The Projects and Construction Review

Fourth Edition

Editor
Júlio César Bueno

Law Business Research

The Projects and Construction Review

The Projects and Construction Review

Reproduced with permission from Law Business Research Ltd.
This article was first published in The Projects and Construction Review - Edition 4
(published in July 2014 – editor Júlio César Bueno).

For further information please email
Nick.Barette@lbresearch.com

The Projects and Construction Review

Fourth Edition

Editor
Júlio César Bueno

Law Business Research Ltd

THE LAW REVIEWS

THE MERGERS AND ACQUISITIONS REVIEW

THE RESTRUCTURING REVIEW

THE PRIVATE COMPETITION ENFORCEMENT REVIEW

THE DISPUTE RESOLUTION REVIEW

THE EMPLOYMENT LAW REVIEW

THE PUBLIC COMPETITION ENFORCEMENT REVIEW

THE BANKING REGULATION REVIEW

THE INTERNATIONAL ARBITRATION REVIEW

THE MERGER CONTROL REVIEW

THE TECHNOLOGY, MEDIA AND
TELECOMMUNICATIONS REVIEW

THE INWARD INVESTMENT AND
INTERNATIONAL TAXATION REVIEW

THE CORPORATE GOVERNANCE REVIEW

THE CORPORATE IMMIGRATION REVIEW

THE INTERNATIONAL INVESTIGATIONS REVIEW

THE PROJECTS AND CONSTRUCTION REVIEW

THE INTERNATIONAL CAPITAL MARKETS REVIEW

THE REAL ESTATE LAW REVIEW

THE PRIVATE EQUITY REVIEW

THE ENERGY REGULATION AND MARKETS REVIEW

THE INTELLECTUAL PROPERTY REVIEW

THE ASSET MANAGEMENT REVIEW

THE PRIVATE WEALTH AND PRIVATE CLIENT REVIEW

THE MINING LAW REVIEW

THE EXECUTIVE REMUNERATION REVIEW

THE ANTI-BRIBERY AND ANTI-CORRUPTION REVIEW

THE CARTELS AND LENIENCY REVIEW

THE TAX DISPUTES AND LITIGATION REVIEW

THE LIFE SCIENCES LAW REVIEW

THE INSURANCE AND REINSURANCE LAW REVIEW

THE GOVERNMENT PROCUREMENT REVIEW

THE DOMINANCE AND MONOPOLIES REVIEW

THE AVIATION LAW REVIEW

THE FOREIGN INVESTMENT REGULATION REVIEW

THE ASSET TRACING AND RECOVERY REVIEW

THE INTERNATIONAL INSOLVENCY REVIEW

THE OIL AND GAS LAW REVIEW

THE FRANCHISE LAW REVIEW

THE PRODUCT REGULATION AND LIABILITY REVIEW

THE SHIPPING LAW REVIEW

www.TheLawReviews.co.uk

PUBLISHER
Gideon Roberton

BUSINESS DEVELOPMENT MANAGERS
Adam Sargent, Nick Barette

SENIOR ACCOUNT MANAGERS
Katherine Jablonowska, Thomas Lee, James Spearing

ACCOUNT MANAGER
Felicity Bown

PUBLISHING COORDINATOR
Lucy Brewer

MARKETING ASSISTANT
Chloe Mclauchlan

EDITORIAL ASSISTANT
Shani Bans

HEAD OF PRODUCTION
Adam Myers

PRODUCTION EDITOR
Caroline Rawson

SUBEDITOR
Janina Godowska

MANAGING DIRECTOR
Richard Davey

Published in the United Kingdom
by Law Business Research Ltd, London
87 Lancaster Road, London, W11 1QQ, UK

www.TheLawReviews.co.uk

ISBN 978-1-909830-08-0

Printed in Great Britain by
Encompass Print Solutions, Derbyshire
Tel: 0844 2480 112

ACKNOWLEDGEMENTS

The publisher acknowledges and thanks the following law firms for their learned assistance throughout the preparation of this book:

ALLEN & OVERY LLP

ANDERSON MŌRI & TOMOTSUNE

ARAQUEREYNA

BASHAM, RINGE Y CORREA, SC

BOWMAN GILFILLAN

BRIGARD & URRUTIA

CLAYTON UTZ

CLIFFORD CHANCE

DAVIS LLP

DENTONS

EISENBERGER & HERZOG RECHTSANWALTS GMBH

ERDEM & ERDEM LAW OFFICE

ESTUDIO BECCAR VARELA

GALADARI ADVOCATES & LEGAL CONSULTANTS

GUYER & REGULES

HILL INTERNATIONAL, INC

J SAGAR ASSOCIATES

K&L GATES

LINKLATERS LLP

LLS LUNGERICH LENZ SCHUHMACHER RECHTSANWÄLTE

MAPLES AND CALDER

MCCULLOUGH ROBERTSON LAWYERS

MILBANK, TWEED, HADLEY & MCCLOY LLP

MOLINA RÍOS ABOGADOS

PECKAR & ABRAMSON, PC

PINHEIRO NETO ADVOGADOS

PLESNER LAW FIRM

ROYAL INSTITUTION OF CHARTERED SURVEYORS

SHIN & KIM

SSEK LEGAL CONSULTANTS

STIBBE

THIRTY NINE ESSEX STREET CHAMBERS

VIEIRA DE ALMEIDA & ASSOCIADOS, SOCIEDADE DE ADVOGADOS, RL

WALDER WYSS LTD

ZHONG LUN LAW FIRM

CONTENTS

Editor's Preface vii
Júlio César Bueno

Chapter 1 INTERNATIONAL PROJECT FINANCE 1
Phillip Fletcher and Andrew Pendleton

Chapter 2 DISPUTE RESOLUTION IN CONSTRUCTION PROJECTS 13
Robert S Peckar and Denis Serkin

Chapter 3 RELATIONSHIP CONTRACTING 23
Doug Jones

Chapter 4 A GUIDE TO ALTERNATE PROJECT DELIVERY SYSTEMS 33
Maurice Masucci, Frank Giunta, and David Price

Chapter 5 STANDARDS FOR THE MEASUREMENT OF LAND AND BUILDINGS 51
Alexander Aronsohn, Ben Elder and Marcia Ferrari

Chapter 6 THE NEED FOR INTERNATIONAL CONSTRUCTION MEASUREMENT STANDARDS 69
Matthew Saunders and Alan Muse

Chapter 7 ARGENTINA 80
Pedro Nicholson

Chapter 8 AUSTRALIA 91
Matt Bradbury, Kristen Podagiel, Hayden Bentley, Tim Hanmore, Emma Murray, Liam Davis, Meg Morgan and James Arklay

