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Embajada de Suiza en Colombia
Cooperación Económica y Desarrollo (SECO)

Zona Franca de Occidente



Eco-Industrial Parks: The Future of Global Sustainability

Jean-Paul Gauthier, Secretary General of WEPZA of Global Sustainability

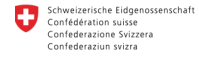


Order of Presentation

1. EIPs: the Pinnacle of Spatial Economic Development Tools
2. EIP Impacts
3. EIPs' Enabling Regime Elements
4. Best-in-Breed Global EIP Models
5. Industrial Park and Free Zone Transitioning Strategies



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1. EIPS: THE PINNACLE OF SPATIAL ECONOMIC DEVELOPMENT TOOLS



Ensuring IP Sustainability, Writ Large

- The issue of IPs' sustainability is, first and foremost, a financial question
- If IPs, as real estate propositions, do not respond to the level or nature of the demand for serviced industrial land, and associated requirements, the negative consequences for their sustainability will be numerous and varied, including:
 - over-scoped/unoccupied or overextended sites
 - unrecoverable developer-operator debt
 - zoning and “not in by backyard” issues
 - Absence of sustainable community/ecosystem anchoring, ecological and social sustainability
- Negative externalities on these fronts outweigh any benefits—hence the notion of EIPs:
 - *Economically, environmentally and socially enabling and sustainable platforms for business, supported by proper planning, bespoke infrastructure and regulation, and sound governance*



EIPs are Multidimensional

- The need for EIPs is typically driven by a combination of:
 - First, industrial growth, absence of serviced industrial land, and local & foreign investor needs
 - Environmental management issues, residential encroachment, municipal rezoning
- Industrial Parks can act as an instrument for
 - economic **diversification, productivity, transformation**; but also
 - **inclusive and sustainable** growth
- EIPs, as an economic policy tool, therefore act systemically at multiple levels



How is an EIP Different from an IP or a FZ?

- EIPs tend to occur where a legal regime for IPs or FZs is either already in place or is being put in place
- This is because achievement of the results sought by EIPs leverage tenant conduct, incentivized through **tax incentives and subsidies**, mutually beneficial & productivity-oriented **labor regimes**, as well as expanded **developer/operator rights (e.g., waste management, power gen)** and **mandated planning** –which require adopting legal provisions
- EIPs are thus often built on existing FZ or SEZ regimes:
 - Masdar Green City SEZ in the UAE
 - Chinese Green Development NETDZs
 - Atlantis Greentech SEZ in South Africa
 - Sustainable SEZs such as Panama Pacifico, Uzbekistan's FZs

EIP Responsiveness to Trends Changing Traditional IP and FZ Approaches and Evolving Investor Needs



Industrial Trends

- Expanded opportunities in the global production networks
- Better supply chain management (logistics costs higher than manufacturing costs)
- Opportunities for contract manufacturing & outsourcing
- Accessing the domestic and regional markets
- Co-location of sales support with manufacturing in integrated manufacturing clusters
- Trade and supply chain security
- Rise of **Value-Added services to industry clusters** (e.g., **matchmaking, linkages, etc.**)

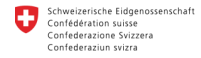


POLICY TRENDS

- Possibility of engaging in and accessing services
- More productive workforce
- Fewer community and labor relations problems
- Safety against crackdowns on off-shore tax havens
- Compliance with *OECD Code of Conduct for Clean FTZs*
- Corporate reputation
- Streamlined regulatory interface
- Enabling business environment



