Climate Change and Risk Management for SME Business Continuity Management

Dr. Chi-Ming Peng
WeatherRisk Explore Inc.
About Chi-Ming Peng

• Meteorologist, Professor, Atmospheric Sciences
• Weather advisor, Insurance company
  – Weather Insurance/Derivatives
• CEO, WeatherRisk Explore Inc.
• Chairman, Taiwan Open Data Alliance
• Da Ai TV Weather anchor
• Member of UNISDR DRR-PSP
WeatherRisk Explore Inc.
Private Weather Company

- Business: Value-Added Weather Service, Enterprise Weather
- 43 peoples, certified weather forecasting liscense.

- 2004 年氣象局開放民間氣象預報，本公司彭啟明博士獲得臺灣第一張氣象預報證照。
- 2006年五㛯，本公司以氣象團隊正式獲得第一張民間公司氣象及海象預報證照，已有10張預報證照。
2011 Flood in Thailand

• Lessons Learned When Preparing your Organizations for a Catastrophic Event
• Accumulated damage from 2000 to the year on the abscissa.
Bigger storms ahead
Kerry Emaunel, 2013

- Frequency of tropical cyclones will increase by 10 to 40 percent by 2100, given a rise in greenhouse-gas emissions.
- Intensity of tropical cyclones could increase by 45 percent by 2100. Those storms that make landfall would be 55 percent more intense.
Each Year we met

- Monsoon transition
- 3-4 typhoon hits
- Drought/Extreme precipitation
  - Annual rainfall: 1718-4863mm
  - 1 hr maximum rainfall: 190mm
  - 24 hrs maximum rainfall: 1749mm
  - 48 hrs maximum rainfall: 2361mm
- 42 days over 35°C (heat wave)
- Pollutants transport from Asia

70% of the island is mountainous with steep slopes, the famous natural hotspot. *We are living with risks.*
Extremely precipitation during typhoon Megi, 2011
監測是看過去的記錄，預測是對未來的評估。

如果提早反應，或許就不會有梅姬颱風 45.5 mm/hr 的遺憾。

11點雨量近50毫米 公總12點後才封路/蘇花封路 慢半拍？
Directorate General of Highways

Closed early warning

evacuate

Disaster

After

Nagakake typhoon companion effect period

A section of the Suao-Hualien highway was closed due to early warning.
## Batting Average during extreme weather

101年5月～11月

<table>
<thead>
<tr>
<th>Events</th>
<th>Warning and Evacuate</th>
<th>Evacuate then Disaster comes</th>
<th>BA</th>
</tr>
</thead>
<tbody>
<tr>
<td>0610豪雨</td>
<td>43</td>
<td>36</td>
<td>83%</td>
</tr>
<tr>
<td>0618 泰利颱風</td>
<td>23</td>
<td>7</td>
<td>30%</td>
</tr>
<tr>
<td>0730 蘇拉颱風</td>
<td>104</td>
<td>78</td>
<td>75%</td>
</tr>
<tr>
<td>天秤颱風</td>
<td>54</td>
<td>14</td>
<td>26%</td>
</tr>
<tr>
<td><strong>總計</strong></td>
<td><strong>224</strong></td>
<td><strong>135</strong></td>
<td><strong>60%</strong></td>
</tr>
</tbody>
</table>
Accuracy and resolution is going better then ever.
Public-private partnerships for disaster risk reduction

- **Awareness**
  - Mitigation, Adaptation
  - Weather Insurance/Derivative
  - Risk management

- **Action**
  - IPCC Report
  - Weather Forecast

- **Sustainability**
  - CSR
  - BCM
  - CRD
兩岸三地
企業氣候風險揭露

Climate Risk Disclosure
Survey
of Taiwan, HK and China
CRD Survey of Taiwan, China and Hong Kong

