

Best Practice in **Infrastructure Asset Management**

Creating and maintaining value for all stakeholders

Edited by Jeffrey Altmann, First State Investments



Published in December 2010 by
PEI Media Ltd
Second Floor
Sycamore House
Sycamore Street
London EC1Y 0SG
United Kingdom

Telephone: +44 (0)20 7566 5444
www.peimedia.com

© 2010 PEI Media Ltd

ISBN 978-1-904-696-82-7



This publication is not included in the CLA Licence so you must not copy any portion of it without the permission of the publisher.

All rights reserved. No parts of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means including electronic, mechanical, photocopy, recording or otherwise, without written permission of the publisher.

The views and opinions expressed in the book are solely those of the authors and need not reflect those of their employing institutions.

Although every reasonable effort has been made to ensure the accuracy of this publication, the publisher accepts no responsibility for any errors or omissions within this publication or for any expense or other loss alleged to have arisen in any way in connection with a reader's use of this publication.

PEI Media editor: Anthony O'Connor

Production editor: William Walshe

Cover design: Joshua Chong

Printed in the UK by: Hobbs the Printers (www.hobbs.uk.com)

Cover image: Courtesy of iStockphoto

Contents

Figures and tables	xi
Introduction	xiii
By Jeffrey Altmann, First State Investments	
Section 1	
In-depth chapters: Professional approaches	
1. The role of the asset manager	3
By Jeffrey Altmann, First State Investments	
Introduction	3
Defining the role of the asset manager	3
Risks, opportunities and required skill-sets.	4
Assessing a GP’s asset management capabilities	5
Conclusion.	9
2. The dynamic between owners, operators and regulators of infrastructure	11
By Jeffrey Altmann, First State Investments	
Interests of stakeholders	11
Key stakeholders’ concerns at various acquisition stages	13
The role of the asset manager	15
3. Value creation through effective change	17
By Peter Jumpertz, THERON Management Advisors	
Disruptive change	17
The philosophy of change management.	17
Legacy – cultural complexities of regulated assets	17
Transformation – from bureaucracy to business	21
Innovation – from business-as-usual to best practice	24
Conclusion.	26

4. What limited partners demand from their infrastructure fund managers	27
By Christoph Schumacher and Tobias Pfeffer, Generali Deutschland Immobilien GmbH	
Introduction . . . . .	.27
Typical alignment of interest issues. . . . .	.28
Alignment of interest in infrastructure investments . . . . .	.28
Lessons learned from a German insurance company investor . . . . .	.30
How to conduct price regulation . . . . .	.31
Taking the indirect route. . . . .	.32
Conclusion. . . . .	.32
5. A limited partner’s expectations of a general partner	35
By John Ritter, Teacher Retirement System of Texas	
6. Infrastructure fund of funds: Definition and benefits	37
By Richard Clarke-Jervoise, Quartilium	
Introduction . . . . .	.37
What are the benefits of investing in infrastructure via a fund of funds? . . . . .	.37
What types of funds of funds are available? . . . . .	.39
Are there disadvantages of using a fund of fund? . . . . .	.39
How does a fund of funds manager select an infrastructure fund manager? . . . . .	.39
Tools used in selecting a fund of funds infrastructure manager . . . . .	.40
The interaction between fund of funds managers and infrastructure fund managers . . . . .	.40
The role of asset management as it relates to a fund of funds . . . . .	.41
7. The role of the private infrastructure fund of funds manager	43
By Joyce Shapiro, Franklin Templeton Real Estate Advisors	
Introduction . . . . .	.43
Role of the multi-manager . . . . .	.44
Investor benefits. . . . .	.44
Evolving marketplace. . . . .	.45
Sector challenges . . . . .	.46
Portfolio development . . . . .	.46
Strategies and sources of return . . . . .	.47
Geographic considerations . . . . .	.48
Selecting managers . . . . .	.48
Monitoring managers. . . . .	.49
Conclusion. . . . .	.49
8. The role of the insurer in infrastructure	51
By Martin Bennett, Marsh	
Introduction . . . . .	.51
Fundamentals of insurance . . . . .	.51
Criteria for selecting an insurance adviser . . . . .	.52
Pre-acquisition insurance services . . . . .	.53
Due diligence: the role of the insurance adviser . . . . .	.54
Public sector . . . . .	.54

