

DEQPF



Department of Environmental Quality Promotion
Ministry of Natural Resources and Environment

Newsletter

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Sustainable City

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ASEAN ESC Model Cities Year 2 (2013 - 2015)

No one would argue that shifting the direction of a city is easy, there are clear advantages to starting early. Developing countries, therefore, have an advantage because they can leapfrog over traditional development models and embed sustainability into their plans from the start.

Cities must be part of the solution, not just add to the problem.

According to data from the Economist Intelligence Unit (EIU), its annual “live ability index” 2014 puts eight of the ten most comfortable places in Australia, Canada or New Zealand. The index crunches 30 factors related to things like safety, healthcare, educational resources, infrastructure and environment in 140 worldwide (sources: <http://www.economist.com/blogs/graphicdetail/2014/08/daily-chart-13>). For the first priority on good life quality of place, accordingly to the data of EIU revealed that Top 10 cities with the best quality of life are 1. Vienna 2. Zurich 3. Geneva 4. Vancouver and Auckland 6. Dusseldorf 7. Frankfurt and Munich 9. Bern 10. Sydney, and Singapore is the 28th, Tokyo is 40th, Kobe and Yokohama is 41st as equal, Hong Kong is 71st Kuala Lumpur is 74th, and Bangkok is 118th.

In ASEAN, it has developed the framework for sustainable city called “Environmentally Sustainable Cities (ESC)” since 2008, which accommodates the varied circumstances among ASEAN cities and developed strategies for a clean and green region in the coming future.

To formulate concrete activities on ESC, the 1st High Level Seminar on Environmentally Sustainable Cities (HLS ESC) was held in Jakarta in March 2010, where 5 activities for promoting ESC in the region were recommended.

Best cities

Based on liveability index*

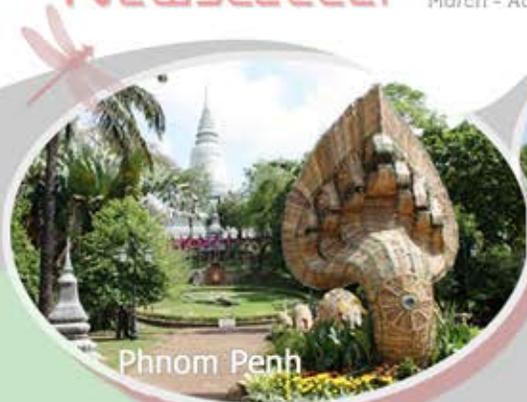
Rank	City	Country
1	Melbourne	Australia
2	Vienna	Austria
3	Vancouver	Canada
4	Toronto	Canada
5	Calgary	Canada
6	Adelaide	Australia
7	Sydney	Australia
8	Helsinki	Finland
9	Perth	Australia
10	Auckland	New Zealand

*Based on 30 factors spread across five areas: stability, infrastructure, education, health care and environment

Source: Economist Intelligence Unit
economist.com/graphicdetail

1. An East Asian Model Cities initiative
2. A clearing house for ESC-related data and information
3. A Public and Private Sector Forum on ESC
4. ESC Capacity Building Programme
5. East Asia Summit ESC Awards based on performance indicators

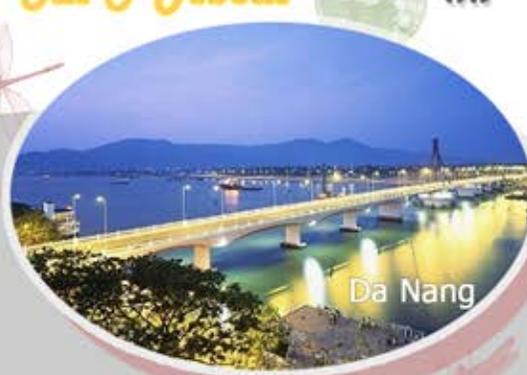
The first year of the ASEAN ESC Model Cities Programme was implemented from April 2011 - March 2012 with the participation of 14 cities from 8 ASEAN countries. It supported and enhanced national and local capacity building in various ESC sectors, including solid waste management, water and sanitation, urban greenery and low-carbon city development. The programme also helped to spread the concept of ESC and supported the development of community-led institutional structures for bottom-up environmental protection in certain cities. Overall, more than 15,000 persons have participated in the programme's activities.