Chapter 9 AUSTRIA 105
Alric A Ofenheimer and Michael Strenitz

Chapter 10 BELGIUM 118
Rony Vermeersch and Diederik De Block

Chapter 11 BRAZIL 130
Júlio César Bueno

Chapter 12 CANADA 152
Ian Bendell, Andrew Burton, Bruce Darlington, Lana Finney, David Foulds, James Kelsall, Howard Krupat, Elizabeth Mayer and Mitchell Mostyn

Chapter 13 CHILE 167
Victor Ríos and Carlos Molina

Chapter 14 CHINA 179
Zhu Maoyuan and Zhang Jiong

Chapter 15 COLOMBIA 194
Carlos Umaña, María Luisa Porto, César Rodríguez and Juan Martín Estrada

Chapter 16 DENMARK 208
Peter Wengler-Jørgensen, Maygan Mike Lundgaarde and Daniel Hedegaard Nielsen

Chapter 17 FRANCE 222
Paul Lignières, Mark Barges, Pierre Guillot and Darko Adamovic

Chapter 18 GERMANY 232
Rouven F Bodenheimer and Claus H Lenz

Chapter 19 INDIA 244
Dina Wadia and Divyanshu Pandey

Chapter 20 INDONESIA....258
Darrell R Johnson, Ade B Adamy and Awang F Bahrin

Chapter 21 IRELAND....272
Conor Owens, Mary Dunne and Michael Kennedy

Chapter 22 ITALY....284
Francesco Sanna, Anna Amprimo and Carolina Teresa Arroyo

Chapter 23 JAPAN....301
Tetsuya Itoh, Reiji Takahashi and Tetsuro Motoyoshi

Chapter 24 KOREA....313
Michael Chang, Sang-Hyun Lee and Seung-Gyu Yang

Chapter 25 MEXICO....324
Juan Carlos Serra and Francisco Javier González

Chapter 26 NETHERLANDS....342
Frédérique Jacobse, Zeeger de Jongh, Werner Runge and Arent van Wassenaer

Chapter 27 PORTUGAL....354
Manuel Protásio, Teresa Empis Falcão and Frederico Quintela

Chapter 28 QATAR....368
Andrew Jones, Zaher Nammour and Sarah Stewart

Chapter 29 SOUTH AFRICA....381
Anton Barnes-Webb, Rob Morson, Lido Fontana and Daryn Webb

Chapter 30 SPAIN....393
José Guardo and Alejandro León

Chapter 31 SWITZERLAND....406
Thomas Mueller-Tschumi and Francis Nordmann

Chapter 32 TURKEY 417
H Ercument Erdem

Chapter 33 UNITED ARAB EMIRATES 429
Dr Daniel Brawn

Chapter 34 UNITED KINGDOM 443
David Brynmor Thomas, Alexandra Bodnar and Rebecca Drake

Chapter 35 UNITED STATES 456
Carolina Walther-Meade, Karen Wong, Henry Scott and Miguel Duran

Chapter 36 URUGUAY 478
Beatriz Spiess

Chapter 37 VENEZUELA 490
Pedro Ignacio Sosa Mendoza, Pedro Luis Planchart, Verónica Díaz Hernández and Rodrigo Moncho Stefani

Appendix 1 ABOUT THE AUTHORS 503

Appendix 2 CONTRIBUTING LAW FIRMS' CONTACT DETAILS .. 537

Appendix 3 GLOSSARY OF TERMS 543

EDITOR'S PREFACE

> *La meilleure façon d'être actuel, disait mon frère Daniel Villey, est de résister et de réagir contre les vices de son époque.* Michel Villey, *Critique de la pensée juridique moderne* (Dalloz (Paris), 1976).

This book has been structured following years of debates and lectures promoted by the International Construction Law Committee of the International Bar Association (ICP), the American College of Construction Lawyers (ACCL), the Society of Construction Law (SCL), the Dispute Resolution Board Foundation (DRBF) and the American Bar Association's Forum on the Construction Industry (ABA). All of these institutions and associations dedicated themselves to promoting an in-depth analysis of the most important issues related to projects and construction law practice and I thank their leaders and members for their important support in the preparation of this book.

Project financing and construction law are relatively young, highly specialised areas of legal practice. They are intrinsically functional and pragmatic and require the combination of a multitask group of professionals – owners, contractors, bankers, insurers, brokers, architects, engineers, geologists, surveyors, public authorities and lawyers – each bringing their own knowledge and perspective to the table. That is why I am very happy to present you non-lawyers' chapters specifically prepared for the introductory part of this book: 'The Need for International Construction Measurement Standards' by Matthew Saunders and Alan Muse at the Royal Institution of Chartered Surveyors (RICS). Frank Giunta, Maurice Masucci and David Price, senior representatives from Hill International, offer us 'A Guide to Alternate Project Delivery Systems' and Alexander Aronsohn, Ben Elder and Marcia Ferrari, senior representatives from RICS demonstrate some innovative approaches to spatially enabling land administration and management.

These chapters provide further breadth to the variety already produced by Robert S Peckar (Peckar & Abramson), Douglas S Jones (Clayton Utz) and Phillip Fletcher (Milbank, Tweed, Hadley & McCloy LLP), three leading professionals and lecturers in the field of project finance and construction law. Despite living miles away from each other – in the heartlands of the United States (Bob), the United Kingdom (Phillip) and

Australia (Doug) – they have equally influenced the main players in project financing in dealing with the complex issues related to the development and implementation of projects, the negotiation of construction and engineering contracts and the challenges of crafting the perfect financing package.

I am also glad to say that we have contributions from two new jurisdictions in this year's edition: Indonesia and Turkey. Although there is an increased perception that project financing and construction law are global issues, the local flavour offered by leading experts in 31 countries has shown us that in order to understand the world we must first make sense of what happens locally; to further advance our understanding of the law, we must resist the modern view (and vice?) that all that matters is global and what is regional is of no importance. Many thanks to all the authors and their law firms that graciously agreed to participate.

Finally, I dedicate this forth edition of *The Projects and Construction Review* to Dr Kris R Nielsen, PhD, JD, PMP, MRICS, MJSCE, and Dr Sérgio Alfredo Rosa da Silva, professor at the prestigious University of São Paulo Engineering School. Both passed away last year.

I had the honour of working with both of them and it was a remarkable and unique experience to learn how to deal with projects with a global and strategic perspective on risk management and best practices. They spent their career working towards bettering the construction industry and worked tirelessly to promote the areas of law and engineering with a view to their joint futures.[1]

Dr Nielsen and Dr Rosa da Silva will be greatly missed.