Purchasing cover . . . . .	.55
Key insurance cover – construction phase . . . . .	.56
Key insurance cover – operational phase . . . . .	.58
Managing force majeure risks. . . . .	.59
Directors’ and officers’ liability (D&O) . . . . .	.59
Secondary acquisition of entire target business . . . . .	.60
Prior acts . . . . .	.61
Other insurance covers . . . . .	.62
Exiting an investment . . . . .	.62
Why commission vendor insurance-assistance services? . . . . .	.63
Transactional risk solutions. . . . .	.63
Conclusion. . . . .	.65
Appendix A . . . . .	.66
Appendix B . . . . .	.67

9. Best practice in due diligence: Pre-deal and post-deal 71

By Simon Nichols, KPMG LLP

Introduction . . . . .	.71
Are you paying the right price? . . . . .	.72
What is the potential to create value?. . . . .	.75
Managing and mitigating risks . . . . .	.77
The secrets of deal success . . . . .	.78

10. Infrastructure assets: Managing pensions risk 81

By Colin Haines, Lane Clark & Peacock, LLP

Pensions issues for potential purchasers . . . . .	.82
Managing assets post-acquisition – be involved . . . . .	.86
Selling investments – be prepared . . . . .	.86
Conclusion. . . . .	.88

11. Assessing and mitigating regulatory and political risks 89

By Anthony O’Connor, PEI Media

Introduction . . . . .	.89
Communicating with regulators . . . . .	.91
Mitigating regulatory risks . . . . .	.91
Political risk . . . . .	.91
Established methods of mitigating political risk . . . . .	.93
Building solid government and public relations . . . . .	.93
Conclusion. . . . .	.94

12. Using debt to improve the efficiency of infrastructure funds 95

By Chris Heathcote, WestLB

Introduction . . . . .	.95
Summary of terms used. . . . .	.95
The infrastructure debt markets . . . . .	.96
Financing infrastructure funds . . . . .	.99

Improving equity efficiency	103
Conclusion.	105
13. A financier’s view of risk assessment in major infrastructure projects	107
By Eric Lyons, HSBC	
Introduction	107
Risk assessment and structuring responses	108
Specific risk analysis	111
Summary findings	114
14. Risk management for pre-acquisition, fund establishment and transactional legal considerations in infrastructure	117
By Hilton Mervis and Michelle Thomsen, SJ Berwin, LLP	
Introduction	117
Risks at pre-acquisition and fund establishment.	119
Transactions	124
Due diligence.	124
Post-acquisition risks.	128
Trends in the infrastructure market going forward	130
15. UN PRI and ESG considerations for direct infrastructure investors	133
By Amanda McCluskey, Colonial First State Global Asset Management	
Introduction	133
Defining environmental, social and governance	134
Why ESG issues are relevant for direct infrastructure investors	135
Colonial First State Global Asset Management case study.	137
Conclusion.	139
16. Q&A: Environmental-management and carbon-management strategies	141
Tom Murray of Environmental Defense Fund	
17. Foreword to the ILPA Private Equity Principles	149
By Kathy Jeramaz-Larsen, ILPA	
ILPA Private Equity Principles	151
Private equity preferred terms.	153
Limited Partner Advisory Committee	158
18. Responsible Contractor Policy and public private partnerships	161
By Leonard Shaykin, LambdaStar Infrastructure Partners, LLC	
Framing the issue	161
The typical Responsible Contractor Policy	162
LambdaStar’s responsible investment policy	163
Conclusion.	164

Section 2

Asset management case studies

1. London City Airport	167
By Michael McGhee, Global Infrastructure Partners	
High-quality asset acquired to realise its full potential	167
Enhancing passenger experience at LCY: a key factor in driving value gains	167
Growth-driven investment strategy.	168
Challenging aspects of implementing and/or evolving asset management strategy	169
Relationship with local authorities critical to growth objectives	170
A key aim of GIP's operating plan: involve employees more in business decisions	170
Long-term investment allows for optimal investment approach	171
Financial resilience shown in severe downturn	171
Capacity enhancements designed to move with industry trends and promote growth	171
Improvements under GIP ownership have positioned LCY well for future growth	171
2. Port of Salalah	173
By Jesper Kjaedegaard, Mercator International	
3. Red Funnel	177
By James Cooper, Infracapital Partners LP	
Background to the transaction and the business	177
Asset management strategy	178
Mobilisation of management and staff	179
Customer-facing systems and processes	180
Developing the customer offer	181
Developing an understanding of our customers	181
Reducing cost and managing risk	182
Communicating with stakeholders	182
Conclusion.	183
4. The A2 motorway, Poland	185
By Jens Genkel and Peter Haykowski, Meridiam	
Project background	185
Meridiam's involvement	185
The asset management approach	186
What were the obstacles?	186
Transfer of know-how and further improvement of the processes	188
Outlook – the long-term value of Segment 1	189
Conclusion.	189
5. The Renaissance of Bewag – A success story after the reunification of Berlin	191
By Dr. Rudolf Schulten	
Company history	191
Merger and restructuring of the company	192
Regulatory background	192