- 12 Indexs
- 2011-2012 Annual Reports
  - Taiwan: Polaris Taiwan Top 50 Tracker Fund (台灣50)
  - China: China Securities Index 300 (CSI 300,滬深300)
  - Hong Kong: Hang Seng Index (恆生指數)
- More than 400 company
The U.S. Securities and Exchange Commission 2010 announced the guideline to provide public companies with interpretive guidance on existing SEC disclosure requirements as they apply to business or legal developments relating to the issue of climate change.
Commission Guidance Regarding Disclosure Related to Climate Change (Feb. 8, 2010):

1. Impact of legislation and regulation
- 未來與氣候變遷相關的管制趨嚴
- 例如需要更新設備以符合環保法規

2. International accords
- Tokyo Protocol(京都議定書)、EU ETS
3. Indirect consequences of regulation or business trends
   – 對於環保低碳商品的需求興起等
   – 競爭者低碳商品的威脅

4. Physical impacts of climate change
   – 氣候變遷導致的劇烈天氣事件頻率增加
<table>
<thead>
<tr>
<th>Index</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>實質層面</strong> Practical Dimension</td>
<td></td>
</tr>
<tr>
<td>碳權交易 Emission Trading</td>
<td>是否有揭露公司目前進行碳權交易</td>
</tr>
<tr>
<td>營運策略 Operating Strategy</td>
<td>將環境保護觀念結合其營運活動</td>
</tr>
<tr>
<td>生物資產 Biological Assets</td>
<td>取得並未與其營運直接相關的生物資源 (以此來取得排碳權)</td>
</tr>
<tr>
<td>綠色投資 Green Investments</td>
<td>把資金投入在與環境保護或排碳等永續議題的投資 (與營運活動不直接相關，例如將閒置資金投資於智慧電網、再生能源研究基金)</td>
</tr>
<tr>
<td>能源效率 Energy Efficiency</td>
<td>投入資本以改善設備流程，來符合能源效率 (如辦公室節約紙張等)</td>
</tr>
<tr>
<td><strong>風險揭露</strong> Climate Risk Disclosure</td>
<td></td>
</tr>
<tr>
<td>營運衝擊 Operating Impacts</td>
<td>原料供應短缺、價格變動、運輸系統，直接影響營運者</td>
</tr>
<tr>
<td>政府監管 Government Compliance</td>
<td>政府為了減緩氣候變遷，以更嚴格的條件來限制企業生產的方式</td>
</tr>
<tr>
<td>策略考量 Risk Consideration</td>
<td>將氣候變遷風險納入企業的策略分析中</td>
</tr>
<tr>
<td>量化分析 Quantitative Analysis</td>
<td>將氣候風險直接以數據量化</td>
</tr>
<tr>
<td><strong>其他因素</strong> Other</td>
<td></td>
</tr>
<tr>
<td>減碳目標 Carbon Reduction Commitment</td>
<td>承諾未來排碳量的降低與時程</td>
</tr>
<tr>
<td>組織參與 Organization Participation</td>
<td>參與氣候變遷相關國際或非國際組織、競賽等</td>
</tr>
<tr>
<td><strong>社會責任</strong> CSR Reports</td>
<td></td>
</tr>
<tr>
<td>CSR報告 CSR Reports Announcement</td>
<td>是否額外編制並公布企業社會責任報告書</td>
</tr>
<tr>
<td>Dimensions</td>
<td>Items</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td><strong>Practical Dimension</strong></td>
<td>Emission Trading</td>
</tr>
<tr>
<td></td>
<td>Operating Strategy</td>
</tr>
<tr>
<td></td>
<td>Biological Assets</td>
</tr>
<tr>
<td></td>
<td>Green Investments</td>
</tr>
<tr>
<td></td>
<td>Energy Efficiency</td>
</tr>
<tr>
<td><strong>Climate Risk Disclosure</strong></td>
<td>Operating Impacts</td>
</tr>
<tr>
<td></td>
<td>Government Compliance</td>
</tr>
<tr>
<td></td>
<td>Risk Consideration</td>
</tr>
<tr>
<td></td>
<td>Quantitative Analysis</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>Carbon Reduction Commit.</td>
</tr>
<tr>
<td></td>
<td>Organization Participation</td>
</tr>
<tr>
<td><strong>CSR Reports</strong></td>
<td>CSR Reports Announce.</td>
</tr>
<tr>
<td>Practical Dimension</td>
<td>Taiwan</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Best</td>
<td>Worst</td>
</tr>
<tr>
<td>Financial Industry</td>
<td>IC, PC</td>
</tr>
</tbody>
</table>

