing for further harmonization in data collection for its EU members green balance sheets. In our scope of action, this is starting with raw material flows, but I am betting that soon we will be talking about waste as well. From Ines Costa.

Conferences, workshops, courses and other events

- ReuseConex2012, the 2nd National Reuse Conference & Expo, which will take place in Portland, Oregon on October 2012. Be sure to bookmark the conference website to keep up on the latest info: ReuseConex.org!
- Sustainable Innovation 11 ‘State of the Art’ in Sustainable Innovation & Design. 16th International Conference 24th – 25th October 2011, Farnham Castle, Farnham, UK.
- 2011 Asia Pacific Roundtable for Sustainable Consumption and Production, Nov. 9-11, 2011 Yogyakarta, Indonesia (www.aprscp.net)
- 2011 Asia Pacific Industrial Engineering and Management Science Conference, Oct , 2011 Beijing, China (www.apiems.net)
- **Green Electronics 2011** Workshop “Resource Efficiency in the Electric and Electronics Industry” that will take place on **November 8 - 10, 2011 in Bucharest, Romania.**
- 2013 International Society for Industrial Ecology Society Conference, 2013, Ulsan, Korea
- Industrial Ecology Conference 2011: *Sustainable Production and Consumption* November 11-15, 2011 Xcaret, Mexico
<http://www.zingconferences.com/index.cfm?page=conference&intConferenceID=90&type=conference>
- NISP 10th anniversary conference which could include joint celebrations with Kalundborg around their 50th anniversary are in the planning stage. According to Peter Laybourn of NISP “the intent of the conference is to develop specific plans around the contribution of industrial symbiosis to major world themes. Emerging headings (not fully finalised) are around ...
 - 1) Development of post disaster and post conflict economies – building more resilient economies
 - 2) Industrial symbiosis as a driver of demand led innovation
 - 3) Rapid deployment of IS across Europe (this will be in response to the then published – September 2011- Resource Efficient Europe Road Map by the European Commission)
 - 4) Regional/Local Economic Development through Intelligence Based Industrial Symbiosis (RED IBIS)
 - 5) Accounting for carbon arising from industrial symbiosis activity and its contribution to tackling Climate Change – aligning the carbon savings with national budgets and carbon trading mechanisms

The principal driving organisations behind the topics are

- 1) World Bank, OECD, UNIDO
- 2) OECD, Technology Strategy Board, UKTI, Universities, DG Research and Innovation

- 3) European Commission (DG Enterprise and DG Environment), European industry bodies such as Plastics Europe, Environmental Technologies Action Plan (ETAP)
- 4) Municipalities, regional development agencies, planners, Birmingham City Council (largest municipality in Europe), DG Regional Policy
- 5) Carbon accountants, carbon traders, Prince of Wales, WWF, OECD, DG Climate Action

Each working group will produce a 'practical' blueprint that will be published post conference. There will also be a 'ceremony' where international Synergies will remove the firewalls between the international programmes using synergy enabling more than 10 programmes across the world to talk to each other and share data and synergies." The conference will be hosted by International Synergies/Birmingham City Council.

Publications and presentations of interest:

- "The Institute of Scrap Recycling Industries, Inc. (ISRI) has released a new analysis that provides an in-depth look into how the scrap recycling industry contributes to the economy by providing jobs, products and goods and services.
The study, commissioned by ISRI and undertaken by John Dunham and Associates, closely examines the economic effects of the scrap recycling industry and presents its finding in an interactive website. In addition to providing detailed data on the direct and indirect economic effects of the industry, the study also provides information on the jobs and exports created by it. The comprehensive study also provides a detailed break-down on the national and state level, as well as by legislative and congressional districts.
For instance, a user could find out how many scrap recyclers are in a specific legislative district, how much they pay in wages, what specific industries they have an impact on and by how much. For those who have to appear before a local budget board to get funding for a recycling program, the site also provides a set of talking points by legislative or congressional district.
The study demonstrates that the scrap recycling industry is more than just about hugging trees. It employs 459,131 people and will generate an estimated \$10.3 billion in tax revenues for governments across the country in 2011. Additionally, the study also found that the total activity created by the industry in the U.S. will exceed an estimated \$90.6 billion in 2011, making it similar in size to the nation's forestry and fishing industries combined. Interestingly, the study also found that the recycling industry contributes as much to the economy as the coal mining industry and nearly as much as all the nation's professional sports teams. By Jake Thomas, Resource Recycling"
- The Benefits of Industrial Symbiosis of the Eco-Industrial Parks in Taiwan *by* Yen-Chuan Chen Co-author(s): Hsuan-Chi Chen¹, Hui-Lan Chang¹, Zeng Wang¹, Chen-Chiu Ts,¹Jui-Hsi Yen², Yi-Hua Li², Chi-Ming Chiu², Ying-Ying Lai², and Tien-Chi Wu
http://www.earth2011.org/sites/default/files/papers/The%20Benefits%20of%20Industrial%20Symbiosis%20of%20the%20Eco-Industrial%20Parks%20in%20Taiwan@EARTH2011_1000530.doc **Abstract:** In Taiwan, a total of four eco-industrial parks (EIPs), called the environmental science and technology parks (ESTPs), has been newly developed at Kaohsiung, Hualien,