First period of restructuring (1990-1995)	193
Second period of restructuring (1995-2001)	194
Conclusion.	196
6. Turning private – Lessons from the privatisation of Berlin’s GASAG	197
By Olaf Czernomoriez, GASAG AG and Peter Janke, formerly of GASAG AG	
Summary	197
Company history	197
Risen from the ruins – reunification of Berlin	197
Privatisation of GASAG	198
Restructuring GASAG	200
Success factors	202
7. Panda Brandywine power plant	205
By Bill Pentak and William Nordlund, Panda Power Funds	
Key drivers for value creation in a power plant	205
Realising Brandywine’s value	210
Conclusion.	211
8. Meiya Power Company – Optimising performance in the Asian context	213
By Kanad S. Virk and Gregory Karpinski, SCI Asia	
Introduction	213
Key drivers of the asset’s value creation	213
Initial asset management strategy and subsequent changes	215
Challenging aspects of the asset management strategy.	216
Communicating change to the wider stakeholder base	217
Timescales to create value and adapt asset management approaches	217
Managing industry risk, exogenous risk and market risk.	218
Future outlook for the asset from a financial, operational and regulatory perspective	218
9. Louville wind farm from acquisition to exit	221
By Thomas Rottner, Platina Partners	
Introduction	221
Investment rationale	221
Feed-in tariff	222
Wind assessment	222
Site structure	222
Delivery of project timeline	222
Operation	224
Exit	224
Key learnings	224
Cradle-to-grave management	225
Return	225
Capital deployment	225
Liquidity	225

10. Impax’s 35MW of operating Spanish photovoltaic assets	227
By Peter Roszbach, Impax New Energy Investors LP	
Background	227
First-move advantage in Spain	227
Refining project contracts	228
Value creation and value attribution	228
Asset management strategy	229
Overcoming asset management challenges	230
Communicating with stakeholders	230
Managing value-creation timescales	230
Managing industry, exogenous and market risks	230
Future outlook for the asset	230
11. European mobile telecoms company accelerates asset management benefits	233
By Kaïs Ben Hamida, Valiance Capital	
Background and asset description.	233
Key drivers for value creation	234
Asset management strategy	236
Communication around the strategy	238
Timing considerations	238
Risk management	238
Future outlook	239
About First State Investments	241
About PEI Media	242

Figure and tables

Figures	Section 1	
Figure 1.1	Internal rate of return example for core infrastructure	4
Figure 1.2	High-level overview of the risk and return profile of infrastructure segments	5
Figure 3.1	Three As of best-practice change	19
Figure 3.2	Administering change appropriately	20
Figure 3.3	Clarity about stakeholders	20
Figure 3.4	Acting along the process of organisational learning	21
Figure 3.5	Transformation-phase change focus	21
Figure 3.6	Innovation-phase change focus	24
Figure 4.1	Infrastructure allocation plans	28
Figure 7.2	Operation risk comparison (illustrative)	46
Figure 7.3	Target net IRRs by geographic focus	47
Figure 8.1	The risk management process	52
Figure 8.2	Risk treatment	53
Figure 9.1	Perception of value creation in M&A deals from 1999 to 2008	71
Figure 9.2	Indicative transaction lifestyle	72
Figure 9.3	Value-creation map	73
Figure 9.4	Organisational separation, capital markets, financial and legal separation processes	78
Figure 12.1	Classes of infrastructure	96
Figure 12.2	Simple fund structure	100
Figure 12.3	FinanceCo structure	101
Figure 12.4	HoldCo structure	102
Figure 12.5	The relationship between risk and equity valuation	104
Figure 14.2	Basic model of an unlisted infrastructure fund	119
Figure 16.1	EcoValuScreen - pre-investment due diligence screen	144
Tables	Section 1	
Table 1.1	Upside potential and downside risks of infrastructure segments	6
Table 7.1	Investor challenges and multi-manager value-added	43
Table 8.1	Construction phase cover.	56
Table 8.2	Operational phase cover.	58
Table 10.1	Pensions checklist for asset managers - purchasing, managing and selling assets	87
Table 14.1	Infrastructure fundraising by volume of funds and total raised (2005 to 2010)	117