- **Climate Risk Disclosure**
  - Taiwan: Generally bad, except Operating Impacts
  - China: Utility, Manufacturing
  - Hong Kong: Generally bad

- **Other**
  - Taiwan: Companies with commitment accounts about 50%, but few of them join any related organizations
  - China: 30% of commitments in Utility and Financial industry, but few of them join any related organizations
  - Hong Kong: Generally bad in commitments, but Organization Participation is better, which is above 10%

- **CSR Reports**
  - Taiwan: 25%
  - China: 80%
  - Hong Kong: 65%

Financial, Property and Utility are focusing on Operating Strategy and Energy Efficiency.
I refuse to condemn your generation and future generations to a planet that’s beyond fixing.
We'll also open our climate data and NASA climate imagery to the public, to make sure that cities and states assess risk under different climate scenarios, so that we don’t waste money building structures that don’t withstand the next storm.
Open Data policy to Disaster

- **Open data** is the idea that certain data should be freely available to everyone to use and republish as they wish, without restrictions from *copyright*, *patents* or other mechanisms of control.
SME Business should understand and manage the Risks.
謝謝聆聽，歡迎指教

彭啟明  李孟洋
weatherrisk@gmail.com
氣象達人彭啟明
66% of respondents have BCPs

21% of SMEs are in the process of writing their BCPs

Main Motivation: 97% said it’s good business practice; to manage the risks

Most of SMEs do not tap government assistance in developing BCPs

Majority of the respondents are not aware of the BCPs of their suppliers
Building BCPs

Refer to guidelines of BCP Standards (i.e. BS25999, NFPA 1600, ISO 22301)

Develop and tap in house expertise

Tap international consultants

Get technical support from headquarters

Localize BCM Trainings and Certifications
Key Considerations in creating and updating BCPs

- PEOPLE
- Flexibility and currency of BCP
- Logistics (transportation)
- Access to data and information
- Communications
- Hardware Replacement
- Insurance
- Facilities Infrastructures

Source: Pat Corcoran, IBM Business Continuity & Resilience Services
Bottlenecks

- Lack of awareness by management and employees
- Difficulty in coordinating among departments
- Lack of information on how to build BCPs
- Difficulty in securing proper human resources
SUCCESS FACTORS

Preparation
- Secure full support from management
- Get the buy in from concerned departments
- Identify capable BCP Champion and Team Leader

Formulation
- Know your organization and critical business processes
- Tap consultant/experts (local or international)
- Form the BCP Team with defined roles and responsibilities
- Conduct awareness raising activities for employees
- Create simple and flexible BCP
SUCCESS FACTORS

Implementation
- Integrate disaster response, recovery and crisis communication
- Establish good relationship with concerned government agencies
- Review and update contracts with suppliers (supply chain considerations)
- Anticipate for potential impacts
- Report regularly to the Board, Audit Committee and Top Management

Sustainability
- Test BCP regularly
- Conduct trainings and drills regularly
- Involve all concerned departments
- Incorporate learning from every incident in updating the BCP
Addressing Gaps in the Philippines

Current BCM Courses:
- BCM 230: ISO 22301 Business Continuity Management Systems Planner
- BCM 33: ISO 22301 Business Continuity Management Systems Implementer

Previous Courses:
- BCM 200 and BCM 300

Meet the Experts
Business Continuity Management Courses

- a certification course on business continuity management conducted in coordination with BCM Institute Singapore.