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2. EIP IMPACTS



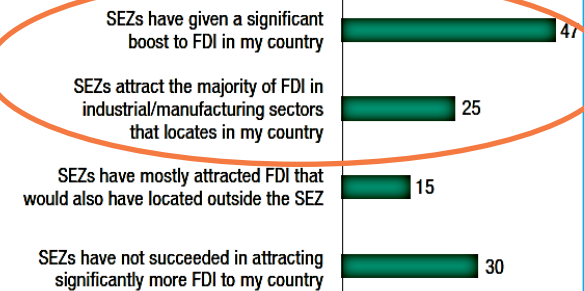
Environmental and Social Sustainability

- Industrial parks are increasingly “green”, as for instance demonstrated by:
 - good waste management practices (e.g., the **CETPs** in Peru’s “Piura Futura” Industrial Park)
 - **renewable energy installations** (as is, for instance the case with the UAE’s Masdar City’s solar and wind power).
- But industrial parks have also made other positive contributions to **sustainable development** of host countries’ industrial bases through such mechanisms as:
 - promotion of inclusive growth through **linkages** (e.g., Jebel Ali Freezone’s vendor linkage programme; Tacna Free Zone’s employee matchmaking database)
 - positive **economic spill-over** effects (e.g., Tacna Freezone for the broader economy of the town and region of Tacna in Southern Peru, which now hosts considerable Chilean health tourism as a knock-on effect of the duty-free shopping the free zone originally brought about)
 - third-party **workplace inspectors**
 - **health services**

Investment Generation

- **Asia-Pac:** Average annual 65% of FDI
 - China 82.54%, Philippines 81%, Vietnam 70% and Malaysia 60.88%
- **MENA:** Average annual 27% of FDI
 - Tunisia 76% and Egypt 73%
- **Americas:** Average zone investment level of 8.25% of FDI
 - Guatemala 54.53%
- **Western Europe:** Annual zone investment of 2.8% of FDI
 - Cyprus 50.31%
- **Eastern Europe - Central Asia:** Annual zone investment of approximately 44.18% of FDI
 - Poland 86.90%, Belarus 68.11%, Kazakhstan 62.48%, Albania 50.89% and Ukraine 33%

Figure IV.18. Contribution of SEZs to investment promotion (Percentage of respondents)



Source: UNCTAD Survey of Investment Promotion Agencies (IPAs).

Note: UNCTAD's World Investment Prospects Survey 2019; respondents from 120 IPAs from 110 economies.

Sources: The World Bank; UNCTAD



Export Impacts

Export generation and diversification. Another primary goal of SEZs is export development, in terms not only of export growth, but also of diversification. The latter is particularly important for developing countries that rely on the export of commodities and aim to add value to these exports.

In many countries, zone programmes account for a major share of exports, particularly manufactured exports. In Latin America and the Caribbean, SEZs contribute more than 50 per cent of total exports in Costa Rica, the Dominican Republic and Nicaragua; 31 per cent in Mexico; and 13 per cent in Colombia. In Asia, SEZs are credited with more than 60 per cent of the Philippines' exports and close to 10 per cent of India's. In Bangladesh, just eight publicly owned zones account for about 20 per cent of the country's exports of goods. In West Asia and North Africa, a number of countries rely heavily on oil and gas exports, and SEZs account for approximately 60 per cent of net non-oil exports in Morocco, 25 per cent in Egypt and 40 per cent in the United Arab Emirates. Even in Sub-Saharan Africa, where the proportion of manufactured goods in total exports tends to be low, zones account for nearly 10 per cent of exports in Kenya and Ghana.

Source: UNCTAD



Employment Creation

- As of 2019, SEZs had created over **90 million direct and at least 50 million indirect jobs**, and can account for a substantial share of national total employment
 - **MENA:** UAE (25%); Tunisia (9%); Jordan (7%)
 - **Africa:** Mauritius (24%), Seychelles (12%), Liberia (10%), Fiji (10%)
 - **Americas:** Dominican Republic (6%)
- Higher pay levels and working standards: Poland, Philippines
- Skills and technology transfer: Malaysia, Dominican Republic
- Female employment generation: 60-70% of subtotals

Sources: UNCTAD; WEPZA; World Bank



Diversification and Global Value Chain Insertion

SEZ programmes have been a key component of export diversification efforts in many countries. For example, countries in Central America and the Caribbean have used SEZs to reduce their reliance on fruit and vegetable exports. In Costa Rica, the SEZ share of manufactured exports increased from less than 10 per cent in 1990 to 55 per cent in 2003 (FIAS, 2008; Gereffi, 2019). At the same time, SEZs have diversified production from apparel and textile to electronic components.