Figures	Section 2	
Figure 1.1	Physical layout of LCY and aircraft stands	169
Figure 3.1	Isle of Wight sea access	178
Figure 6.1	GASAG's shareholder structure in 1994 and 1998	199
Figure 6.2	GASAG AG's EBIT (€m) – 1994 to 2008	201
Figure 6.3	GASAG AG sales (€m) 1994 to 2008	202
Figure 7.1	Greenfield development, and brownfield expansion, can be attractive on a risk/return basis	206
Figure 7.2	Financing and valuation stages for typical natural gas-fueled power plant	206
Figure 7.3	Most value creation occurs during development and construction	209
Figure 8.1	MPC's diverse portfolio in China, South Korea and Taiwan	214
Figure 8.2	MPC – capacity growth (existing and projected)	216
Figure 9.1	Stages of project risk – pre-planning to operational	221
Figure 9.2	Project timeline – from procurement and contracting to operations	222
Figure 9.3	Actual production vs. equity case	223
Figure 9.4	Global new investment in clean energy	224
Figure 9.5	Louville value-creation curve	225
Tables	Section 2	
Table 5.1	Bewag's earnings before taxes (EBT) (1990-1995)	194
Table 5.2	Bewag electricity sales (1992-2001)	195
Table 5.3	Bewag personnel costs (1993-2002)	195
Table 5.4	Earnings before taxes (EBT) (1995-2002)	196
Table 6.1	Two major divestments in form of leasing transactions	200
Table 6.2	GASAG's outsourcing activities – 1999 to 2002	201
Table 11.1	Major key performance indicators (KPIs)	234

Introduction

By Jeffrey Altmann, First State Investments

The ability to create enhanced operational performance in the infrastructure industry through stakeholder management, herein defined as asset management, is now widely acknowledged by both limited partners (LPs) and general partners (GPs) as a necessity in creating alpha (that is, a source of value uncorrelated to market movements by gaining additional returns without additional risk) as well as reducing risk. In addition, regulators, consumers and other stakeholders increasingly require greater accountability from owners of infrastructure assets in creating more efficient, reliable and competitive pricing of services during this time of austerity. This book provides active stakeholders in infrastructure with comprehensive understanding of what constitutes best practice in analysing, acquiring and managing infrastructure assets from an asset management perspective.

As infrastructure develops into an asset class in its own right, asset management is also developing into its own management discipline. Unlike portfolio management, which requires skills in assessing financial performance and how various assets will behave or correlate under various scenarios, effective asset management requires skills in finance, operations, project management, government, privatisation, regulation and corporate development. It also require strong, traditional board skills including setting strategy, key management appointments and succession planning, risk oversight and governance. Asset managers are proactively engaged with respective portfolio companies throughout their investment cycle, using their industry expertise to work with the management of the respective portfolio companies to maximise value creation and minimise downside risk.

Until recently there was a heavy predominance of infrastructure funds solely relying on value creation generated by very highly geared financial and fee structures, along with the notion of letting the assets run themselves with reduced capital investment. The global financial crisis has abruptly brought this approach to an end for the foreseeable future. New requirements of needing a club of banks to provide debt financing, more stringent industry gearing ratios as well as tighter debt covenants mean GPs now have to focus on creating value through enhanced operational performance.

Asset management has always been an underlying discipline within the infrastructure industry. The key issue has been under what ownership (public or private) and regulation (or no regulation) these assets have been managed. Under government ownership the focus is on public service, whereby the provision of services is provided to all. These services have been historically cost-inefficient as the respective owners (that is, governments) were not focused on profitability, but rather on attempting to provide quality services at a price that was essentially subsidised by all taxpayers. Consequently, large corporate overheads were developed and infrastructure assets were typically 'over-engineered' and 'gold-plated'.