Course Offering for 2013:

BCM 330: ISO 22301 Business Continuity Management Systems Implementer
Meet the Experts

is a complimentary half-day event to encourage knowledge sharing amongst the industry professionals within a specific country. The MTE seminar aims to address both the business and technical issues surrounding the Business Continuity Management (BCM) and disaster recovery planning process. To facilitate a fruitful dialogue, Subject Matter Experts are invited to present their views, followed by discussion session at the conclusion of each topic.
Role of BCP in developing disaster resilience

Nick Barker
Emergency Management Australia
Attorney-General’s Department
Introduction

• Background
• What is disaster resilience?
• Importance of resilience
• Role of business
• Role of Business Continuity Planning (BCP)
Background

• Recent experience
• Increasing frequency and intensity of disasters
• Impact on nations, business and communities
• Increasing economic cost
What is disaster resilience?

- Surviving
- Bouncing back
- Bouncing forward
- Reduced exposure to future risk
Resilience Characteristics

- Functioning well under stress
- Capable of successful adaptation
- Self-reliance
- Social capacity
Role of business

Resilient business contribute to the resilience of:
• Community
• Supply chains
• Economy
• Regional and global
Role of BCP

BCP contributes to resilience by enabling business to:
• Continue to function well under stress
• Adapt successfully
• Be self-reliant
• Reducing recovery time
Conclusion

‘Business Continuity Planning’ is a key contributor to business resilience.

Business resilience is essential to community and national resilience.
Questions?
Establishing SME Business Continuity Plans for Better Global Supply Chains

以中小企業營運持續計畫 建立更佳的全球供應鏈

Shuh Woei Yu
Safety and Health Technology Center
Hsinchu, Taiwan
Background

This brief outline is based on the findings and recommendations of the 2012 report “BCP Status of SMEs in the Asia-Pacific Region”. It is believed that action plans outlined in the report are extremely helpful in using SME BCPs to improve the global supply chain.

本簡報係根據台灣經濟研究院2012年”亞太地區中小企業營運持續計畫現況”報告撰寫，該報告問卷調查結果及建議事項，對APEC經濟體中小企業推動營運持續計畫及更好的全球供應鏈，應有相當的助益。
Recommendations

The Report recommended programs are:

- Embedding BCP in Supply Chain Management will raise the SME employers and employees about the importance of BCP. In addition, upstream companies in the supply chain can provide assistance to their suppliers in the design, implementation and audit of suitable and effective BCPs.

台灣經濟研究院報告建議事項為：

- 將營運持續計畫併入供應鏈管理，可提升中小企業雇主和員工對營運持續計畫的重視，此外，供應鏈上游公司，尤其是上游的大型企業，可協助下游供應商設計、執行和稽核適當、有效的營運持續計畫。
Recommendations (continued)

- Expansion of the public support systems and government funding to enhance the awareness of BCP and the development of implementation guidelines, toolkits will definitely facilitate the adoption of BCP among the AP SMEs. The APEC Economies can collectively develop BCP training materials, toolkits, and other valuable information about BCP. An Internet platform can then be set up to disseminate the toolkits, case studies, databases, and other essential information.

擴大公務系統和政府資源於提升中小企業對營運持續計畫的認知、發展執行指引/使用工具，絕對有助於中小企業接納營運持續計畫，APEC經濟體可共同發展BCP訓練教材、技術工具及其他重要資料，APEC可以利用網路平台傳播BCP技術工具、成功案例、資料庫及其他重要資訊。
Effective BCP can only be built on sound risk awareness culture. A linkage between BCP and risk management should be established to assist the SMEs build the foundation. A simplified version of Enterprise Risk Management would play a vital role in this respect since risk management focuses on the prevention of undesired events while BCP is concerned about maintaining the continuity of critical activities after the occurrence of undesired events.

健全的風險認知文化是有效的營運持續計畫建置的基礎，BCP和風險管理關聯性的建立，將有助於中小企業BCP的推行，適用於中小企業，簡化的企業風險管理模式，是中小企業BCP關鍵的成功因素，因為風險管理和營運持續計畫是一體的，風險管理重點為預防有害事件的發生，而BCP的重點則是事件發生後，維持關鍵作業的持續運作。