SEZs have been instrumental in the development of GVCs and, as policy tools, in boosting countries' participation in GVCs. Trade costs such as tariffs, transportation and insurance, as well as other border taxes and fees, accumulate when intermediate goods are imported, processed and then re-exported downstream in complex GVCs, going through various transformation steps in different countries. By lowering such transaction costs within GVCs, SEZs contribute to the profitability of MNE operations, which explains much of the zones' success.

Green Transformation: China's Industrial Parks (2015-2019)

No.	Indicator	Unit	Average of NETDZs	Average in the State Level	Comparison
1	land area output per GDP	Hundred million RMB / km ²	2.945	0.086	34 times
2	energy consumption per industrial added value	Tce / Ten thousand RMB	0.89	1.17	7/10
3	water consumption per industrial added value	m ³ / Ten thousand RMB	13.4	45.6	3/10
4	COD emissions per industrial added value	Kg / Ten thousand RMB	0.24	3.65	3/50
5	SO ₂ emissions per industrial added value	Kg / Ten thousand RMB	1.03	3.13	1/3


Source: TEDA Eco Center,
Green Development League.
National Economic and
Technological Development Zones
(NETDZs), China (2019)



Results of industrial green transformation are positive



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3. EIPS' ENABLING REGIME ELEMENTS



Why Ordinary FZ, Labor and Environmental Laws May Not Suffice for Good IP performance

- There will inevitably be **coordinating, implementation and enforcement gaps** amongst the various
 - Disparate underlying laws and regulations
 - Concerned Competent Authorities
- **FZ Laws** are not usually focused on broad and impactful environmental and social sustainability, but rather on promoting and attracting exports, industrial development and enclave development
- **Labor Codes** are not focused on creating “*islands of excellence*” and “*best practice*” in social safeguarding, nor on “*fair trade*” concerns of foreign buyers, but rather on:
 - Labor matters, to the exclusion of other types of social safeguards, social infrastructure, communities, corporate social responsibility and social welfare policies (e.g., those concerned with Occupational Health and Safety, Social Accountability, Human rights, etc.)
 - Practicalities and costs of regulating the labor market for the entire country, based on the practices and capabilities of domestic enterprises, rather than those of MNCs
 - Necessities of domestic labor, rather than both domestic and expatriate workers.
- Neither is existing national **environmental legislation** generally focused on creating “*islands of excellence*” and “*best practice*” in environmental safeguarding, “*fair trade*” concerns of foreign buyers, or “*circularity*” in industrial spaces, but rather on:
 - The practicalities and costs of protecting the environment generally, at the level of the entire country, based on the practices and capabilities of domestic enterprises, rather than those of MNCs.



Key EIP-Enabling Areas of Regulation

1. EIP Socio-Environmental Institutional Coordination and Implementation Approach
2. EIP Designation Criteria to Ensure Sustainability, and Community Linkages and Impacts
3. Rights and Obligations of EIP Developers, Operators and Users
4. Sustainable Land Use, Based on Clear, Simple and Effective Rules
5. Registration and Licensing of EIP Enterprises aimed at Ensuring Sustainable Enterprises and Activity, and Ease of Entry
6. Responsible and Inclusive Regulation of Labor
7. Sustainable Socio-Environmental Regulation, Based on Clear, Simple and Effective Rules
8. Fiscal Policy Incentives and Subsidies for EIP-Oriented Investment

Business-Enabling EIP Policies

Tax

- Competitive with region and country
- Max 3-4 taxes; Eliminate indirect taxes
- Automatic incentives
- Unified tax and social security filings, inspection and collection
- Streamlined submission and approval of reporting, clear rules for calculating assessable income, and limited post-assessment audits
- IASC and IFRS norms
- **Green/clean infrastructure tax incentives** or credits to developers and users
- **Staffing and training allowances/credits** of up to 200% of associated expenditures
- **Tax incentives for local supplies**

Business Activities Licensing

- One-stop shop
- Declarative system
- Minimal licensing requirements
- **Negative lists of prohibited and restricted activities**
- Elimination of foreign investment restrictions / Equal treatment
- **Deregulated utilities (at least for renewables)**

Labour

- Negotiated productivity packages
- Transparent foreign worker regime
- Unified multiple-entry Visa / Work Permit / Residency / ID / Social Security Card
- Visa-free temporary entry
- Permanent residence visas
- **ILO norms**