I look forward to your comments and contributions for the forthcoming editions.

Júlio César Bueno
Pinheiro Neto Advogados
São Paulo
July 2014

1 Dr Nielsen co-edited and authored an important book entitled *Managing Gigaprojects – From Those That Have Been There Done That*, published by ASCE Press in October 2012, which is already considered a classic and a great reference for those working in the field. In the words of his beloved wife Dr Patricia Galloway: 'Dr Nielsen was a global leader in helping contractors and owners to define what makes a successful project. He helped them examine their operations and how to address subjects like risk management, execution, project controls, value engineering, corporate strategy, construction law, dispute resolution, project sustainability, etc. While on assignments, he worked with his clients to help select younger members of their organisation, i.e., to mentor in how to achieve project success. Dr Nielsen derived great satisfaction in knowing there was a growing cadre of people who were learning and then practising their new-found skills while striving for project success.' See www.pegasus-global.com/personnel/.

Chapter 35

UNITED STATES

Carolina Walther-Meade, Karen Wong, Henry Scott and Miguel Duran[1]

I INTRODUCTION

The United States project finance market benefits from a well-developed legal framework and sophisticated financial markets. The US legal system is generally viewed as clearly codified, stable and efficient, as well as one that is enforced in a regular and open manner.[2] Contractual agreements between parties are recognised by law with few exceptions related to public policy concerns. The project finance sector has strong access to both the public and the private financial markets and is in some limited areas even supported – directly or indirectly – by government policies.

This combination of a strong legal framework and financial markets has facilitated the development of a robust project finance sector in the United States. Project finance is premised on the ability of the parties to contractually allocate risks among themselves and to enforce those contractual obligations in a reliable manner. A successful project finance regime is also dependent on commercial laws that allow developers to protect themselves through special purpose entities that benefit from non-recourse financing, and that, similarly, allow lenders and investors to obtain security in the project assets and to enforce their claims against the project. Likewise, a sophisticated private financial market has the flexibility to allow the developer and the financing providers to create complex financing structures and to tailor those structures to the specific needs of a particular project.

1 Carolina Walther-Meade and Karen Wong are partners, Henry Scott is a senior associate and Miguel Duran is an associate at Milbank, Tweed, Hadley & McCloy LLP.

2 See WJP Rule of Law Index 2014, by the World Justice Project available at the World Justice Project website: http://worldjusticeproject.org/sites/default/files/files/wjp_rule_of_law_index_2014_report.pdf.

This chapter discusses various transactional structures available to projects and the legal documentation frequently used to implement them. It reviews the various risks associated with project finance transactions and how parties allocate such risks. It also examines how the US legal framework supports the ability of lenders and investors to protect their interests, including obtaining, perfecting and enforcing security interests in a manner that permits lenders to enforce their rights in the event that a project encounters financial problems. This chapter also considers how the legal framework is influenced and impacted by social and environmental considerations. The role of a complex legal framework and sophisticated private financing providers and the public sector is also addressed, followed by a summary of the impact of taxes on investment, which may be of particular interest to foreign lenders and investors. The framework for how dispute resolution is processed in the United States is discussed at the end of this chapter.

II RECENT TRENDS

The nature and complexion of project finance in the United States has recently shifted as renewable energy projects have become an increasingly significant component of the market. The development of such projects peaked in 2011, when they comprised 39.9 per cent of the total value of project finance transactions in the country.[3] That figure dropped to 20.2 per cent in 2013, but there are apparent signs of improvement. In the first three months of 2014 there were more MW of wind energy installed than the first nine months of 2013, and there is currently more wind power capacity under construction than ever before.[4] The development of renewable projects has been influenced by advances in green technology coupled with governmental incentives and state regulatory policies implementing renewable energy portfolio standards on utilities. In addition, renewable technology has been increasingly postured as a key component for strategic energy independence for the nation.

The American Recovery and Reinvestment Act of 2009 made available certain cash grant, tax incentives and loan guarantee programmes for developers, especially in the renewable energy sector. Throughout 2013 and the first half of 2014, much of the project financing activity in the United States involved energy projects that had grandfathered cash grant benefits or that were able to preserve tax credits by meeting the requirements discussed below. Going forward, however, most renewable energy projects will need to rely on more traditional sources of capital.

3 These statistics do not include PPP transactions and were researched and extrapolated from data available at the *Infrastructure Journal* website: www.ijonline.com/league-tables.

4 See US Wind Industry First Quarter 2014 Market Report – Executive Summary, by the American Wind Energy Association, available at the American Wind Energy Association website: http://awea.files.cms-plus.com/FileDownloads/pdfs/1Q2014%20AWEA%20Public%20Report.pdf.

In recent years, the Department of Energy's Loan Guarantee Program[5] provided US$24.7 billion in loan guarantees to renewable projects that met certain criteria.[6] Although Section 1705 is no longer a source of credit enhancement for renewable projects going forward, in 2014 several Section 1705 projects have still been seeking equity investor participation. The loan guarantees pursuant to Section 1703, however, remain a viable alternative. Section 1703 provides financial support to clean energy projects that present higher investment risks because they employ new or substantially improved technology that is not in general use yet. For instance, in December 2013 the Department of Energy published an US$8 billion solicitation for advanced fossil energy projects that avoid, reduce or sequester greenhouse gases.[7]

In addition, a number of renewable projects have taken advantage of the cash grants in lieu of investment tax credits provided pursuant to Section 1603 of the Recovery Act's tax title under which the Department of the Treasury makes payments to qualified applicants in an amount generally equal to 10 per cent or 30 per cent of the basis of qualified energy property. Although over US$19.8 billion in cash grant payments have been awarded under the Section 1603 programme,[8] these payments are subject to sequestration,[9] and awards made on and after 1 October 2013 through 30 September 2014 will be reduced by 7.2 per cent.[10] Eligible renewable projects qualify if they commenced construction on or prior to 31 December 2011. For projects successfully grandfathering the Section 1603 programme benefits, such projects must be placed in service prior to the applicable credit termination date under the programme guidance for the Section 1603 programme.[11] Since the credit termination date for solar projects is

5 Sections 1703 and 1705 of the Energy Policy Act of 2005.

6 See the Department of Energy's Loan Guarantee Program website: https://lpo.energy.gov/our-projects/. The current portfolio of the Department of Energy Loan Programs Office is worth US$32.4 billion.

7 See the Department of Energy's Loan Programs Office website: http://lpo.energy.gov/resource-library/solicitations/advanced-fossil-energy-projects-solicitation/.