Under private ownership, conversely, the key differentiating focus is on profitability and high quality of service, which is contingent on the type of regulation (such as cost-plus regulation or incentive-based regulation) applicable to the asset. It should be noted that private owners will implement their respective differentiated incentives to

create short-term and/or medium-term and/or long-term value depending on their respective investor base (such as publicly traded strategic players, private equity funds and unlisted infrastructure funds).

The global financial crisis has recently created a mutual focus, for both publicly and privately held infrastructure companies. Asset management is now a requirement for all infrastructure owners to create enhanced operational efficiencies that can no longer rely on government subsidies or highly geared financial structures.

There is a great misnomer among some observers outside of the infrastructure industry that the asset class is boring and changes are very slow to implement. However, considering the confluence of privatisations, technological changes, regulatory changes and growth of emerging markets over the last 15 years, it has become evident that this period has been the most dynamic since many countries spent years rebuilding their infrastructures out of the ruins of the Second World War. Nevertheless, recent events, including the fallout from the global financial crisis, indicate that the next two decades at least could be even more dynamic. Various factors, both regionally and globally, could put various pressures on infrastructure companies, which could have the potential to positively or negatively impact these entities. These factors include those outlined below.

Enormous build-out requirements

Booze Allen Hamilton's report entitled *Lights! Water! Motion!* estimated in February 2007 that the global build-out requirements for the next 25 years would equate to some \$40 trillion, while the OECD's *Infrastructure to 2030* report, published in January 2008, estimated it could be high as \$65 trillion. The numbers are extremely large and investment will be required from both public and private sectors around the globe.

Many OECD countries now have large refurbishment requirements to replace their existing infrastructures that were built directly after the Second World War. In emerging markets, particularly China and India, there is an enormous need to provide appropriate infrastructure for these fast-growing economies. Paradoxically, while

many governments view these infrastructure build-outs as an opportunity to create jobs, other governments are postponing projects indefinitely due to financial constraints and concerns over large cost overruns. Herein lies one of the greatest opportunities for institutional and private infrastructure investors: to work with both publicly and privately held owners that require capital.

Constrained capital markets

The global financial crisis has impacted the capital markets for the foreseeable future, with the resulting flight to quality credits. Well-structured issues from infrastructure companies have been a beneficiary of this. However, in general, tenure has been shortened, the spreads have increased, loan-to-value (LTV) ratios have decreased and covenants have been tightened. This creates challenges and opportunities for investors to acquire new assets to work with infrastructure companies whose debts are becoming due and/or their respective balance sheets require restructuring.

Changes in regulation and political risk

With the exception of a few countries with a long-term history of stable and predictable regulatory regimes, many countries' regulations have been rapidly evolving, relatively speaking, over the last 20 years. Recent regulatory determinations indicate a trend towards incentive-based regulations with a focus on operational-efficiency targets. With respect to political risks, infrastructure assets are generally strategic in nature. As such they are likely to be surrounded by nationalistic issues when foreign investors (including strategic investors, infrastructure funds and sovereign wealth funds) seek to acquire these assets. In addition, with regards to current economic conditions, infrastructure investors need to actively monitor various countries with large fiscal difficulties that may ultimately consider an increase in taxes or perhaps could even implement a windfall profit tax.

While incumbent infrastructure companies have always been active in stakeholder management, infrastructure investors would be remiss today if they were not to take a proactive role in monitoring and/or engaging with na-

tional and regional government entities, regulatory entities and other special-interest groups that can influence these entities.

Macroeconomic factors

The first decade of the 21st century has been relatively benign with regards to interest rate fluctuations. However, since the global financial crisis there is prevailing uncertainty, at least for the foreseeable future, as to what extent inflation or deflation will take hold in various countries and regions. In addition, there is also greater uncertainty about foreign exchange risk as investors invest across regions. How governments will respond to these challenges, through measures including quantitative easing and increasing inflation rates, and correspondingly how infrastructure owners manage their assets in this uncertain climate, could be the defining factors about whether value is created or destroyed.

Demand-profile changes

Over the last couple of years, various infrastructure sectors have been subject to changes in demand trends that could be short-lived, will continue for some time to come or possibly even become a permanent pattern. As an example, several countries are seeing their first-ever decreases in energy consumption due to energy conservation, higher energy prices and/or economic downturn. GDP-correlated assets, such as airports or ports, have witnessed downturns attributed to the global economic crisis as well as from occasional *force majeure* events, such as pandemics and volcanic eruptions, and other unexpected events such as terrorism. Taking a view of how the next two decades could develop, it becomes readily apparent that there will be impending structural shifts in demand as various emerging markets grow exponentially, while some developed economies contract or record slower growth rates. Going forwards, infrastructure investors clearly need to expect the unexpected and plan accordingly.

