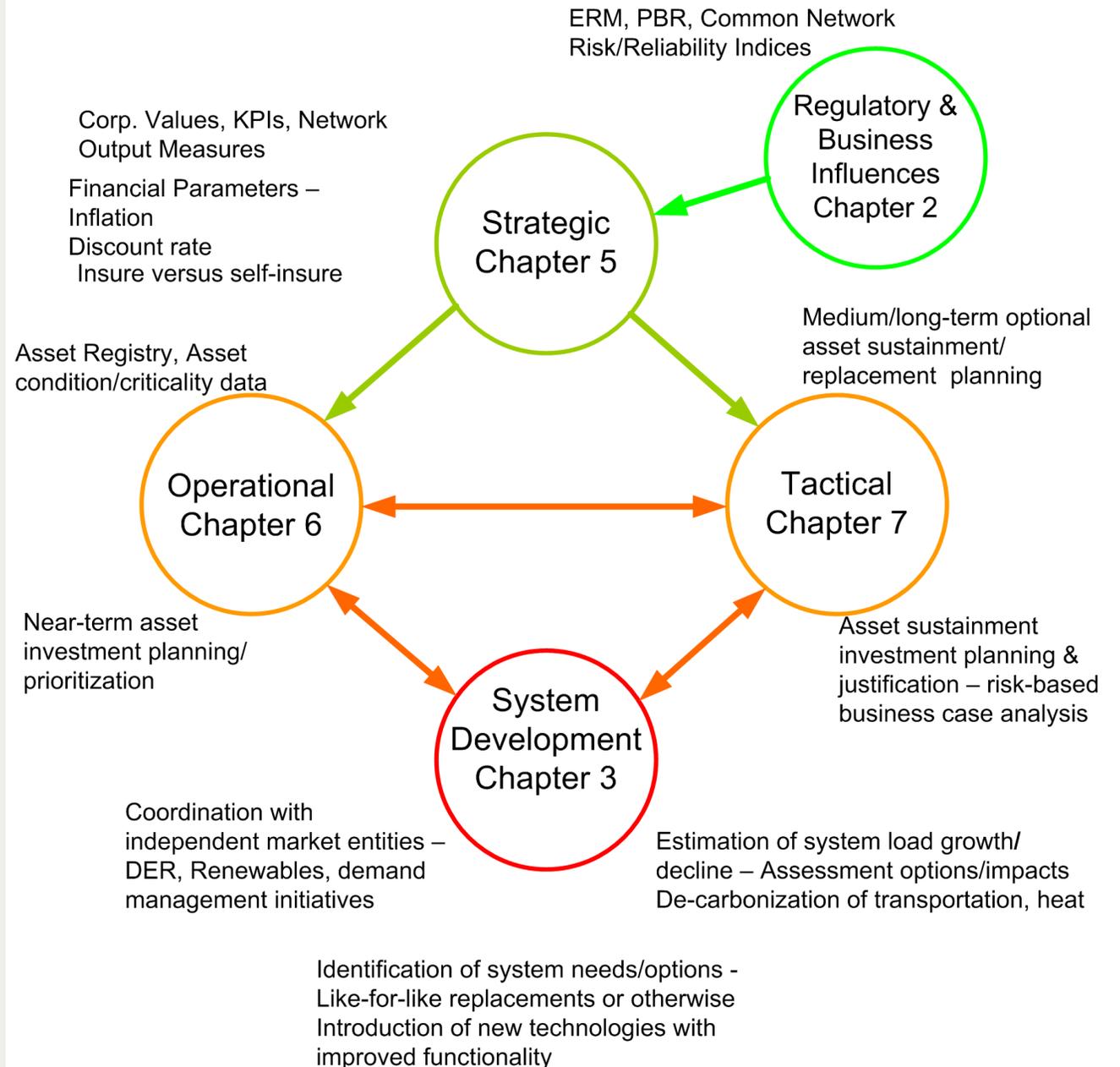


Outline

- **Part 1: The AM foundation**
- Understanding asset ageing
- Asset management functions and interactions
- Regulatory/governmental influence
- Interactions between System development planning and asset sustainment planning
- Risk-based business case development