8 See 'Overview and Status Update of §1603 Program' (1 December 2013) published by Department of Treasury (www.treasury.gov/initiatives/recovery/Documents/Status%20overview.pdf). As of December 2013, the Section 1603 programme has funded 91,871 renewable projects for a total installed capacity of 27.9GW. Of these projects, 90,178 of these were solar projects. Approximately US$19.8 billion in payments have been funded under this programme.

9 See the Balanced Budget and Emergency Deficit Control Act of 1985, as amended.

10 The sequestration rate will be applied until the end of the federal fiscal year (30 September 2014), at which time the sequestration rate is subject to change. See 'Message on Sequestration' published by the Department of Treasury (www.treasury.gov/initiatives/recovery/Documents/Message%20on%20Sequestration%201603%20Program.pdf).

11 See 'Payments for Specified Energy Property in Lieu of Tax Credits under the American Recovery and Reinvestment Act of 2009 – Program Guidance' published by Department of Treasury (www.treasury.gov/initiatives/recovery/Documents/B%20Guidance%203-29-11%20revised%20(2)%20clean.pdf). The credit termination date is (a) 1 January 2013 for

not until 1 January 2017, the Section 1603 programme cash grant is expected to remain an important source of funding for solar projects that 'commenced construction' prior to 31 December 2011.[12]

The American Taxpayer Relief Act of 2012 extended the production tax credit (PTC)[13] and the 30 per cent investment tax credit (ITC)[14] available to otherwise qualifying wind facilities for which construction begins before 1 January, 2014. This 'begun construction' requirement replaces the prior placed-in-service requirement.[15] The effective length of the extension is expected to be approximately equal to the development time frame for a qualifying project, which is often two to three years in the case of a utility-scale wind project, and sometimes longer in the case of solar and other renewable energy projects and projects. Although US legislators are currently considering several proposals that relate to PTCs and the ITC, it is not certain whether Congress will approve any of them.[16] In any case, it appears unlikely to do so before the November 2014 mid-term elections.

---

large wind projects, (b) 1 January 2014 for both closed-loop and open-loop biomass facilities, geothermal facilities (under Section 45 of the Internal Revenue Code), landfill gas facilities, trash facilities, qualified hydropower facilities and marine and hydrokinetic facilities and (c) 1 January 2017 for solar projects geothermal facilities (under Section 48 of the Code), fuel cells, microturbines, combined heat and power, small wind and geothermal heat pumps.

12 Under the Section 1603 programme rules, the 'commencement of construction' requirement will be satisfied if, by 31 December 2011 either (a) physical work of a significant nature has begun on the project or (b) more than 5 per cent of the total cost of the eligible property is paid or incurred. The Department of Treasury has provided question and answer guidance on the commencement of construction requirement on its website available at www.treasury.gov/initiatives/recovery/Documents/FAQs%20for%20Begun%20Construction%20web4.pdf.

13 Section 45 of the Internal Revenue Code of 1986, as amended.

14 Section 48 of the Internal Revenue Code of 1986, as amended.

15 In addition to wind energy facilities, the begun construction requirement replaces the prior placed in service requirement (previously set at 1 January 2014) for several other types of qualified facilities, including closed and open-loop biomass facilities, geothermal facilities, landfill gas facilities, trash facilities, qualified hydropower facilities, and qualified marine and hydrokinetic renewable energy facilities. Consequently, any such otherwise qualifying facility (or the electricity generated and sold from any such facility) construction of which began before 1 January 2014 will be eligible for the investment tax credit or production tax credits regardless of when the facility is placed in service.

16 In April 2014, the Senate Finance Committee approved a bill that would retroactively extend the deadline to begin construction while remaining eligible for the PTC and ITC to 31 December 2015. See 'Description of the Chairman's Modification to the Expiring Provisions Improvement Reform and Efficiency (Expire) Act' published by the Joint Committee on Taxation (www.finance.senate.gov/imo/media/doc/Chairman%27s%20Modification%20EXPIRE%20Act.pdf). At the same time, the House Ways and Means Committee held a hearing to consider a discussion draft of the Tax Reform Act of 2014. This discussion draft proposes a reduction in the amount of PTCs available, regardless of when the project was placed in service, the

With the expiration of government incentives, project sponsors will increasingly rely upon commercial banks and capital markets to satisfy capital demands. For larger projects, mixed bank-private placement transactions with two or more tranches of funds may provide a preferred financing structure. New financing tools are expected to become increasingly important for renewable energy projects, particularly in the field of structured finance. For instance, SolarCity Corporation recently unveiled the securitisation of thousands of residential and commercial solar energy contracts with an aggregate value of approximately US$124 million. Additionally, the YieldCo model started achieving prominence in 2013 for energy companies. A YieldCo is a publicly traded corporation similar to a publicly traded Master Limited Partnership (MLP) vehicle except that its assets do not qualify for MLP status. In the renewable energy sector, a YieldCo generally achieves stable cash flows due to its ownership of operating projects that have entered into long-term power purchase agreements, and minimises the corporate-level income tax by combining recently built projects that are still producing tax benefits and older projects.

Hydropower energy is the leading source of renewable energy generation and it currently produces 6 to 7 per cent of the nation's total electricity.[17] Although hydropower generation has remained flat in recent years, there is an estimated 65GW of additional potential hydroelectric capacity.[18] In April 2014, the Department of Energy unveiled an ambitious plan to achieve higher levels of hydropower energy production by both updating the existing technology and stimulating new construction.[19]

Outside of the renewable energy space, expected retirements of coal and nuclear facilities and a dramatic decrease in the price of domestic natural gas, sustained by growing domestic shale production, have generated renewed interest by sponsors in the development of new gas-fired power plants. In 2013, new natural gas-fired projects added 6,861MW of generating capacity, which constituted more than half of the new

repeal of the ITC for property placed in service after 31 December 2016, and the repeal of the modified accelerated cost recovery system of depreciation, which constitutes an important benefit for most renewable energy property. See 'Description of the Chairman's Modification to the Expiring Provisions Improvement Reform and Efficiency (Expire) Act' published by the Joint Committee on Taxation (www.finance.senate.gov/imo/media/doc/Chairman%27s%20Modification%20EXPIRE%20Act.pdf).

17 See US Department of Energy Wind and Water Power Technologies Office Funding in the United States: Hydropower Projects – Fiscal Years 2008-2014, by the US Department of Energy Wind and Water Power Technologies Office, available at the US Department of Energy website: http://energy.gov/sites/prod/files/2014/04/f14/CH-4.4.14.pdf.