Phnom Penh



Phitsanulok



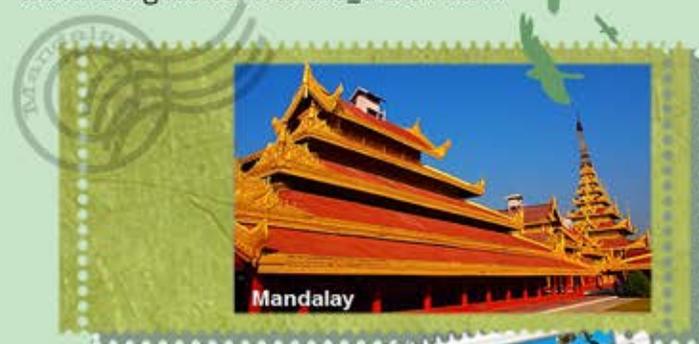
Da Nang

Following the successful first year of implementation the results of the programme were reported at the Grand Regional Seminar which was held in conjunction with the 3rd High Level Seminar on Environmentally Sustainable Cities in Siem Reap, Cambodia in March 2012. The outputs of the programme were warmly welcomed by the 230 participants (consisting of representatives from 14 national governments, 46 local authorities and 25 international organisations) with strong support given for the continuation of the programme into a second year and the results of the HLS ESC subsequently reported to the East Asia Summit Environmental Ministers Meeting.

Subsequently, Year 2 of the ASEAN ESC Model Cities Programme was announced during the Opening Session of the 5th High Level Seminar on Environmentally Sustainable Cities in Surabaya, Indonesia in March 2014. The ASEAN ESC Model Cities Programme will once again work with 8 countries and many cities to further assist, and develop environmentally sustainable cities across the ASEAN region. The programme on Year 2 (2013-2015), which aims to build on strengthening national ESC frameworks and provide support to build local government's capacity, with greater efforts towards achieving synergies with existing initiatives. In addition, AMS progressed on ASEAN ESC Award and Certificate of Recognition using the key indicators for Clean air, Clean land and Clean water for assessment of cities.

CATEGORY	INDICATORS		
	CLEAN AIR	CLEAN WATER	CLEAN LAND
BIG CITIES	Tangerang (Indonesia)	Phnom Penh (Cambodia)	Davao City (Philippines)
SMALL CITIES	Da Lat City (Vietnam)	Nakhon Sawan (Thailand)	Roi-ed (Thailand)

Year 2 of the ASEAN ESC Model Cities Programme (commencing from 2014-2015) was officially announced on 28th February 2014 at the 5th High Level Seminar on Environmentally Sustainable Cities (HLS ESC). With Myanmar's recent announcement that Yangon, Mandalay and Pyin Oo Lwin have been nominated as their ASEAN ESC Model Cities, there are now a total of 21 Model Cities across the region, taking part in activities from plastic bag reduction to community sanitation to building a model environmentally friendly suburb. The result of programme details can followed at http://aseanesc-thailand.orgfree.com/award_thai57.html



Mandalay



Da Lat





Chonburi



Buriram

ESC Model Cities in Thailand

Since 1992 Thailand had started to implement the principle of Sustainable Development (SD) which followed on the concept of Earth Summit; Local Agenda 21. Ministry of Natural Resources and Environment with the mandate to managing sustainability of the natural resources and environment was designed the Office of Natural Resources and Environment Policy and Planning (ONEP) as a National Focal Point for ASEAN Environmental Sustainable City working in collaboration among ASEAN Member State to develop indicators for air and water quality, waste, and green areas, so that cities will emit lesser carbon dioxide.

Then, the Department of Environmental Quality Promotion (DEQP) has firstly started the principle of sustainable development as Local Agenda 21: LA21 as well that created the public participation on municipal government and all sectors to develop the local development plan, with three dimension consideration: economy, social, and environment, as well as, lesson learn, evaluation to improve and its shift as a model. Later on, DEQP has developed and improved the concept of sustainable livable municipality criteria in cooperated with the National Municipal League of Thailand and Thailand Environment Institute since 2004, which a tool is analyzed the sustainable livable municipality that focused on public participation process among related other sectors.