Part 2: AM Practices: 12 detailed Case Studies

Targeted Equipment Servicing (as an Alternative to Replacement) of Disconnectors

Overhead Transmission Line Asset Sustainment Investment

Transformer Sustainment Investment Options

Substation Reinforcement

Transformer Repair/Replace Options

Asset Fleet Management: “Bow Wave” Analysis

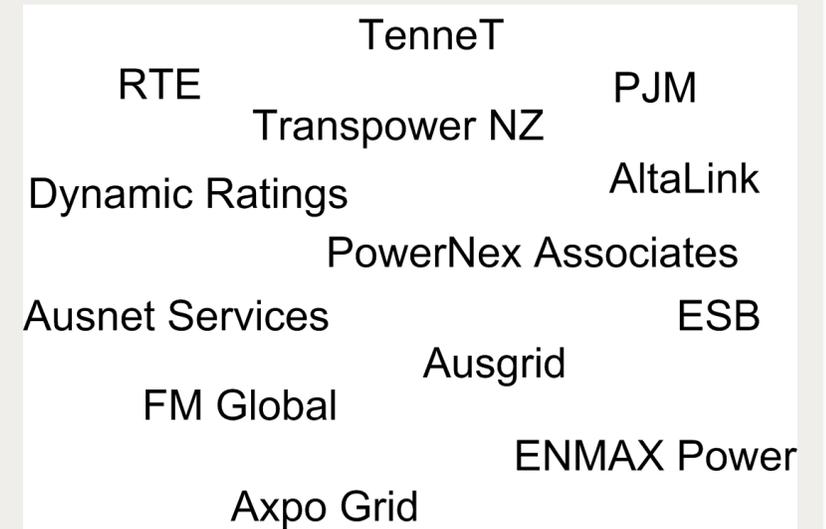
Insurance As an Optional Asset Management Investment

