

Industrial Symbiosis Eco-Industrial Development Section Update
January-February 2012
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 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.

- 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. 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.
- 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.

Linked In Questions and IS Case Studies: Much thanks to Ines Costa for jump-starting this group. The following are postings from February. 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.

From orange waste to biofuel posted by Ines Costa.

“Ok, I know this is a little far-fetched, but this is a research project being tested between Brazil and UK universities. The principle is to take the waste from orange juice manufacturing and isolate the cellulose within it to produce bio-fuel. The pilot prototype (cost: 1 Million euros) is able to process 6 tons of waste per hour. No info on the yield, dough.

Anyway, interesting enough to share :) “

http://www.boasnoticias.pt/noticias_Casca-de-laranja-usada-para-produzir-biocombust%C3%ADvel_9406.html

Do you know any unreferenced EIP experience in Europe, Asia, Australia and the US? Writes our colleague Guillaume Massard.

“I’m currently writing a review of eco-industrial parks and eco-innovation parks in Europe for the European Union and 15 ministry of environment. If you are aware of any unreferenced EIP cases in european countries and elsewhere, please let me know. I’ll be happy to mention them in the review. The project is looking at planned, under construction or existing parks.”

[Artem Goley](#) • Guillaume, I haven't seen (m)any Russian cases described and published in English. One of the reason, probably, is that some so-called industrial symbiosis features are originally incorporated into industrial systems in Russia, and simply considered to be a part of traditional system (without any eco-labelling, just economically reasonable as in case with Kalundborg). There is a couple articles in sciencedirect, including my own forthcoming. I hope it may help.

* Eco-efficiency and industrial symbiosis – a counterfactual analysis of a mining community by Olli Salmi

<http://www.sciencedirect.com/science/article/pii/S0959652606003192>),

* Developing a classification system for regional resource synergies (<http://www.sciencedirect.com/science/article/pii/S0892687511003992>).

[Marika Hahn](#) • I'm not sure if Gladstone, Australia is currently considered a model for IS anymore it seems to have morphed into something else and the dredging of the port area is causing alot of environmental concern at present.

There are two new projects which have been proposed that I know of one in SE Queensland and one in NSW Hunter region but as both are start ups and not retrofits and are in planning stages it is probably better to wait until some actual product is produced. Australia has a habit of announcing wonderful new projects which never eventuate as planned.

At a grass roots local level IS seems to be more successful and some wonderful positive steps are being made in existing industrial areas courtesy of the NSW OEH as mentioned above. Tightening of existing legislation, increasing waste levies and actually penalising polluters is a new stance which should encourage positive change. Mention of IE and IS is now occurring in strategic planning strategies such as the Metropolitan Plan for Sydney 2030 in addition to some local government DCPs. Hopefully in the near future it will become commonplace in all planning policies as Water Sustainable Urban Design (WSUD) strategies have become. It all sounds very rosy but we are coming from a very low base with outdated industrial practices and planning regiemes.

re: NSW OEH refer

<http://www.environment.nsw.gov.au/sustainbus/sustainabilityadvantage.htm>

These West Australian guidelines for setting up new industrial parks/eco industrial parks may be of interest. The general principles of sustainable development are simply incorporated into an easy read document, it almost seems like common sense.

<http://www.perthregionnrm.com/pr-nrm-programs/sustainable-industry/legislation-and-guidelines.aspx>

[Robin Branson](#) • Dear Guillaume,

When I saw your first posting on this topic I didn't realise you were interested in EIPs outside Europe. Apart from Kwinana and Gladstone, which seem to have been thrashed to death over the years, there is a small EIP at Botany, just south of Sydney CBD called 'Botany Industrial Park'. Google that phrase and you will find out all about it! So far as I know, it has not been the subject of academic interest but is, I think, interesting because it comprises organisations from the same industry. Being, originally, the Imperial Chemical Industry (ICI) site, all the current participants have some involvement with manufacturing industrial chemicals. This, as you know, is not orthodox industrial symbiosis but it seems that examples of the unorthodox are becoming increasingly

commonplace these days! I understand that EIP management has continuing plans to expand but such things don't happen quickly in this part of the world! I would be glad to introduce you to some personal contact there, if you want to delve further into the case. Just email of skype. Warm regards to you and Benoit. Bonne annee!