Planning

- Localized, integrated, flexible and streamlined planning and controls
- **Clear environmental guidelines**
- Clear property rights and guarantees
- Fast-Track Environmental Permitting for Small Development Projects
- Permitting Desk Officers



EIP Land Use Regulation

- Adopt **socio-environmentally friendly rules**
- Ensure “smooth sailing”, **streamlined** real estate development and development control
 - Rationalized processes and permits
 - Single Window and/or single responsible body/committee
- **Emphasize goals and guidelines** as opposed to planning prescriptions / allow for response to changing local and regional economic conditions in planning approvals, including through:
 - Flexible land use and zoning
 - Phasing and Options
- **Co-finance CETPs**, through grants and loans (Pakistan EPZs; Bangladesh EPZs and SEZs)



Improved Employer-Employee Relationships (Panama Pacífico)

- Formalities for the subscription of work contracts, conditions and procedures for the application of special causes for the termination of work contracts, and procedures for proving the existence of the special causes
- Overtime payment, as well as **nocturnal, combined, rotating and other extraordinary work shifts**
- Weekly day off and payment for working on such day
- Annual leaves, treatment, negotiation and payment of such
- Job transfers between posts within the same enterprise, taking into consideration factors such as possible skills, salary discrepancies, job safety and self-esteem of worker, seniority and rank, and others
- Job pairing of national and foreign specialized personnel for training purposes taking into consideration the education, experience, talents, skills and other factors of both the foreign specialized employee and the applying national employee
- Approval of SEZ enterprises' by-laws, with procedures and timeframes to be followed in fulfilling such
- **Labor Conciliation – administrative and functional services required to move and hold labor conciliation procedures in PP Authority, including services required to periodically move and hold Labor Section Courts and procedures in PP, provisions for special bureaus and clerks, schedule for court sessions, etc.**



Protecting and Incentivizing Good Labor Relations (Jordan QIZs)

In 2006, the ILO accused Jordanian QIZ garment producers of gross violations of labor standards, e.g., forced overtime, late and/or under payment of wages, etc., moving the Ministry of Labor (MoL) to:

- Recruit 100 university graduates, tripling the number of inspectors, hired under contract rather than under civil service rules in order to promote flexibility. There are now 1,500 workers to every inspector in the QIZs (vs. 13,500 outside)
- Develop improved inspection SOPs and checklists
- Provide inspectors with legal training, **as well as practical training, including interview, audit, language and computer skills**
- Procure computers and vehicles to facilitate inspectors' work
- Develop a **"Golden List"** of preferred employers who receive preferential administrative services for their **foreign workers** due to their good compliance record
- Introduce the third-party, civil society inspection program ("Better Work Jordan"):
 - operating independently of the MoL's inspection program, although involved organizations share experiences and can conduct joint inspections
 - providing remediation training to participating employers



EIP Income Tax Credits and Allowances

The Philippines

- 25% tax credit (equivalent to duties that would have been paid on imports) for non-traditional producers substituting local raw materials, spares & capital equipment for imports
- 100% tax credit (equivalent to duties that would have been paid on imports) for firms using locally made machinery, spares & capital equipment
- 100% tax credit (equivalent to duties that would have been paid on imports) for firms using domestic breeding stock and genetic materials
- 100% deduction of training expenses
- 50% deduction of wage bill of new skilled & unskilled workers employed



EIP Performance-Based Tax Incentives (China)

Incentives based on “Triple-S specificity”, with sector-, size- and site- based performance indicators:

China’s EIPs offer the following incentives to investors whose projects meet certain criteria (e.g., attracting high-caliber talent, promoting industrial upgrading and scientific and technological innovation):

- Direct subsidies for industrial transformation and upgrade, to encourage inefficient enterprises and enterprises with poor environmental performance to upgrade; a proportion of investment in the associated fixed assets can later be refunded.
- Tax credits for expanding modern service firms – Wuhan Economic Development Zone, for example, supports enterprises in modern services to ramp up production (offering subsidies of RMB 100,000, RMB 200,000 and RMB 300,000, respectively for qualifying enterprises with annual income > RMB 100 million, growing at a rate of > 10%, 20% and 30%).