18 See New Stream-reach Development: A Comprehensive Assessment of Hydropower Energy Potential in the United States, prepared by Oak Ridge National Laboratory for the US Department of Energy Wind and Water Power Technologies Office, available at the National Hydropower Asset Assessment Program website: http://nhaap.ornl.gov/sites/default/files/ORNL_NSD_FY14_Final_Report.pdf.

19 See the US Department of Energy Office of Energy Efficiency & Renewable Energy website: http://energy.gov/eere/water/new-vision-united-states-hydropower.

generating capacity and more than twice as much as any other technology.[20] In addition, constrained state and local fiscal budgets and the considerable need for new infrastructure assets and the refurbishment, repair and replacement of existing assets may hasten the further use of the public-private partnership (PPP) project finance structure.

Furthermore, in recent years project developers have devoted increased attention to gasification facilities, which convert feedstock into a synthetic gas, which is used as fuel or further converted into a variety of products, including hydrogen, methanol, carbon monoxide and carbon dioxide. These projects have commonly used fossil materials like coal and petroleum coke as feedstock, although there are several gas-to-liquid projects in development and there is an intensified interest in the use of biodegradable materials, including municipal solid waste and forestry, lumber mill and crop wastes.

III TRANSACTION STRUCTURES AND DOCUMENTS

i Transaction structures

The one basic structural feature common to almost all project finance transactional structures is that the project is operated by a single, non-recourse special purpose vehicle (SPV) (the project company). Beyond that, the transactional structures are subject to a number of permutations based on the type of project, tax considerations, risk allocation, equity requirements and debt financing demands.

Limited liability companies (LLCs) have become the popular business organisation used for project companies. LLCs have the same limited liability protection that traditional corporations offer, but LLCs offer some advantages in the project finance area. LLCs have the option to be treated as a pass-through tax entity for US tax purposes, and gains, losses and depreciation can be passed through to its owners, which are known as 'members'. LLCs allow for considerable flexibility in management and ownership structure, which is advantageous for partnership or joint venture transactions. Management rights can be vested in the primary developer, but can be shifted to a co-sponsor or equity investor upon the occurrence of certain events. Gains and losses for tax purposes can also be allocated to suit the business deal, which is key to the 'partnership-flip' structure discussed further below.

A common ownership structure involves a project sponsor owning the project company directly or indirectly through a holding company. In a joint venture structure, the ownership of the project company[21] is allocated between the project sponsor and another equity participant.

Developers will often be simultaneously developing multiple projects owned by different project companies. Most often, developers will arrange for separate financing transactions for each project. Some developers will seek to engage in a portfolio financing

20 See the US Energy Information Administration website: www.eia.gov/todayinenergy/detail.cfm?id=15751.

21 We note that investors sometimes prefer to own interests in the holding company that is the owner of the project company, rather than the project company itself, as another layer to limit their liabilities with respect to the project company.

for multiple projects through a holding company. In these portfolio transactions, the projects are typically cross-collateralised and cross-default against each other.

Broadly speaking, there are two different sources of debt financing available in the United States: the bank market and the private placement market (including the bond market).

The bank market provides loan facilities and letter of credit facilities to a project company. Banks offer a broad variety of financial products. Most of the project finance transactions involve traditional construction and term loan facilities for the development, construction and operation of a project. Banks can also provide more specialised products. In the wind energy sector, some banks have offered turbine supply loan facilities to provide funds for the purchase of wind turbine generators from the turbine manufacturer prior to the completion of development and permitting of specific projects. These turbine supply loan facilities, which are sometimes provided on a portfolio basis, are extended with the expectation that they are refinanced by a construction and term loan facility. Banks have offered similar loans in respect of solar equipment. To the extent that project sponsors lack sufficient funds to meet their equity contribution commitments, some banks may be willing to provide equity bridge loans to support the project. Some project companies may qualify for reimbursements or repayments for the construction of network upgrades or for cash grant proceeds, and some banks have extended loans based on these expected cash receipts. In addition, back-leveraged term loans made to the holding company of a project company have been used in lieu of traditional term loans in some transactions, including the 'partnership-flip' structure discussed below.

The private placement market is another potential source of debt financing. Institutional investors participating in a private placement will typically offer only a fixed interest rate and will not provide specialised financial products that are available in the bank market. Project financing can also be accomplished through issuances of bonds in the capital markets. Project bonds can be offered pursuant to Section 4(2) or Rule 144A of the Securities Act of 1933. Most private placements under Section 4(2) transactions are made to accredited investors, which are often insurance and pension companies. An offering under Rule 144A is only made to qualified institutional buyers – which are sophisticated purchasers with over US$100 million of qualifying assets. Section 4(2) private placements are generally made directly to a very small number of accredited investors, but in mixed bank-private placement transactions, an administrative agent will be involved. Rule 144A transactions are typically sold to a larger number of investors and are administered by a trustee pursuant to an indenture, on behalf of the qualified institutional buyers. The covenant package and level of oversight and consent requirements under a Rule 144A transaction are often less onerous than either a Section 4(2) transaction or a standard bank transaction.

In larger transactions, sophisticated arrangers may opt to use two or more tranches of funds for a mixed bank-private placement financing.

In the renewable sector, federal renewable energy tax credits, such as PTCs and ITCs, have helped shape transactional structures. PTCs offer designated tax credit amounts for certain classes of renewable projects that may be offset against income

tax liability.[22] ITCs offer reductions in federal income taxes depending on the resource type that is placed in service, and primarily benefit solar and geothermal projects.[23] Developers have taken advantage of these tax-driven incentives to attract investors with sufficient taxable income who are able to utilise these federal renewable energy tax credits (tax equity investors). Prior to the inception of the Section 1603 programme that was established under the Recovery Act to fill the gap in the market place when the pool of tax equity investors dried up during the financial crisis of 2008 and 2009, these were the dominant drivers for the development of renewable projects. With the expiration of the Section 1603 programme, PTCs and the ITCs will once again be increasingly important for the development of renewable projects.

The 'partnership-flip' structure has been a popular vehicle for financing wind energy projects in which the project sponsors are unable to fully utilise the available tax benefits. As mentioned before, given the pass-through election available to LLCs, tax equity investors that are members, directly or indirectly,[24] of the project company are able to benefit from the tax credits. For projects in the construction phase, a tax equity investor will enter into an equity contribution agreement committing to acquire a membership interest in a project company at the time the project has been completed and placed-in service date, and the proceeds of the equity contribution are applied to repay the construction debt.[25] A variation of the 'partnership-flip' structure is the pay-as-you-go (PAYGO) structure in which the tax equity investor contributes roughly half of the initial equity that would be required under a traditional 'partnership-flip' deal and, during the operational period of the project, will make periodic payments with respect to the remaining equity that would have been required under a traditional 'partnership-flip' transaction. The PAYGO structure provides the tax equity investor with an ability to defer the timing of its equity contributions and ties its contributions to the amount of PTCs actually generated (rather than projected).