[Siarhei Druhakou](#) • Hello everyone . its seems to be becoming a hot discussion. I would like to add my comment. I have finished my dissertation on EIP and non of the parks based in UK can be considered to be based on IS. Most of them is in early development stage and are based around waste recovery and recycling even if they called EIP or something with eco.

Footwear and textiles posted by Ines Costa.

I do not have a formal link to present to you, but I've heard about several products borne out of a cooperation between footwear and other leather-made products and the textile companies. The textile industries reuse the leather processing wastes (trimmings, etc) from other companies to manufacture carpets, rugs, etc.

Does anyone have any links on this? Anyway, just remembered about it and thought I would post another potential example.

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) and NISP 10th anniversary conference including celebrations with Kalundborg around their 50th anniversary are in the works for June 12-14, 2012 in Birmingham, UK. See above for more information
- The next Industrial Ecology Gordon Research Conference, "The Role of Industrial Ecology in Addressing Sustainability Imperatives" will be June 17-22, 2012 in Les Diablerets Switzerland.
For more information, visit the GRC Website:
<http://www.grc.org/programs.aspx?year=2012&program=industeco>. Applications and abstracts are due by May 20th and are being accepted at:
<http://www.grc.org/application.aspx?id=12727>
The Gordon Research Seminars will again take place before the GRC June 16-17th. The GRS application: <http://www.grc.org/application.aspx?id=14474>. For more information visit the GRS website:
http://www.grc.org/programs.aspx?year=2012&program=grs_indust
- 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, the Call for Abstracts (deadline 15 April, 2012) is open, and an electronic Call for Papers for a special issue of the Journal

of Cleaner Production is available. 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

- *Eco-business.com* reports that specialty sustainability audit and advisory consulting firm Antimony Green Inc. will host a two-day Industrial Sustainability Conference on 23- 24 May 2012 in Johannesburg

- The 3rd annual International conference on Future Energy, Environment and Climate Change will be held on 16-20 April, 2012. The conference will be convened by Working Group on climate Change; 3 Whitehall Court, London, Greater London SW1A 2EL, UK Phone: (+44) 7035.918.495, (+44) 7024.012.388. The purpose of this conference is to provide an international forum for leading experts, opinion-leaders and decision-makers of the development and climate community as well as for interested members of the public to contribute their perspectives to the discussion on climate governance/global warming. Call for Papers: The organizing committee invites abstract/extended abstract submission from researchers, practitioners, scientists, energy experts, environmental specialists program designers and evaluators. All abstracts should be formatted to facilitate the review process. For more details on online registration, abstract submission, full papers and power point presentation, accommodation, flight, and venue, please email: icfeccabstracts@yahoo.co.uk or fax on: (+44) 7024.035.089.

- Minerals and Waste Developments: Streamlining the Consenting Process 18th April 2012 Technology Centre, Wolverhampton Science Park, Wolverhampton This one day conference aims to explore the opportunities available to streamline the non planning and planning consenting process for minerals and waste developments set in the context of the Penfold Review. Incisive ideas born from good and bad industry experiences will be presented by speakers with different perspectives on the planning, environmental assessment, permitting, licensing and operating of minerals and waste developments. The output of the presentations and discussions will be fed back into industry to encourage improved thinking on making the most of resources to achieve a positive and sustainable future for minerals and waste development.

- **Sustainable Innovation 2012 Call for Papers**
Resource Efficiency, Innovation and Lifestyles
Part of the 'Towards Sustainable Product Design' series of conferences
17th International Conference
October 2012
Germany
Conference website: Sustainable Innovation 2012

- **18th Annual International Sustainable Development Research Conference: People, Progress and Environmental Protection** will be held at the University of Hull, UK, June 24-26 2012. This interdisciplinary conference includes a number of opportunities to discuss industrial ecology, in addition to offering the opportunity 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.

- **Electronics Goes Green 2012+ Joint International Conference and Exhibition. September 9 – 12, 2012 in Berlin, Seminaris Dahlem Cube**
- **ReuseConex 2012 (10/18-20/12):** *ReuseConex 2012*, the 2nd National Reuse Conference & Expo, will be held on October 2012 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 7-9, 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.