Subsidies

- Subsidized, preferential lease terms for early anchor investors, including land at subsidized rates or free of charge for extended periods of time, e.g., 20-30 years:
 - Used to attract Dell Computers to the **Panama Pacifico SEA** as an anchor tenants, creating 7,000 jobs in the IP within the first four years
 - **Dubna Technology Zone** near Moscow in Russia has used a similar strategy
 - Utility charge subsidies are also often granted, as is for instance the case in **Russian and Laotian SEZs**
- Special infrastructure or facilities for a strategic investor at no cost:
 - SBMA attracted FedEx to the **Subic Bay Freeport**, which became its hub for 15 years, by agreeing to build a small airport
 - In **Panama-Pacifico SEA**, to attract aircraft maintenance repair and operations, its promoters focused in parallel on attracting aviation maintenance training institutes, to which they provided built-to-specification training facilities
- Subsidized EIP Resident product development & patenting costs, on a reimbursable basis, including cash grants for R&D, **skills and technology investments**
- “Relocation allowances” for key investors, from Government:
 - In the early years of the **Jebel Ali Free Zone**, it offered 80% reimbursement of plant relocation costs by certain key investors within the UAE
 - **Pudong SEZ in Shanghai** offering a “best nesting” allowance



Subsidies (cont'd)

- Subsidies for the construction of EIP (LEED or other) facilities
- Development bank loans for initial capital investments, or operating cash-flow and expenses
- Loan interest subsidies and/or loan guarantees
- Partial or full staff accommodation subsidies and allowances
- Co-financing or reimbursement of the costs of training or obtaining relevant qualifications for EIP investor personnel



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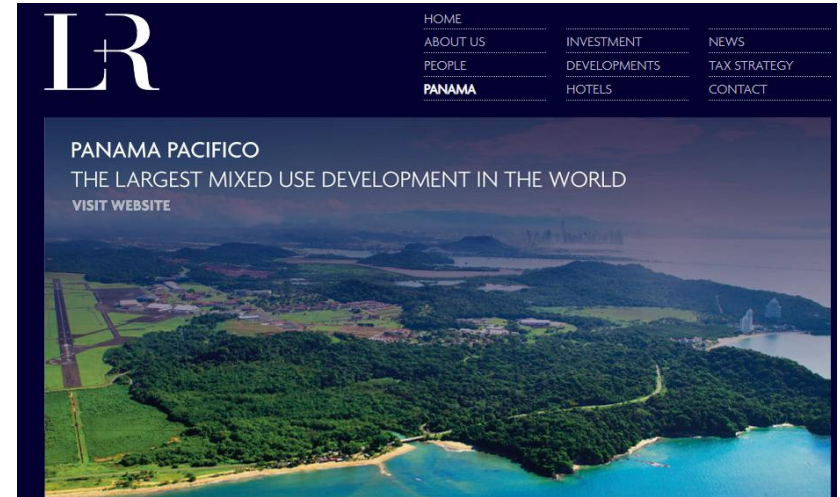
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4. BEST-IN-BREED GLOBAL EIP MODELS

Panamá Pacífico (AEEPP)

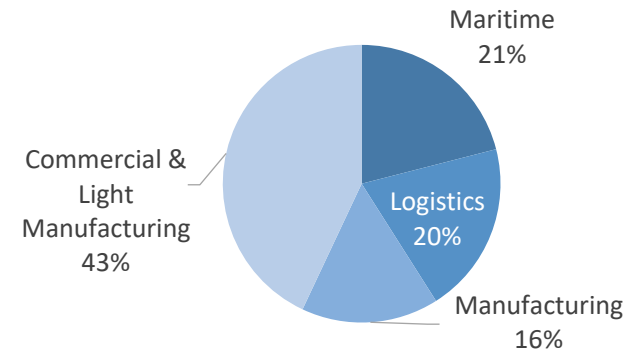
- Idea emerged after U.S. turned Howard Air Force Base to Panama in 1999.
- In 2001, government developed an SEZ strategy, communications program, SEZ law and regulations, a regulatory authority, and began attracting initial anchor tenants with assistance from the IFC.
- SEZ law approved in 2004 and site formally designated as an SEZ in 2005.
- Private-sector real estate developer London & Regional (L&R) selected to develop and operate the SEZ.