Another alternative financing structure is to utilise a single investor lease or a leveraged lease transaction. Many energy assets have been financed using lease structures

22 Section 45 of the Code identifies a number of resource types, including wind, closed-loop biomass, open-loop biomass, geothermal energy, landfill gas, municipal solid waste and large scale marine and hydrokinetic projects and designates a credit amount for each type. To qualify, wind facilities, closed and open-loop biomass facilities, geothermal facilities, landfill gas facilities, trash facilities, qualified hydropower facilities, and qualified marine and hydrokinetic renewable energy facilities must meet the 'begun construction' requirement before 1 January 2014.

23 Section 48 of the Code provides credits that could offset 10 per cent to 30 per cent of federal income tax liability. Small wind projects, fuel cells, combined heat-power, solar, geothermal and microturbine technologies are covered under Section 48.

24 To the extent that the holding company is the investment vehicle, the holding company would also be an LLC and any intermediary companies would also need to be an LLC to allow the tax attributes to flow to an entity that is taxable under federal tax laws.

25 In order to benefit from these federal tax credits, the tax equity investor must be an owner prior to the placed-in service date.

whereby a tax equity investor acquires the power project and the tax attributes of ownership, such as depreciation and investment tax credits, and leases back the asset to the project developer who assumes operational responsibility. The lease structure has been popular with solar projects as it is complementary with the ITC mechanics, but in 2010 to 2013 there were a number of single investor and leveraged lease transactions in the wind and solar sectors.[26]

In some jurisdictions, utilities and developers have applied a build-transfer structure. This typically involves a developer agreeing to develop and construct a project that, upon commercial operation, would be transferred to the utility for a designated purchase price. Given the number of IPPs, however, utilities do not have as strong a need to own their electrical generation sources and have often elected to enter into economically feasible offtake agreements with IPPs.

ii Transaction documents

The transaction documents for a project finance deal can be classified broadly into three categories: project documents, financing documents and equity documents.

The project documents provide for the development, construction and operation of the project. The specific project documents depend on the type of project and how risks are to be allocated in the particular project. Project lenders typically prefer a turnkey EPC contract entered into with a creditworthy contractor that has the requisite resources, capabilities and experience to engineer and design the project, procure all the necessary materials and components and to construct and assemble the project. In certain sectors of the energy industry, a turnkey contract may not always be available and the project developers have sought to allocate responsibilities among parties who are capable of performing the relevant obligation most efficiently and at the lowest cost. For example, in wind generation projects, wind turbines are customarily procured directly from a turbine manufacturer under a turbine supply agreement and, in situations where the project sponsor does not have internal operating personnel, accompanied by a service maintenance agreement. The construction of the balance of the project, such as the turbine foundations, collection system, substation and transmission lines are performed by a contractor under a balance of plant contract.[27] The operation and maintenance of the project may sometimes be performed by an affiliate of the project sponsor that is in the business of performing operations and maintenance services for all the project sponsor's projects. The offtake agreement is crucial for the viability of a project, as the lenders and investors rely principally on the revenues generated by the project. The offtake agreement mitigates the potential fluctuations of spot market transactions and allows for the project to provide a more reliable base case model to its lenders and investors. For electrical

26 These transactions include Terra-Gen's Alta Wind Projects, Pattern Energy's Hatchet Ridge Wind Project, the Ridgewind Wind Project, the Lakefield Wind Project, the Pacific Wind Project, and the Shiloh IV Wind Project.

27 In some instances, even the balance of plant obligations are sometimes even further subdivided to include an electrical installation and/or engineering and design contract for the balance of the plant.

generation projects, an interconnection agreement will be required to interconnect the project to the relevant electricity grid. Projects that require fuel, such as coal-fired, biofuel, biomass or natural gas-fired plants, will need a reliable source of fuel that can be procured on a fixed-price basis under a long-term fuel supply or feedstock agreement.

The financing documents for a project finance transaction will generally depend on the type of financing structure being implemented. For a traditional bank financing transaction, the documents consist of a credit agreement that will provide a construction and term loan facility, often with a letter credit facility and/or working capital facility, and the set of collateral security documents described below. A private placement transaction will include a purchase or subscription agreement entered into by the financial institutions for funding and an indenture to provide for the covenants that the project company must follow, along with the same set of collateral security documents typically utilised for bank financings. For transactions that combine bank and private placement sources, a master agreement or common terms agreement will typically govern the principal terms of the financing such as conditions precedent, covenants, representations and warranties, events of default, indemnities, and miscellaneous boilerplate provisions, with separate credit agreements and note purchase agreements or indentures for the respective tranches. A lease transaction will include a lease,[28] and, for a sophisticated leveraged lease transaction, a financing agreement and a participation agreement, along with customary tax indemnity agreements. The security for a financing will be provided under the security or collateral documents, as discussed in further detail below. Lenders will also often seek to have direct agreements with the counterparties to the material project documents that provide for the consent by such counterparties to the collateral assignment of the particular project document, an agreement by the counterparty to deposit amounts payable under the project agreement to a designated collateral account, a right to receive default notices and other material notices, an ability to step in and cure events of default on behalf of the lenders, as well as an agreement not to amend, modify, assign or terminate the project document.

The equity documents represent the commitment of the sponsors and owners of the project to make equity contributions to the project company under a variety of circumstances. Basic equity contribution agreements cover cost overruns and provide for minimum equity required to maintain the debt-equity ratio prescribed by the lenders. A project company seeking tax equity will often enter into an equity capital contribution agreement (ECCA) with a tax equity investor. Tax equity investors do not typically assume construction risks and their equity contribution is conditioned on the satisfaction of a number of requirements, including that the project has achieved, or is about to achieve, commercial operation as required under the offtake agreement and subject to satisfaction of performance and other testing requirements under the relevant construction contracts. For ITC transactions, it is important that the tax equity investor become an owner before a project has reached commercial operation. A form of revised limited liability company agreement for the project company will be negotiated at the

28 Some lease transactions will separate the personal property and real property into a facility lease and a ground lease, respectively.

time of execution of the ECCA to govern the relative rights and obligations between the developer and the tax equity investor, and to set out the respective allocations of cash, distributions and tax benefits, as well as to detail the governance rights prior to and after the date on which the tax equity investor has received its net economic return on its investment.

