



## 趨勢 (trend)

1. 氣候暖化與極端氣象災難頻繁：  
Climate warming and frequent weather disasters

無法停止。unstoppable

2. 全球合作抑制溫室氣體排放：  
Global collaboration of the reduction of GHG emission

持續努力中，但暫無法預期新的議定書。  
On going with no new protocol in sight.

### 短期調適策略

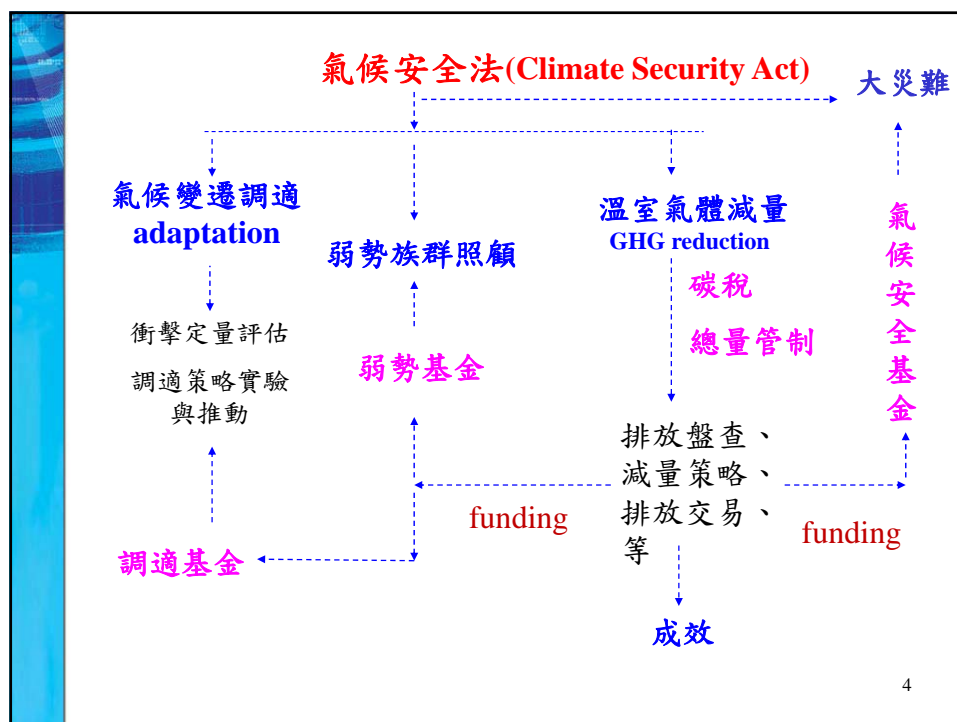
#### Short-term adaptation strategy

- 加強救災 disaster relief
- 加強防災 disaster prevention

### 長期調適策略

#### Long-term adaptation strategy

- 國土重整 Reconstruct the land
- 立法 Law-binding
- 建築法規調整 Adjust the building code



**I. 將每棟建築變成一顆樹**  
**To construct a building as a tree.**



**將城市變成森林**  
**To change a city into a forest.**



所有降落至建物擁有空間內的雨，在達到法定極限前，不准流到此空間之外。  
**Before exceeding a regulated limit, rain water falling inside the property area has to remain within the area.**

**How?**

在地面上挖一個滯洪湖 或  
在地底建一個水庫  
**A detention pond or a underground water tank**

早已在美國執行  
**Already so, in USA**

## 颱風「凡那比」高雄淹水 Flooding by Fanapi in Kaohsiung



若全市所有地下室都變成臨時蓄水庫？

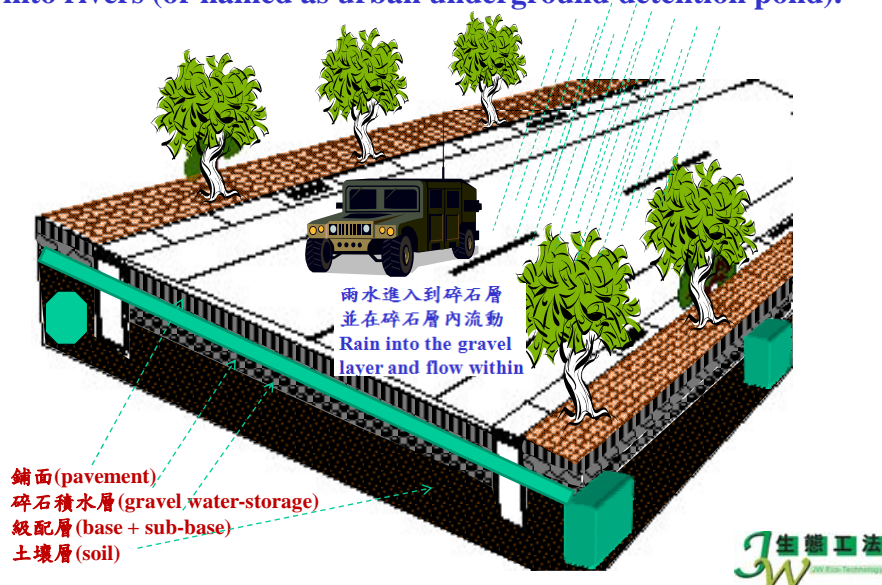
Change basements into temporary water dams.

顯然不夠，因為地下室的蓄水量不足。Not enough!

所以，要以500公釐/日為極限標準，開始規劃地下水庫或建地滯洪池。

A new design about underground structure is needed.

## II. 將人行道、停車場與道路底層變成河川 (都市地下滯洪池) Change layer below the sidewalk, parking lot and urban road into rivers (or named as urban underground detention pond).



透水鋪面雨水滲透率

permeability of permeable pavement:

at least 3000mm/day

碎石積水層 gravel water storage layer

可儲存量 potential storage: 2500mm/day

承重 200psi ~ heavier than a towing truck

每日車輛數 ~ < 30,000 cars/ day

至少四十年不整修 ~ no need for repaving for at least 40 years

非現在的透水水泥、透水柏油、透水磚等可承擔！

Not any commercial permeable pavement can handle!