Publications and presentations of interest:

- 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.
- **About the Integrated Eco Industrial Park on the Planning and Build**

【Abstract】 The Eco-Industrial Park is a modes of operation of Circular Economy in a regional level.The Eco-Industrial Park is a new type Industrial Park which designed by the Circular Economy idea,Industrial Ecology principle and the request of Clean Production.In the sept.2006,China starters Eco-[industrial park](#) standards(3),and the 《Standard for Ssector-integrate Eco-industrial Parks(On trial)》 is one of it.From 1980s,with the rapid growth of total industry,it rise the hot trends of build the Industrial Park and Economic Development Zone various Places.but Blind Pursuit of of economic benefits,over exploitation and utilization the land,The weakening of environmental protection work,leads an Increasingly Prominent of Environment.By the idea of Industrial Ecology,change The Industrial Park to Eco-Industrial Park benefits accelerating Regional Economic growth and format the Ecological Economy.Promote regional industrial structure to rationalize the use of resources,waste reduction,the production process in the direction of sound adjustment,improving the Park efficiency of resource use,improving the environment and achieving environmentally friendly,enhance the sustainability of economic development of the park.In our country,the development of Industrial Park development has two stages.The first stages named Economic and Technological Development Zone,the second named Hi-tech Development Zone.The first satges mainly at the enterprises which in processing and compensation trades.This mode With Low Tech but serious environmental pollution.The second stages mainly at the enterprises which in Hi-tech application.This Change full reflect the features of now days.With Green wave of the global economy,Third Generation Industrial Park, Eco-Industrial Parks came into being.Blind Pursuit of of economic benefits,over exploitation and utilization the land,The weakening of environmental protection work,leads an Increasingly Prominent of Environment.In all evaluation method of Eco-Industrial Park,the system of 《Standard for Ssector-integrate Eco-industrial Parks(On trial)》 is the newest and most reflect the contaction in enterprise,Environmental Protection and Economic Development.It use Economic Development、 Material Reduction and Recycling、 Pollution Control and Park management as four side of comprehensive evaluation of eco-[industrial park](#),and further dividing into 21 elements,through the research and analysis of interaction between them and the changes,So that we can know the future work should focus on where.In this artcle based on Eco-indnstry theory,Technical means to Ecological Planning, Completed the evaluation of eco-[industrial park](#) and planning the the buliding of various types of industrial enterprises layout.Analysis of the cases Chongqing-Jiangjin District ShuangFu Industrial park,The evaluation use Economic Development、 Material Reduction and Recycling、 Pollution Control and Park management for the four sides of evaluation System.The results showed that the most problem in the park is Emissions,wastewater and solid waste issues.These issues become the bottleneck which constraints the ShuangFU park healthy Develop to Eco-Industrial Parks. According to the principle of Ecological Planning and the Government of Chongqing's latest positioning,form Park ecological protection zones within the park and green space industry enterprises type layout this two side done a corresponding planning.According to the type of ecological zone,divid the ecological zone into five Area:Protected forest Area,Eco-separation Area, Country Park protected Area,Protection green Area and Public green Area.Focus on emissions, wastewater and solid wastes,divid the Originally planned industrial construction sites in the layout into five Area:Logistics Area,High sewage Industrial Area,New Service Area,Real estate

Services Area and Other industrial areas, and a full set of the original planning of municipal facilities also made corresponding adjustments. This paper analyzes environmental problems in the process of China Eco-industrial park building and reform by existing practical investigation, and proposes a modified scheme, laying a foundation for [Shuangfu](#) Eco-industrial park. By the implementation of these measures that nature position and the planning of [Shuangfu](#) Eco-industrial park, building [Shuangfu](#) comprehensive Eco-industrial park in a real sense. Quicken New Typical Industrialization, shaking off the extensive economic growth way as soon as possible, promoting regional development of Urbanization, changing the binary structure between town and country, urge Shuangfu region integrating into Chongqing Metropolis Area as quickly as possible.

- **Research on Externality for Eco-Industrial Park**

URL: <http://www.economics-papers.com/research-on-externality-for-eco-industrial-park.html>