IV RISK ALLOCATION AND MANAGEMENT

Project finance ideally allocates risks to the party that is best able to manage and mitigate the particular risk, and the relevant risk allocation can vary from project to project depending on the specific details of a project and the relative negotiating leverage of each party.

A basic project finance transaction can be broadly divided into two different time periods: the construction period and the operational period.

In order to understand the construction period, it is helpful to understand the importance of the operational period and its associated risks. A lender or investor to a project finance transaction relies on the cash flow generated by the project during the operational period for repayment or recovery of investment, as applicable. In order to give lenders and investors some degree of certainty about cash-flow generation, lenders and investors analyse a project's base case projections based on the price of the offtake and the expected production, the two keys to generating cash flow.

An offtake agreement, between the project company and an offtaker, is the key project document that will mitigate the risk of fluctuating prices and give some degree of certainty as to what price is paid for the product generated by the project. A typical offtaker, however, requires some level of assurance that it will receive a minimum amount of product commencing by a date certain – essentially requiring minimum production guarantees. The offtaker will often obtain the right to receive liquidated damage payments for insufficient production. A production and performance guarantee is often provided under the equipment or construction contracts to provide the project company with some assurance that these minimum production levels can be met and are often evaluated as 'back-to-back' mitigation measures to protect the project company from failures by the contractor to complete the facility in accordance with technical specifications.

Each type of facility will also have a different risk profile. A baseload project, such as nuclear, coal or natural gas facilities, will be able to meet minimum production, but will be reliant on fuel supply, and project developers of these types of facilities attempt to mitigate the risk of commodity price fluctuations by entering into long-term fuel supply contracts. An intermittent project, such as wind or solar facilities, will require projections of wind resource or solar resource that are probabilities assessments based on historical resource reports for the specific region.[29] Equipment warranties from construction and

29 These resource reports provide metrics based on probability scenarios. A P50 production means that there is a 50 per cent probability that the facility will produce the amount expected in a P50 production scenario for the designated period, and a P99 production means that there is a

supply contracts also play a key role in ensuring that the facility will be protected against defects in design and manufacture.

Although lenders will be granted a security interest in all assets of the project company, the lenders cannot fully rely on this collateral package to repay their loans given that at the inception of construction, the only real assets of the project company are the project documents and the rights in real estate, which in many transactions, are often only leasehold interests. As such, it is fundamental to project lenders that the facility is constructed on a timely basis and in accordance with expected and agreed-upon technical specifications. Given the reliance of lenders and investors on the ability of the project to produce enough energy or other product to generate sufficient cash flow, the risk allocation for the construction period is vital to the viability of a project and to ensure that the project sponsors are duly incentivised to complete the project. Lenders in debt transactions will typically require equity contribution funding obligations in the range of 10 to 30 per cent of total project costs,[30] depending on the perceived construction and operational risks of the particular asset being financed.

In addition to the need to cover the increased interest costs during construction caused by a delay in completion of the construction of a project, offtakers will often impose liquidated damages for delays in commercial operation and a termination date if the delay goes beyond a date certain. In order to offset the risk of delays in construction, developers will demand delay liquidated damages from suppliers and construction contractors to ensure that components are delivered on a timely basis and that the facility is erected and constructed on schedule. In certain cases, where new technology is being deployed, construction completion guarantees may also be required of project sponsors if the lenders are not comfortable with the allocation of risk to the EPC contractor, as well as in other cases where the completion deadline is critical (e.g., the delay may result in a loss of the offtake contract, key tax benefits or critical operating permits).

Standard project documents will contain limitations on liability to the project counterparties. These limitations will customarily exclude special, exemplary, indirect or consequential losses (including lost profits) and punitive damages from the scope of the counterparty's liability. A limitation on the aggregate liability of the counterparty under the project document will also be imposed and, to the extent liquidated damages are payable, there are often sublimits for delay liquidated damages and performance liquidated damages that are lower than the aggregate liability for liquidated damages.

Project documents are also negotiated to allocate the risk of force majeure events between the project participants. A force majeure event is generally defined as an event that is reasonably beyond the control of the party affected, such as acts of God, floods, wars, riots, and other similar events.

---

99 per cent probability that the facility will produce the amount expected in a P99 production scenario for the designated period.

30 For technology that is well-proven and construction risks that are not perceived to be high, the debt-equity ratio can be as low as 10 per cent; and for new technology that is being utilised or has not been fully commercialised, the level of equity contributions required can be even higher than 30 per cent.

Depending on the nature and size of the project, the parties may also need to address political risks. Certain projects, such as nuclear projects, must overcome local political and public concerns about safety and handling of waste materials. On the other hand, even renewable projects, including wind and solar projects, have encountered public opposition for a number of reasons.[31] PPPs, as discussed below, face their own unique challenges in terms of public and political opposition.

As noted earlier, many renewable energy projects benefit substantially from federal tax grants or credits. These tax credits and benefits were designed to offer an incentive to developers, but these incentives are typically limited in time and subject to periodic renewal. Currently, PTCs will only be available for wind projects and for other qualifying renewable projects that have begun construction before 1 January 2014. ITCs are available for solar facilities placed in service on or prior to 31 December 2016.

V SECURITY AND COLLATERAL

i Security interest and priorities

In the United States, secured transactions are primarily governed by state law. Given the potential variation among the 50 states, the National Conference of Commissioners on Uniform State Laws and the American Law Institute[32] have sought to harmonise the commercial laws among the states through the promulgation of the Uniform Commercial Code (UCC). Each state has more or less adopted the UCC with few substantive modifications.[33] Secured transactions with respect to personal property are covered under Article 9 of the UCC (Article 9). Real property transactions, however,

31 Large wind and solar projects have significant 'footprints' across hundreds and even thousands of acres of land, even though the foundation for each individual wind turbine generator or solar module is not that substantial. Some members of the public have objected for aesthetic reasons, claiming that the wind turbines or solar arrays obstruct the residents' view of their surroundings. Others have raised concerns that wind turbines or solar arrays may affect endangered animals, particularly certain types of birds in the case of wind projects, and desert wildlife in the case of solar projects. The Shepherds Flat project in Oregon also faced an objection from the Department of Defense, which argued that due to the proximity of the project to a military base, the blades of the wind turbines could interfere with radar. Similar objections have been raised with respect to solar projects near military installations and test facilities. We note that the objections of the Department of Defense in the Shepherds Flat project were settled. Most of these socio-political objections for wind and solar projects have not resulted in the closing down of projects, but these are risks that developers, lenders and investors must take into account.

32 The National Conference of Commissioners on Uniform State Laws and the American Law Institute are private, non-profit institutions.