Technological change

Over the last two decades there have been profound transformational changes, most notably in the telecoms

and energy sectors with the advancement of technologies in mobile networks and gas-turbine generation as well as renewable energy. There will also likely be technological advancements in the coming decade that may also prove to be transformational or perhaps even disruptive to various sectors. Just how an infrastructure owner embraces technological change could determine whether its company is at the top or bottom of the food chain.

Carbon reduction and renewable energy

While the Copenhagen Accord did not commit countries to a binding successor agreement to the Kyoto Protocol, there are nonetheless numerous countries focused on reducing the intensity of carbon emissions through carbon-emissions certificates, renewable energy and other measures. Yet there remains some level of uncertainty as governments are faced with mounting fiscal pressures and may be required to postpone or change various carbon-emissions mechanisms and/or subsidies for renewables in the near term and possibly later. The recent announcement in Spain to consider introducing a 30 percent retroactive tax on solar photovoltaic generation asset owners sent shockwaves through the industry. The actual outcome was the Spanish government approved legislation that did not retroactively reduce existing tariffs but did cut feed-in tariffs by between 5 percent and 45 percent for new photovoltaic plants. Thus, infrastructure investors need to revisit their assumptions with respect to this area in the intermediate-to-near term.

Volatility of commodity prices

In recent years there has been an increase in the volatility of commodity prices including oil, gas, electricity, steel, copper and other materials essential for operating various infrastructure sectors. Moreover, efforts demonstrated by various countries to ensure security of supply will likely increase volatility in various regions. Infrastructure companies will therefore need to enhance their planning and operations appropriately to minimise the downside risk from these commodity price swings by hedging, managing their costs more efficiently or changing to various other sources of supply.

Revival of labour unions

With the recent economic downturn in many economies and the introduction of government-initiated austerity programmes, labour unions have become more vocal, as exemplified by a large number of sizable strikes across Europe and elsewhere in the second half of 2010. It remains to be seen precisely how much influence the unions will have on infrastructure assets and the industry at large. Irrespective of any future developments, infrastructure investors can no longer ignore the need to build relationships with workers and their representatives and must communicate with them regularly.

Greater influence of end-users

Unlike most other industries, infrastructure has always had proactive end-users (comprising large industrial to residential customers) that have often been able to influence the appropriate regulators and politicians regarding matters such as those concerning tariff rates, emissions and renewable energy. Investors should expect that these end-users will continue with their respective agendas and should therefore regularly monitor, and where appropriate, engage with these important and influential customers.

Therefore, the future success or failure of investments in infrastructure is likely to rely on an investor's asset management skills and its respective capabilities to engage with the various key stakeholders to create enhanced operational efficiencies that maximise stakeholder value while delivering appropriate levels of service. The key critical success factor is having a team of experienced individuals who have respective infrastructure industry

backgrounds, and therefore the skill-sets and experiences that facilitate the careful monitoring and where appropriate, management of the aforementioned factors.

The above factors highlight that every infrastructure asset is unique and features its own specific legacy; to assume each asset can perform similarly and be managed similarly to other infrastructure assets is a recipe for value destruction and stakeholder backlash. Therefore, the purpose of this book is to provide insight into the best practices and lessons learned from a number of leading experts with practical advice about investing in and managing infrastructure investments. The first half of the book provides multiple perspectives on asset management and its best-practice methods, which are discussed in detail by seasoned experts with considerable experience in investment, change management, due diligence, insurance, pensions, legal, banking & finance and ESG-related matters. The second half of the book features a series of in-depth case studies across various infrastructure sectors around the globe, written by infrastructure funds and industry managers, which reveal how financial and non-financial value has been created. Collectively, this book provides a valuable toolkit for the reader of best practices in global asset management of infrastructure assets with the goal of creating and maintaining value for all stakeholders.

I would like to take this opportunity to express my deep gratitude to the authors for their invaluable contributions. In addition, I would also like to thank Anthony O'Connor and PEI Media for all their immense professional support. It has been a true honour and pleasure to work with these individuals on this special publication. ●