Tainan and Taoyuan, respectively, to find the feasibility of enhancing resource recycling and promoting green industry. The ESTP project is embarked by the Taiwan Environmental Protection Administration (EPA) since 2002 to 2011 to pursue the goal of sustainable development and to develop a circular economy. Currently, 40 companies classified as resource recycling and urban mining have been approved to be stationed in the park by Taiwan EPA. Among them, 15 firms had begun operations. This paper aims to show the current benefits of industrial symbiosis of the ESTPs until 2010 and prove that the promotion of the ESTPs has economic, social, and environmental benefits simultaneously.

- Theoretical and Diagnostic Research on the Construction of Eco-Industrial System (EIS) found at “Latest Science@rticles. On 7-24-2011.”

Eco-Industrial Development and Industrial Symbiosis in Practice:

Eco-Industrial Projects:

COUNTRY: USA

North Carolina: Gaston County is out to bid for plans for a “Gaston County Green Energy Eco Industrial Park”

Minnesota: Ithasca Eco Industrial Park will be conducting a tour of the park on August 15, 2011.” Join Northeast Clean Energy Resource Teams (NE CERT) Monday, August 15th 1 - 4 p.m. to learn about the economic, entrepreneurial, and environmental opportunities that Eco-Industrial Parks offer in NE Minnesota. We'll tour the Itasca Eco-Industrial Park and learn about advanced clean technology.”

Also in Minnesota, the Silver Bay Eco Industrial Park announced that it had received three grants totalling \$600,000 to help its implementation. “The idea of a Silver Bay industrial park that is ecologically friendly is becoming more of a reality thanks to three new grants totaling nearly \$600,000 that will be used at the park.

The city was recently notified by the Minnesota Lake Superior Coastal Program that two grant applications were approved for funding. In addition, the Minnesota Department of Employment and Economic Development also approved Silver Bay’s grant application.

The \$580,000 from DEED comes from the Innovative Greater Minnesota Business Development Public Infrastructure Program. This money, along with \$250,000 previously approved by the Iron Range Resources and Rehabilitation Board and money awarded from the state Legislature, will be used to offset construction costs for a biofuel-food greenhouse.

The greenhouse will produce organic food for local consumption and serve as a research and demonstration center to other areas of the state interested in similar practices.

The first grant from the Coastal Program is for \$10,000 to be used for land use planning and zoning guidelines for the park.

It will help create guidelines for businesses that wish to develop in the space designed on environmental awareness, economic development, and sustainable community development.

Also from the Coastal Program is a \$10,000 grant to help with the education aspect of the park, known as the Educational Cluster Program Statement Planning. It will help develop curriculum about the eco-park so that educators, tourists, and officials can learn about the industry through conferences and visits.

The city hopes to bid the greenhouse project out and have it built this summer. Silver Bay City Administrator Lana Fralich said the city is still waiting for grant agreements to be formally accepted and signed before the project begins.” By **Brittany Berrens**, Lake County News Chronicle 6/23/11

Massachusetts: The Devens Eco-Efficiency Center launched its eight (8) community regional Household Hazardous Waste Recycling Center in late July, 2011. Many towns hold an annual HHW recycling event. This new center offers increased service (20 days a year) at a reduced price for the participating communities. The State Department of Environmental Protection which funded a portion of the project believes the Devens Regional HHW Facility will serve as a model for other communities in the Commonwealth. The facility is open to residents of the eight towns as well as businesses who are Very Small Quantity Generators of HHW.

COUNTRY: Thailand

The Bangkok Post ran an article about Ma Tha Phut’s industries’ efforts to engage with the community through outreach and community involvement programs as part of their program to move from being eco industrial estates to eco industrial communities.