- ❖ Designed to become a diverse, multi use area with residents, schools, offices, recreational facilities, etc.

Panamá Pacífico (cont'd): Impacts

- Projected to attract **\$3 billion in direct foreign investment**
- **244 companies** operating (2016), , mainly from the US, Spain, Sweden, and China
- As the SEZ is based on international best practices, it has attracted global corporations such as **Caterpillar, 3M, Dell, Singapore Technologies, BASF)**
- Plans to build 25,000 residential units and a shopping plaza over the next 10 years, in addition to the industrial and class A office buildings already onsite
- **7,500 workers**
- **500 residents**
- **12,000 people enter Panamá Pacífico daily either as workers, visitors, or to drop children off at one of four on-site schools.**
- **Projected to create 40,000 jobs over 40 years**



Discovery Park EZ (DPEZ), Sandwich, UK

- 89 hectare science and technology park that provides research and development spaces, office spaces, and warehousing for life science, pharmaceutical, and bio-technology sectors
- Operated by a consortium of private players
- Granted FZ status in 2011 following Pfizer's decision to exit the site
- Mixed use development, to include significant scientific R&D occupiers
- Coordinated by an Enterprise Zone Board, chaired by various government entities including the Dover District Council, and includes representatives of Discovery Park Ltd. and Kent County Council

Impacts:

- 150 companies on site (2015)
- 30 of these companies have grown from small start-up businesses
- 3,000 jobs created (2015)



Industry Park of Sweden (IPOS), Helsingborg

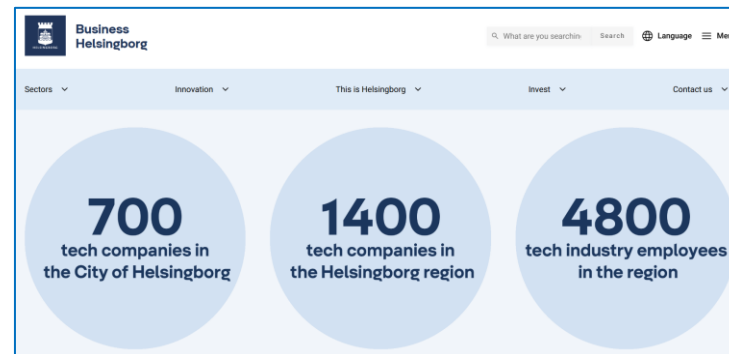
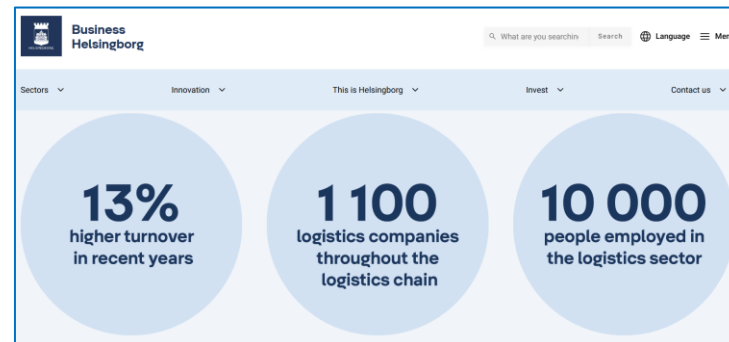
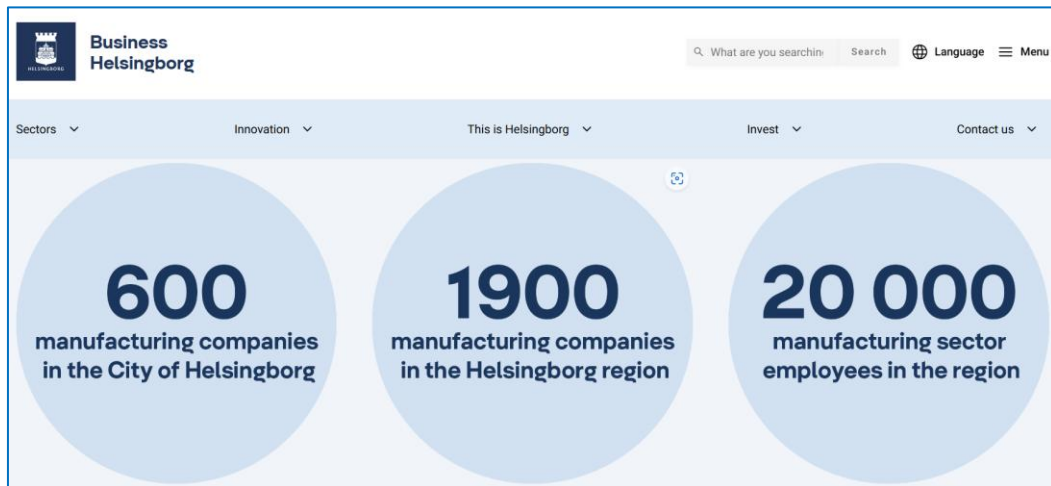
- Helsingborg, in southern Sweden, is a climate-smart, GreenTech & Cleantech “EU Mission City”
- It hosts an e-commerce Park, the MindPark and IPOS, an industrial park
- IPOS hosts **chemical and service companies**, the biggest being Kemira Kemi, which also owns the park and is “the cleanest company in Sweden”
- 600 GWh/year (or 60%) of IPOS’ energy turnover is climate-neutral, being either ‘**green electricity**’ or ‘**recovered energy**’ in the form of repurposed steam, hot water, compressed air and cooling water
- 350 GWh/year of the recovered energy is **supplied as district heating to the nearby city** of Helsingborg, corresponding to 1/3 of the total district heating demand