【Abstract】 As an effective carrier to development recycled economy, eco-industrial park (EIP) has been widely concerned. However, EIP's constitution characteristics have contradiction with our country current ecological condition, the economy level of development and the government managed pattern. The contradiction can produce kinds of [externality](#), which reduce economic and environmental benefits of EIP to some extent, hinder its development process. In response, the dissertation studies the EIP's [externality](#) base on the [externality](#) theory and EIP's characteristics, and then seeks the innerization mechanism of EIP's externality. Therefore the paper has higher theoretical and practical value for improving EIP's environmental and economic benefits, promoting EIP's rapid and healthy development. 1) The dissertation expounds the definition and characteristic of externality, explains the reasons for producing externality. Through the application of economic method, the paper analyzes the principle of the inefficiency of resource allocation. 2) Based on EIP's characteristics, the paper research transaction cost and cluster effect in EIP. Then the article proposes the negative and positive EIP's externality. 3) Through designing a simple model, the article analyzes Pigou solution and Coase solution of internalizing the externality, draws the conclusion: both Pigou solution and Coase solution can achieve Pareto optimal under the condition of non-transaction cost. 4) From the perspective of economics, the dissertation researches the innerization mechanism on EIP's externality. Through the application of economics model, the dissertation analyzes tax effectiveness of charging for contamination discharge and the principle of technological progress caused by the trade of property of draining contamination. Furthermore, the dissertation studies the innerization mechanism of positive externality caused by the pattern of recycled economy from the perspective of scale economic

Lehtoranta, S., Nissinen, A., Mattila, T. & Melanen, M. (2011) Industrial symbiosis and the policy instruments of sustainable consumption and production. Journal of Cleaner Production. 19(16):1865-1875. As blogged by Quelle: EU commission

“Both industrial symbiosis and eco-industrial parks are driven by economic motivations and not by policy. In general, it appears that the main driver for industrial symbiosis is financial gain: Companies reduce costs by using the by-products of other companies, avoiding transport costs and buying resources below market prices. Eco-industrial parks tend to be promoted by the state.

Potential for other initiatives

The study suggests that there is potential for other policy initiatives to encourage IE development, such as rewarding wastewater use or the additional use of waste heat. Another possibility is for local authorities to encourage companies to locate close to each other, helping the creation of eco-industrial parks, perhaps through town planning and land-use regulation. Local authorities could also act as ‘knowledge banks’ or brokers in building and promoting eco-industrial relationships.

The researchers suggest that IE initiatives should be analysed and developed on a life cycle basis, with real benefits identified and documented. This could further encourage eco-competitiveness that can develop synergies with or feed into the existing SCP policy tools, such as environmental permits, ecolabels and future product regulation based on the [Ecodesign Directive in Europe.](#)”

Eco-Industrial Development and Industrial Symbiosis in Practice:

Eco-Industrial Projects:

COUNTRY: USA

Connecticut: Bridgeport. We are Bridgeport Biodiesel and we are a one-stop shop," the company says in a YouTube video, "we collect your yellow and brown grease."The plant takes the yellow grease from restaurants and puts that grease through a fermentation process, which then transforms it into renewable fuel.

Massachusetts: The Devens Eco-Efficiency Center and the Devens Public Works Department received recognition from the State of Massachusetts Department of Environmental Protection for their successful recycling efforts at a luncheon event in Worcester earlier in the month.

Ohio: City of Hudson, Joshua Shutsa and Associates launch eco-industrial park project in Summit County, Ohio. OpenOils, an Irish firm is expected to be the first tenant in the 161 acres site. The park is designed to have its infrastructure be net zero energy, according to representatives from Geiss Construction who are building the park for the developer.

New Hampshire: Students from the Yale Industrial Ecology Program were contacted by Stonyfield Yogurt, located in Londonderry, New Hampshire, and asked to investigate restarting the dormant Londonderry Eco-industrial Park. A presentation was made to area industries prior to the holidays and there appears to be sufficient interest to pursue the idea.

North Carolina: Charlotte, Reventure Eco Industrial Park. Reventure Park delisted from Superfund list by EPA. “Clariant Corp. owned the land where the former chemical manufacturing plant once operated, and inherited the burden of cleaning it up after purchasing another company. It has been designated for years as a “Superfund” cleanup site by the Environmental Protection Agency. But Forsite Development applied to have the property transitioned to a “Brownfield” site, which would allow its redevelopment and reuse without the new occupants being held responsible for the contamination. That status change has been in the works for months, and ReVenture Park officially became a Brownfield site” in early February, 2012. According to the Gaston Gazette. Read more: <http://www.gastongazette.com/articles/industrial-66913-park-site.html#ixzz1nbxP6Mq1> Additionally, ReVenture has put 1/3 of its park area into a conservation easement. The easement includes a wide swath of land on both sides of Long Creek and nearly 1.4 miles of Catawba River frontage. “Environmental responsibility is a core element of the ReVenture Park Eco-Industrial Park development plan,” says Forsite President [Tom McKittrick](#). “This easement will ensure the substantial water frontage areas are protected and parts of it will be able to be enjoyed by the public.” The Park expanded in mid-February with the following announcement. Forsite Development announced today that they now control an additional 578 acres of residential land that wraps the primary ReVenture site. Now totaling over 1,226 acres the project includes a proposed mix of residential, retail, office and industrial spaces. Forsite Development plans to create an “Eco-District” that will weave environmental responsibility into every aspect of the projects design. The residential component will consist of energy efficient homes powered with renewable energy and built with recycled materials. The project will include a significant portion of protected natural area and the homes will be connected via an extensive greenway/trail system.

