

# A Case of Utilizing Results

## Guideline to develop low-carbon cities based on city planning technology for heat island countermeasures and utilization of ‘Eco-City Act’

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(Keywords) heat island, low-carbon city development, wind trail, city planning

### 1. City planning technology for heat island countermeasures

In order to promote heat island countermeasures effectively and systematically, the following city planning technology has been developed and reflected in a policy with the aim of utilizing it.

#### (1) Assessment tools for heat island countermeasures

Assessment tools for heat island countermeasures (detailed version and brief version) which can foresee CO2 reduction effect in addition to air cooling effect by heat island countermeasures have been put into practical use so that local governments, etc. can effectively promote to develop low-carbon cities as well as heat island countermeasures (Fig. 1). The detailed version is a detailed tool for review to be used in project planning by local governments, etc. and the brief version is an interactive explanatory to be used in a meeting and the like to explain to local residents.



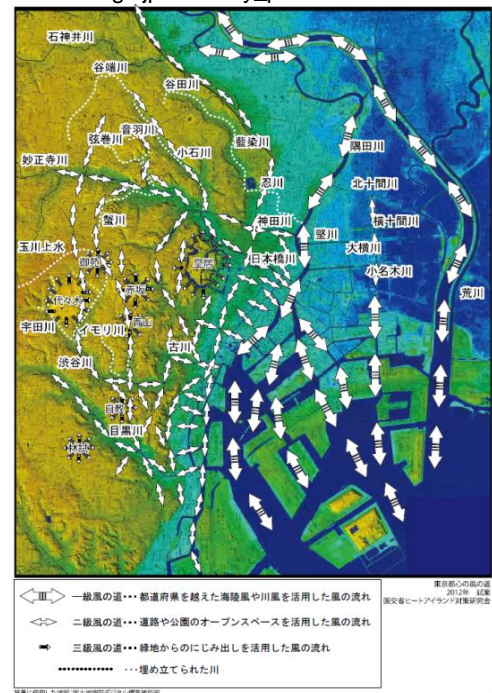
Fig. 1 Assessment tools (left: detailed vers

#### (2) Heat island countermeasure map and guideline

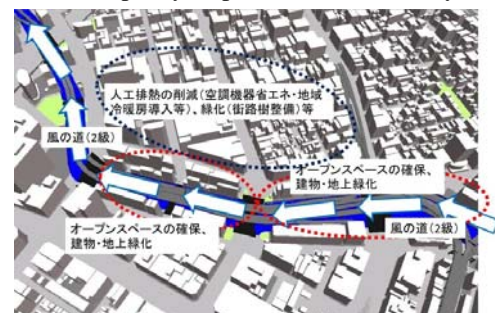
In order that local governments, etc. can effectively take heat island countermeasures as part of city development, a countermeasure policy including ‘wind trail,’ etc.. has been studied using the above assessment tools, etc. on the basis of the actual conditions of temperature and wind trail, and, ‘heat island countermeasure map’ (Fig. 2) which indicates the countermeasures on the map has been prepared. In addition, guidance of effective measures in coordination with urban planning has been compiled, a city development guideline (tentative name) utilizing ‘wind trail’ which contributes to heat island countermeasures has been prepared.

guidelines, etc.

The manner of utilization of the above outcomes is shown in the following: (i) the guideline for low-carbon city development by Ministry of Land, Infrastructure, Transport and Tourism (2010), (ii) the basic principles of ‘Eco-City Act’ (Act concerning promotion of low-carbon cities) enforced in December, 2012 and (iii) manuals to formulate low-carbon city development planning ([http://www.mlit.go.jp/toshi/city\\_plan/eco-machi.html](http://www.mlit.go.jp/toshi/city_plan/eco-machi.html))



Countermeasure policy map of ‘wind trail’ on city scale



Countermeasure policy map on district scale

Fig. 2: A trial example of heat island countermeasure policy map

### 2. Application of outcomes from acts and