INDUSTRY PARK
OF SWEDEN



Helsingborg Economic Impacts



Kalundborg Symbiosis Center Impacts



Impact in numbers

Every year, the symbiosis saves the partners and the environment for:

4 million m³ of groundwater by using surface water instead.

586.000 tonnes of CO₂.

62.000 tonnes of residual materials recycled.

80% of the CO₂ emissions in the Symbiosis has been reduced since 2015. The local energy supply is now CO₂-neutral.

Source: Life cycle analysis from 2020.

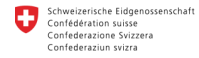
17 partners with a global view

Kalundborg's global companies collaborate with local businesses and authorities across sectors and employs approx. 6,500 people.

ABB. APM Terminals. Argo. Avista Green. Boehringer Ingelheim. Intertek. Gyproc. Kalundborg Bioenergy. Kalundborg Utility. Kalundborg Municipality. Kalundborg Refinery. Meliora Bio. Novo Nordisk. Novonesis. Schultz Shipping Group. Unibio. Ørsted.



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5. INDUSTRIAL PARK AND FREE ZONE TRANSITIONING STRATEGIES



Drivers of Green Transformation in China's Industrial Parks

- **Management Eco-Innovation:** *green policy, green culture*
- **Infrastructure Eco-Construction:** water circulation systems, energy integration, centralized waste treatment, etc.
- **Industrial Eco-Development:** clean production, industrial symbiosis, ecological design, etc.



Critical Steps to Set an EIPs Program on a Critical Path to Success

- Adopting a **National EIPs Strategy**
- Drafting and passing **EIP legislation and regulations** consistent with international best practices
- Designing (or reengineering) a **“fit to purpose” EIP Authority**, following international best practices with respect to its mandate, reporting responsibilities, attributed functions, organogram, autonomy, and powers
- Developing comprehensive **EIP Standard Operating Procedures** in light of international best practices
- Conducting Central and Regional Government **capacity-building**, through “learning by doing” activities, in collaboration with international EIP experts, for instance from UNIDO
- Green Financing of projects

EIP Infrastructure Strategies

Energy Efficiency

Opportunities to reduce energy consumption by upgrading outdated equipment, addressing steam system leaks, and implementing energy-saving measures.

Water Management

Limited water use in production; primary consumption for administration and steam generation. Recommendations include better steam recycling and water-saving strategies like wastewater recycling and low-flow fixtures.

Waste Management

Modern technologies, with most waste recycled, reused, or sold. Further improvements suggested in waste segregation and recycling for near-zero waste.

Material Efficiency

Optimization opportunities in material flows, particularly in textiles and manufacturing, through improved production processes and efficient resource use.



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