Minnesota: The Itasca Eco-industrial Park, a 22 acre industrial development site, owned by the Grand Rapids Economic Development Authority (GREDA), has become the first in Northeastern Minnesota to achieve a certification of "Shovel Ready" for development, by the State of Minnesota Shovel Ready Certification Program. Itasca County officials continue to work to position their county and eco industrial park to attract the biofuel and green chemical industries.

Washington: King County Eco Industrial District morphs to Industrial

Development District. “A partnership involving the City of Seattle, King County, the Port, and the State of Washington will soon issue a Request for Proposals (RFP) to seek innovative proposals for industrial development ideas that have been challenging to implement due to regulatory, policy, or financial issues. This is the first step in a project for adding new vitality to Seattle’s industrial sector that we are calling the Industrial Development District.

Two years ago, my office began working on creating what we then called an Eco-industrial District in Seattle. Eco-Industrial Districts, which have been pioneered in perhaps a dozen areas around the world, are designed to foster the growth of mutually dependent industries that integrate economic development and environmental stewardship. The classic example is Kalundborg, Denmark, where a set of businesses maximize energy efficiency and minimize solid waste by using one firm's waste energy and by-products as inputs to another process. Since the mid-1990's this example has been cited as a model.

The experience of the last decade has shown that, while the concept of integrating environmental and economic factors in industrial development makes eminent sense, there are a number of important factors that need to be taken into account. First, the Kalundborg district grew organically – it was a set of decisions by businesses, not a government led initiative. Second, even Kalundborg is not self-sufficient – there are internal and external transactions – and the volatility of the business environment suggests that a balance over time is difficult to maintain. Third, there are many ways in which environment and economy can be brought together besides the exchange of energy and waste products. And fourth, the experience of other cities suggests that creating a new eco-industrial district works best when there is a significant amount of unused land that can be assembled and dedicated to the purpose.

Taking all of those factors into account, Seattle is taking a broader approach, renaming the concept as an Industrial Development District (IDD), and setting out three guidelines within which we want to foster development:

- Provide positive economic benefit;
- Result in equal to or better measurable environmental performance than would result from current regulations; and
- Be located on currently industrially zoned land.

So, rather than trying to bootstrap a new set of companies focused on the relatively narrow goal of sharing energy and waste exchange, we are looking for new development and innovation that will lead to better environmental results – which could cover a wide range of environmental benefits.

We are doing this because it has become increasingly clear that prescriptive regulations tend to be very good at stopping bad things, but we need to promote good things – and government regulations do not have the nimbleness or flexibility to encourage innovation. So we are setting broad parameters to foster creativity around the goal of providing jobs and economic activity while enhancing the environment.

So, what could this mean in practical terms? Some examples:

- Redevelopment of an existing industrial facility to increase efficiency and capacity
- Allowing an industrial/commercial mixed facility not currently permitted if it increases industrial jobs
- Innovative ways to manage stormwater or salmon mitigation that will deliver a better environmental result
- Renewable energy systems or reuse of waste energy
- Shared resource use by a group of companies

The IDD is an exciting concept that can create jobs and enhance the environment. It has special promise in the Duwamish, where the environmental cleanup can be leveraged for economic development. As the concept develops, the City will also look for ways to leverage our investments, such as providing stormwater treatment for an area and allowing businesses

to buy into the project instead of having to do their own stormwater projects. Managing this work will be challenging, and will require great care and skill to navigate possible pitfalls – but, if we can make it happen, we will reap great benefits. This is why not only the involved governments, but business, labor, and environmental organizations have come together to support getting this work underway.” From King County web site.