2nd ASEAN ESC Model Cities Programme (commencing from 2011-2012), Thailand presents the 5 best practice Local Administration cities to this programme as follows:

Panutnikom Municipality in Chonburi province (Project of clean & green city) and RenuNakhonChiang Rai Municipality in Chiang Rai province (low carbon society) and Phichit Municipality in Phichit province (Waste participating management project by community and Learning center of waste and recycling useful project). Nong Teng Subdistrict Municipality in Buriram province (Pilot project of water pipe line in village's production and water management for consumption and environment by using alternative energy (solar power) under the concept of public participation). They were received the environment award as called "Nice city, fresh water, without pollution, think eat save for friendly environment". Sub-district Municipality in Nakhonphanom province received the award of sustainable lively municipality in 2012.



Phichit



Chiang Rai

The Release of Dioxin and Dioxin-related Substances from Uncontrolled Electronic Waste Recycling Processes

National Institute of Dioxin (Thailand), Department of Environmental Quality



E-waste recycle site and open incineration (<http://ewasteguide.info>)

Numerous electronic appliances are being produced all over the world with frequent use of materials, considered to be hazardous during the manufacturing processes unless not having well-controlled algorithms. Dioxin and Dioxin-related compounds have gradually become of significant concern in terms of chemical biotoxicity [1], which can be released from various steps especially in waste recycling operation. Over 40 million tons per year of electronic waste (e-waste) are generated [2] and some of them are recycled worldwide due to huge quantities of valuable materials that are reusable.

There have been several scientific publications regarding Dioxin and Dioxin-related substances, monitored from e-waste recycling process. Mostly, this step is normally done through the open incineration, one of the basic methods, which, in consequence, results in a range of toxic chemicals such as, Polychlorinated Dibenzo-p-dioxins/furans (PCDD/Fs) and Polybrominated Diphenyl Ethers (PBDEs) [3]. Such harmful compounds can be measured and analysed from soil, plants, as well as biological samples around the recycle sites. Moreover, they are able to accumulate in the human body for a long time through the contaminated air or food ingredients. Another interesting case is the investigation of Polybrominated Dibenzo-p-dioxins/furans (PBDD/Fs) in breast milk of those living near the recycle fields [4].

As the National Institute of Dioxin (Thailand) has realised the seriousness of this problem, there was a project, which Dioxin and Furan compounds were evaluated in the air samples from 3 risky points, located close to the e-waste recycle landfill. Those areas were Ponthong-Khonkaen Road, Buasa-ard Songserm School, and Kokprasitwittaya School in Khongchai District, Kalasin Province. The results show that the total amount of Dioxins and Furans were 0.09, 0.02, and 0.07 pg-TEQ/m³, respectively that



E-waste recycle landfill at Kalasin Province and the research team from the National Institute of Dioxin (Thailand)



are much less than the toxicity standard of Japan of 0.6 pg- TEQ/m³ [5]. There should, however, still be the alertness regarding this issue owing to the increase in e-waste open incineration in every single year.

Approximate Map of Khongchai District, Kalasin Province

- A: E-waste recycle landfill
- B: Ponthong-Khonkaen Road, 1 kilometres from A
- C: Buasa-ard Songserm School, 2 kilometres from A
- D: Kokprasitwittaya School, 6 kilometres from A



[1] Sorg, O., 2014. AhR signaling and dioxin toxicity. *Toxicol. Lett.* 230, 225-233.
 [2] Zeng, X., Song, Q., Li, J., Yuan, W., Duan, H., Liu, L., 2015. *J. Clean. Prod.* 90, 55-59.
 [3] Liu, H., Zhou, Q., Wang, Y., Zhang, Q., Cai, Z., Jiang, G., 2008. *Environ. Int.* 34, 67-72.
 [4] Tue, N.M., Katsura K., Suzuki, G., Tuyen, L.H., Takasuga, T., Takahashi, S., Viet, P.H., Tanabe, S., 2014. *Ecotox. Environ. Safe.* 106, 220-225.
 [5] Ministry of the Environment, Government of Japan <<http://www.env.go.jp/en/chemi>>.

Haze Controlling in Northern Part of Thailand



The 2015 annual meeting of safeguard to beware, control, and solve the smoking problem of 10 provinces in Northern at Royal Flora Ratchapruerk Park, Chiang Mai. General Dapong rattanasuwanna, Minister of Natural Resources and Environment, as chair of meeting, campaigned no allowing haze, reducing fog and granting Smoke free-biomass reactor to the Haze Controlling Network.



Beneficial waste for 'one Province one Local Administration Organization'

The seminar "Strengthens Thai disciplinary forward to sustainable waste management" was held by the DEQP on 20 April 2015 at Miracle Grand Hotel. It aims to transform the useless junk to the beneficial waste for 'one province one Local Administration Organization' as a model. We got honor from Mr.Sunan Arunnopparat, Vice Minister for Natural Resources and Environment to be the chair of the seminar.