Risk-Based Overhead Line Corridor Clearance Management

A New Reliability-Based Planning Measure for Grid Investment Prioritization

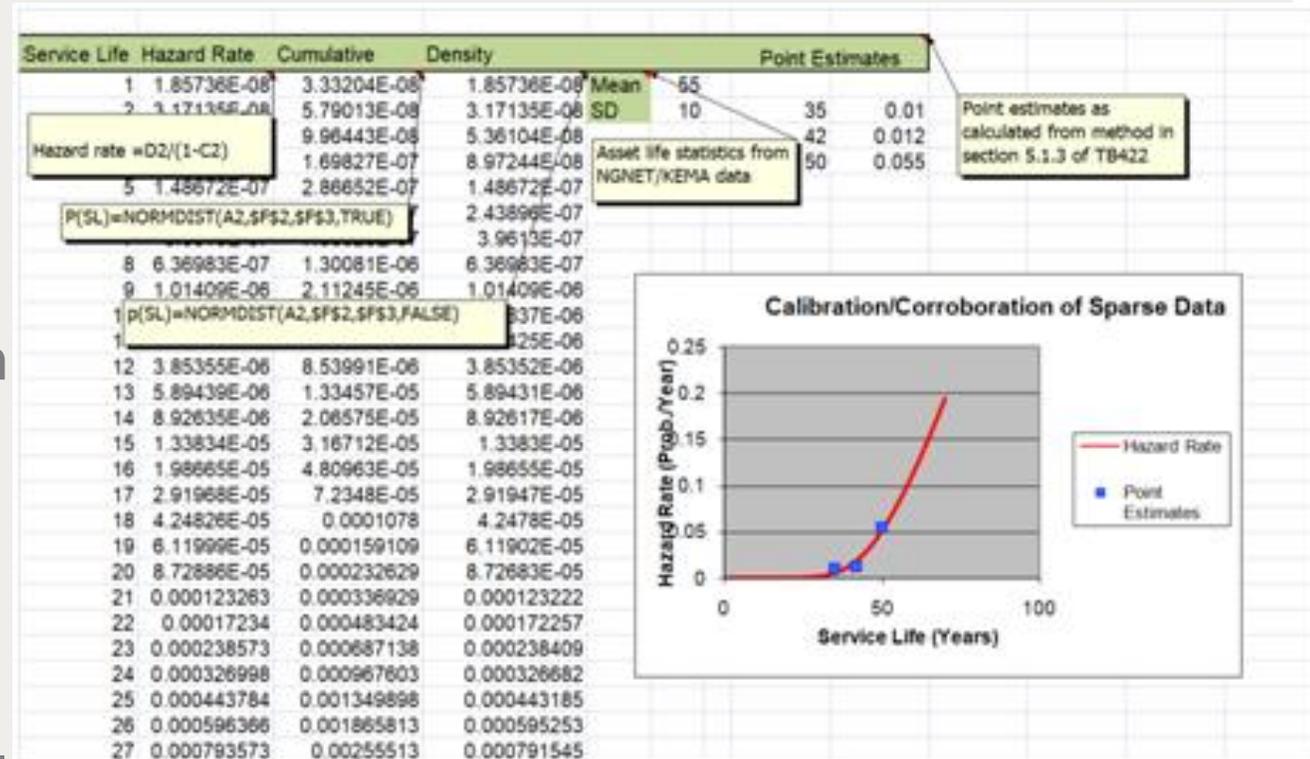
Asset Failure Susceptibility Ranking

Probabilistic Risk Assessment for Spare Transformer Planning



The book is focused on:

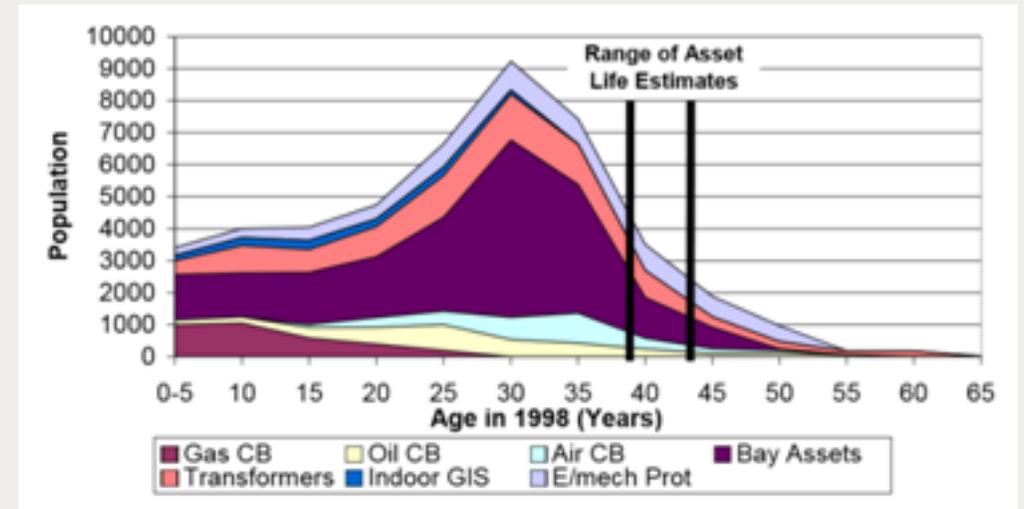
- Practical methods to achieve results in the form of smarter asset investment decisions
- The synergism or blending of system and equipment know-how, with probability/risk based methods and financial analysis.
- Providing sufficient technical and analytical detail at a level comfortable for working level engineers and analysts, with minimal need to search for back-up reference or text book material.