COUNTRY: Thailand

COUNTRY: Malaysia

COUNTRY: United Kingdom [Waste reduction experts to give advice at next Urbano Host event](#)

Experts from the National Industrial Symbiosis Programme (NISP) gave advice on how the hospitality industry can reduce waste at the February 2, 2012 Urbano Host networking event.

Northern Ireland: After taking part in an Invest Northern Ireland environmental workshop, Portadown company, ReCon Waste Management has diverted almost 2,000 tonnes of contaminated soil from landfill resulting in significant cost savings for the company. They worked closely with the NISP Northern Ireland collaborator, Invest Northern Ireland.

COUNTRY: Australia

COUNTRY: China Ministry of environmental protection Secretary Wu Xiaoqing announced in December 2011, that China will continue to promote comprehensive eco-industrial demonstrations.

COUNTRY: Sweden From their web site, A national program to create urban agricultural symbiosis appears to have been established. **TAKING ADVANTAGE OF URBAN FUNCTIONS** PlantaSymbioSystem® is an Integrated Urban Environment Solution for Ecological production of Fresh Food, Organic fertiliser production, Water recovery and recycling, Power generation applying GeoThermal, Wind, Solar and Municipal waste to Biogas as applicable to the location and integrating this into the city utility infrastructure.

PlantaSymbioSystem® will be an integral part of future societies’ industrial symbiosis. The greenhouse, in synergy with industrial facilities, will be an end recipient for excess energy flows as well as producing valuable biomass. The industrial symbiosis of PlantaSymbioSystem® leverages cooperation between neighboring companies and their technical infrastructure to achieve savings from exchange and storage of energy and other resources.

PlantaSymbioSystem® is developed from a holistic approach to sustainable development. We find synergies in urban functions and unlock their efficiency and profitability. The urban agriculture offer proposes a new way to cultivate food by building vertical greenhouses that reduce transport costs and emissions. This approach integrates with the city and saves money and the environment.

Locating the greenhouse in the city has added benefits. Every urban area produces large quantities of surplus heat, carbon dioxide and waste that can be put to good use as fertilizer or making the greenhouse's heating systems more energy efficient.

PlantaSymbioSystem® is part of the official offer from the Initiative of the Swedish Government and Swedish Industry: <http://www.symbiocity.se/en/offers/Agriculture/>

COUNTRY: Philippines

Tarlac City: The Regional Development Council (RDC) of Central Luzon recently approved the transformation of a 112-hectare estate in Tarlac City into an Eco-tourism light industrial park.

COUNTRY: Vietnam

COUNTRY: Canada McBride, BC. EcoTech Energy Group begun” to clear its McBride, British Columbia Lamming Mills site in preparation for the development of the Aquaponics and Combined Heat and Power complex that is scheduled to commence in Spring 2012. ecoTECH has signed a contract with a local professional logging operation to selectively cut enough trees to allow room for the development, whilst retaining as many trees as possible on the site.” According to a late February press release.

COUNTRY: Switzerland

COUNTRY: Norway

COUNTRY: Denmark

COUNTRY: Brazil

COUNTRY: Japan

COUNTRY: Korea

COUNTRY: Nigeria

COUNTRY: Germany

COUNTRY: Hungary and Slovakia

COUNTRY: India Kozhikode: Taking the art of recycling to the next level, a city-based inventor has developed an eco-friendly alternative to thermocol using only industrial waste, newspapers and organic gum. Thermocol was developed in 1951 by a German company by restructuring chemical bonding of Polystyrene and, now, Pantheerankavu native P Muralidhar claims to have stumbled upon a more organic way of duplicating its cushioning and insulating effects that has made it so popular in industrial circles. “The substance which I have developed does everything that thermocol does and is more resistant to heat and stress. It is of a unique design utilising only coir fibre powder which is a by-product of the coir industry, non-woven cotton, which is embroidery waste, old newspapers and gum which is obtained from certain wild vegetables,” he said

COUNTRY: Trinidad and Tobago

COUNTRY: Romania

COUNTRY: Singapore

COUNTRY: South Africa.

Professional Changes and Opportunities:

Jaspal Marwah announces Eco-Industrial Solutions has closed shop, and we've all moved to Light House Sustainable Building Centre where Tracy Casavant is the new Exec Director. We're still doing EIP work, but also have much more hands on capacity in green building technology, training & building science. A nice complement to our EIP & planning projects!