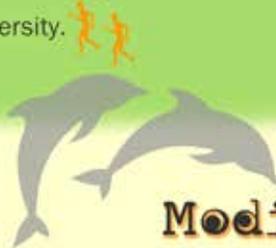
Ceremony Award on "G mark"

Ceremony Award on "G mark" (Green Hotel) by Mr. Sakol Thinakul, Deputy Director-General of the Department of Environmental Quality Promotion, and opened the Training of Green hotel and energy and environmental management at the Bayview Pattaya, Chonburi, on 23 April 2015.



Annual Sport Day of MoNRE

Ministry of Natural Resources and Environment (MoNRE) held the annually event of 2015 sport day, all organizations under the MoNRE were joined in this activity. On 17 May 2015, Mrs. Mingquan Wichayarangsaridh, Permanent Secretary of MoNRE was the chair of opening ceremony, while the Minister granted the award and trophy to the winner at sport gymnasium in Kasetsart University.



Modification of New Position in MNRE



On 29 May 2015, DEQP's executive and officers congratulated the new high executive of MNRE, Dr. Kasemsun Chinnavaso who appointed to be the Permanent Secretary of Ministry of Natural Resources and Environment.



Extended result of Eco-School Project

DEQP opened the seminar of Eco-school Project on 11-12 May 2015 at Asia Airport Hotel at Pathumthani Province, in order to extent the result of environmental education school to all country, under the concept of whole school approach toward sustainable development.



Course Training on natural resources and environment management

Workshop of 2016 annual Environmental training was held by the Institute of Environmental Development and Technology Transfer on 24 April 2015, which aim to construct comprehensive and effective of annual curriculum training courses on natural resources and environment management, chaired by Mr. Wichan Suksawang, Director of the Institute of Environmental Development and Technology Transfer.



POWER

FOR YOUR HOME – a bright idea

Project in Nieuwland Amersfoort consists of solar panels on over 500 homes and utility buildings.



Homeowners looking to lower their utility bill and environmental footprint are finding a bright idea in solar power generation. According to the Solar Energy Industries Association, Americans added more solar power generating capacity during the third quarter of 2013 than ever before – 186 megawatts, up almost 50% year over year! Increased consumer demand and advancements in technology are leading homeowners to strongly consider installation.

For some homeowners, solar panels are still simply too expensive. However, you shouldn't let initial sticker shock scare you off. Some retailers and utility companies offer lease (vs. buy) options, lessening the upfront investment costs. According to a recent FoxBusiness personal finance article, *'Experts say the leasing process of a solar panel system is similar to leasing a car or even getting cable service. Most don't require a down payment, but will lock in a rate homeowners will pay each month for as long as 20 years. The rate may be fixed over the contract period or it may rise on an annualized basis. Either way, experts say the savings compared to consumers' current and future electricity rates will be greater during the life of the contract. The Solar Panel Company or installer is responsible for any panel maintenance or repairs.'*

DSIRE, the Database of State Incentives for Renewable & Efficiency, offers comprehensive information about federal and state incentive programs for implementing solar and other

renewable energy projects at home. Tax credits, rebates and other incentives may be available in your area so check out this important resource.

Some utility providers even allow homeowners to sell unused solar power generation back to the grid, also helping offset costs of implementation.

CNNMoney Editor-at-large David Whitford recently installed a 15-panel, 3.75 kilowatt system on the roof of his Boston home. He shares that the system replaces about 80% of his family's grid draw. And, over the promised 25 year life span of the equipment, the system will cut his household's footprint by 62 tons of CO₂ – not to mention the \$25,000 in utility bill savings. Whitford's total upfront cost was just under \$13,000. But, thanks to state and federal incentives, his ROI will be less than five years.

In a newly formed partnership, Phoenix homebuilder Taylor Morrison and retailer SolarCity announced a solar option on all new Phoenix-area homes. The partners outline that homeowners can reap the benefits of solar power generation for little to no upfront costs. The partnership will make it possible for home buyers to save up to thousands on their utility bills, and will also enable them to lock in their solar electricity costs for decades into the future. Taylor Morison is the first national homebuilder in Arizona to offer SolarCity's solar systems to homebuyers without increasing the purchase price of their homes.

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