A typical illustration from the Green Book of an annotated spreadsheet showing the underlying calculation formulae for fitting sparse failure data to an industry based hazard rate function

Asset management – A work in progress

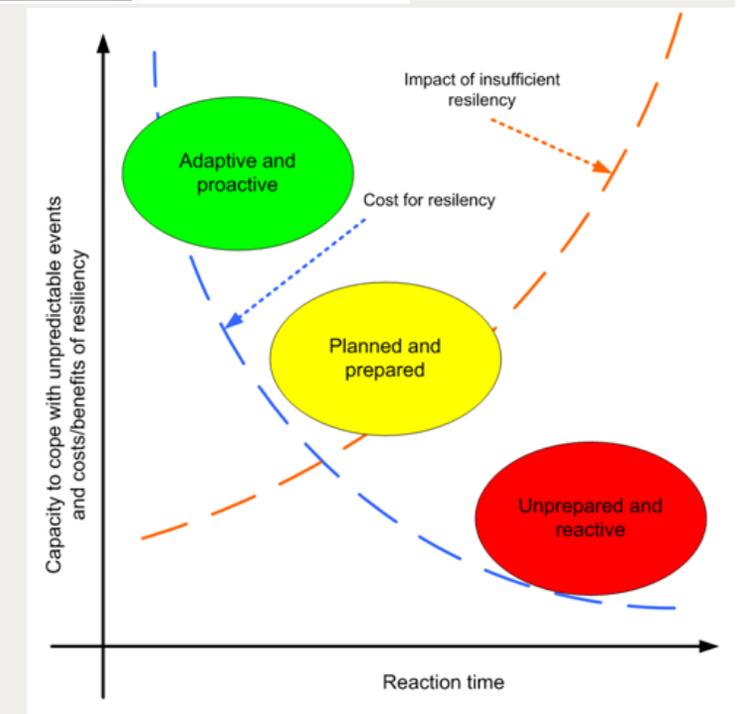
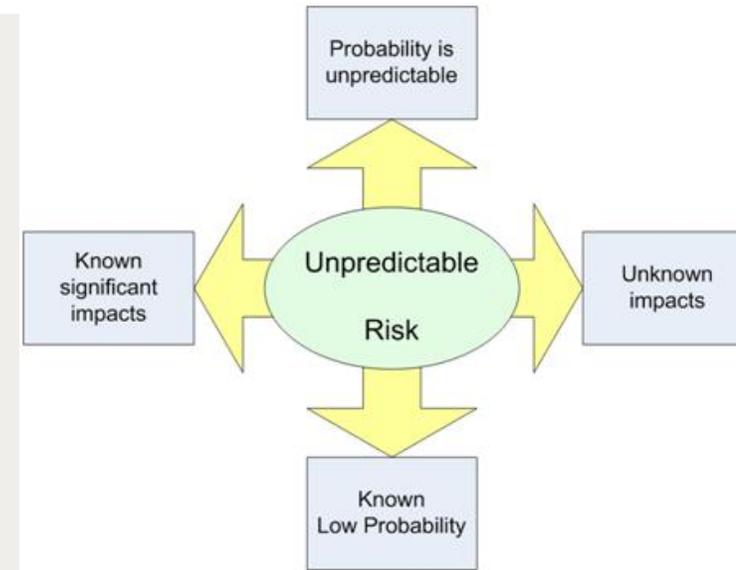
- The book attempts to fill a gap in documenting risk-based business case analysis methods
- The “Bow Wave” problem, anticipated more than 2 decades ago, is treated in an extensive case study in Part 2
- A method to assess and value risk is described in chapter 8 on business case analysis in Part 1. The actuarial method allows monetized risk to be compared with optional Capex/Opex investment costs over a planning period to develop a rigorous risk basis for asset management investments.



The typical Bow Wave, asset population demographic pattern confronting asset managers [TB 176, 2000]

The outlook & need for AM Methods

- The energy transition – increased pressure on grid
- System resiliency – increased extreme weather events
- Regulatory activism and scrutiny increasing
- Complex markets & players looking for positive risk/reward opportunities
- Efficient, effective asset management methods increasingly important
- Need to make smart investment decisions quickly



Thanks for your attention

- **Green Book Editorial Team:**

Graeme Ancell NZ

Gary Ford CA (Lead)

Earl Hill USA

Jody Levine CA

Christopher Reali CA

Eric Rijks NL

Gérald Sanchis FR

- *The Green Book is available for purchase on our partner's website [**Springer**](#).*
- *If you are an **Individual** CIGRE Member, please **contact us** to benefit from a 40% discount on your purchase (please indicate your **individual** active member number and your National Committee in your message).*