COUNTRY: Malaysia

COUNTRY: United Kingdom

NISP released a press release published our last section update regarding their expansion into the EU. For a full text of the release go to <http://www.nisp.org.uk/>

Congratulations to Peter Laybourn and the entire NISP team.!

COUNTRY: Australia

The Hunter Industrial Ecology Park was announced as part of the Australian Industrial Ecology Conference: “Last week’s conference on industrial ecology featured a variety of contributions foremost of which was the announcement of a new industrial ecology park.

Being spearheaded by a management team from Weston Aluminium, the park will be a first in Australia not only in terms of resource recovery, but could lead to the recycling of products that are not currently being recycled and see only 5% of C&I waste going to landfill.” From the Inside Waste Weekly website.

Australasian Industrial Ecology Conference - 27 to 29 July 2011, Hunter Valley NSW

The conference series aims to promote the practice of industrial ecology (IE) in Australia generally. Each event provides a stimulating forum in which ideas and opportunities can be presented and discussed.

This year a technical tour of industrial ecology projects has been added to the conference program. Following the tour, a workshop will be held for delegates who would like to explore the ‘real life’ prospects for identifying and/or participate in establishing mutually beneficial projects.

austindustrialecology.com.au austindustrialecology.com.au

COUNTRY: China

China Solar & Clean Energy Solutions, Inc signed a contract with Guizhou Fuxiang Eco-Industrial City Investment & Development to construct green eco-buildings within the Eco-industrial city.

COUNTRY: Sweden

Michael Martin has recently published a case study on the unique bioenergy symbiosis on the island of Händelö in Norrköping, Sweden. The abstract is available from the ISIE Conference proceedings.

COUNTRY: Philippines

COUNTRY: Vietnam

COUNTRY: Canada

COUNTRY: Switzerland

COUNTRY: Norway

COUNTRY: Denmark

COUNTRY: Brazil

COUNTRY: Japan

COUNTRY: Germany

COUNTRY: Hungary and Slovakia

COUNTRY: India

Professional Changes and Opportunities:

Research Opportunities in Sustainable Energy Systems (Life Cycle Assessment, Operations Research) at the University of Coimbra, Portugal, in the scope of MIT-Portugal projects

The Energy for Sustainability (<http://www.uc.pt/en/efs>) of the University of Coimbra will open 4 research grants on the modeling and assessment of energy systems. The selected candidates will be working on two MIT-Portugal projects (2011-2013):

“Economic and Environmental Sustainability of Electric Vehicle Systems” (<http://www.uc.pt/en/efs/research/EESEVS>);

“Capturing Uncertainty in Biofuels for Transportation. Resolving Environmental Performance and Enabling Improved Use” (http://www2.dem.uc.pt/CenterIndustrialEcology/projects/FCT_biotrans.htm)

The applicants should have a Master or PhD, in an engineering or scientific discipline, economics or with an otherwise strong analytical background. Experience in any of the following is an advantage:

Life Cycle Assessment;

Industrial Ecology;

Operations Research;

Decision Analysis;

Energy systems modeling;

Computer programming.

The grants follow the rules and amounts of Portuguese Research Grants funded by FCT:

<http://alfa.fct.mctes.pt/apoios/bolsas/regulamentos><http://alfa.fct.mctes.pt/apoios/bolsas/valores.phtml.en>

Applicants should send a letter of interest and a CV to Professors Luis Dias and Fausto Freire (lmcdias@fe.uc.pt, fausto.freire@dem.uc.pt), preferably before August 9, 2011.

To learn more about the University of Coimbra and its Energy for Sustainability initiative see <http://www.uc.pt/en> and <http://www.uc.pt/en/efs>.

Announcement from USEPA:

Greetings from DC, and thanks for the EID industrial symbiosis update!

Every year I receive several requests from academic institutions (mostly from overseas) for EPA's "Designing Industrial Eco-systems Tool" (DIET) and the search-and-match data base, "Facility Synergy Tool" (FaST) which apparently still come up on internet searches. The final versions of these tools were released in November 1999. They run on Windows 95 and 98, so they are outdated and probably don't function. No doubt the development of decision support tools to match inputs and outputs has continued to evolve. Could you please point me to someone knowledgeable (perhaps you or

some of our cc'd eco-industrial development colleagues) to whom I could refer them?

With kindest regards,
Suzanne

Suzanne Giannini-Spohn, Ph.D. USEPA