33 The State of Louisiana has enacted most of the provisions of the UCC, though we note that it did not adopt either Article 2 or Article 2A. See Cornell University Law School's Legal Information Institute's Uniform Commercial Code Locator at www.law.cornell.edu/uniform/ucc.html.

have not been uniformly codified and are subject to the particular laws of the state and jurisdiction where the real property is located.

A lender or other secured party can obtain a security interest in the personal property of an obligor upon the execution of a security agreement, which will include a clause granting a security interest in favour of such secured party.[34] The personal property of the obligor will cover the 'hard' or physical and tangible assets (e.g., wind turbines, solar panels, transmission lines, substations) and 'soft' or intangible assets (e.g., rights under material project documents and accounts). To the extent that the owner of the obligor is required to pledge its ownership interests as security for the benefit of the secured party, it will be required to execute and deliver an equity pledge agreement.

In order to protect the position of a secured party against other creditors, the security interest must be perfected under Article 9. The vast majority of personal property can be perfected by filing a financing statement[35] in the 'location' of the obligor, and for an organisation registered under state law,[36] its location would be the state where it is registered. Article 9 provides that certain forms of personal property cannot be perfected merely by the filing of a financing statement and applies a different rule to perfection of such property.[37] For certificated securities, tangible negotiable documents, instruments, money or chattel paper, perfection is obtained by actual possession of such documents.[38] At the closing of a project financing, the originals of such documents are delivered to the secured party. A security interest in deposit accounts or letter of credit rights may be perfected by 'control'.[39] Control of a deposit account is established pursuant to a tripartite agreement[40] among the obligor, the secured party and the bank where the deposit account is maintained. The most basic 'control agreement' is an acknowledgment by the depository bank that it will comply with the instructions of the secured party without further consent of the obligor. A project finance transaction will involve a more complex depository

34 See Section 9-203 of the UCC. We note that for a security interest to be enforceable, the following conditions must be satisfied: (1) value must be given, (2) the grantor must have rights in the collateral and (3) the debtor has authenticated a security agreement that provides a description of the collateral (or, with respect to certain assets that can be perfected by possession or control, such assets are possessed or controlled).

35 See Sections 9-301 and 9-502 of the UCC.

36 For purposes of the UCC, a registered organisation means a corporation, limited liability company or limited partnership (see Uniform Commercial Code Comment #4). For entities registered with the federal government, including foreign organisations, their location is in the state that the law of the US designates or the state designated by such registered organisation if the law of the US so authorises; however, if neither of the foregoing apply, the default 'location' would be the District of Columbia.

37 This Chapter discusses investment property, deposit accounts and letter of credit rights. Article 9 also imposes specific rules on the perfection of agricultural liens, goods covered by a certificate of title, electronic chattel paper and other narrow types of personal property.

38 See Section 9-305 and 9-313 of the UCC.

39 See Section 9-312 of the UCC.

40 See Section 9-104 of the UCC.

agreement that provides detailed instructions as to the application of construction loan proceeds and operating revenues. For letter-of-credit rights, control is obtained through a consent by the issuer to an assignment of proceeds.[41]

Security interests in real property interests are obtained pursuant to the execution of a deed of trust or mortgage. Each state has its own special requirements, but generally requires that the obligor grants its rights in the real property to the secured party and clearly identifies the real property interests involved. The security interests in real property are perfected by filing a mortgage or deed of trust with the local county recorder's office.

ii Credit support

Project companies will often be required to deliver credit support in favour of third parties, including construction contractors, suppliers and offtakers. Likewise, project companies will sometimes be able to obtain credit support from such counterparties to the extent that such counterparties are not creditworthy. The credit support will often take the form of a letter of credit or a guarantee from a creditworthy entity.

Despite the non-recourse nature of project financing, lenders will typically seek a limited guarantee from the project sponsor. This limited guarantee will usually cover specified risks, such as cost overruns or minimum equity contribution amounts. For loan facilities that are contingent on the receipt of cash grant proceeds, reimbursement amounts or cash rebates from a governmental agency, a guarantee might be required to cover a potential shortfall. Also certain risks allocated to the project that are viewed as 'non-market' by lenders may be expected to be covered by a limited guarantee of the project sponsor.

For 'partnership-flip' transactions, the tax equity investor is typically a special purpose entity and credit support from the tax equity investor's creditworthy parent will be required to back its capital contribution obligations. In some instances, a tax equity investor's capital contribution can be reduced under the terms of the ECCA and lenders will often seek a 'shortfall' guarantee by the project sponsors to cover any such reduction.

VI INSURANCE AND PERFORMANCE BONDS

Insurance represents a highly specialised and regulated area of contract law. The allocation of insurance requirements among the parties in a project financing transaction follows the general project finance proposition that the party that is best able to manage the risk that is covered by a particular insurance policy should procure and maintain such insurance.

The project company will be required under the terms of financing documents to carry at all times commercial general liability insurance, worker's compensation insurance, pollution liability and umbrella or excess liability coverage. Areas that are subject to floods, earthquakes or other natural hazards will also require appropriate coverage. During the construction period, the project company will typically maintain all risk builder's insurance, and delay in start-up insurance and, to the extent applicable, marine transit insurance. The

41 See Section 9-107 of the UCC.

project company will also be required to maintain business interruption insurance during the operational period. These insurance requirements represent a combination of standard industry practices and insurance requirements under project documents.

Lenders and investors will not carry their own insurance but rather will be added as 'additional insured' parties to the project company's insurance. Additionally, they will require that the proceeds of insurance policies be deposited into collateral accounts.

Construction contractors will be required under the terms of the relevant construction contract to carry commercial general liability insurance, worker's compensation insurance, professional liability, contractor's equipment and pollution liability and umbrella or excess liability coverage. It is also customary for construction contracts to provide that the project company and its lenders be 'additional insured' parties under these insurance policies.

During the operational period, to the extent an operator[42] is retained to operate the project, the operator will also be required to maintain commercial general liability insurance, worker's compensation insurance and umbrella or excess liability coverage.

Lenders and investors will retain an insurance consultant to review the insurance programme and to ensure that the insurance requirements for the project will meet market standards, the specific requirements of the project and the project company's obligations under project documents.

Unlike insurance, performance bonds are not always required for every project finance transaction. A performance bond is a contract between the contractor and a surety to provide assurance to the developer of a project that if the contractor defaults under its construction contract that the surety will perform the obligations under the construction contract. The surety also has a few other options available, including to buy back the bond, to substitute another contractor to perform the construction contract or to deny the bond if permitted under the terms of the performance bond. The owner must not be in default under the construction contract to make a claim under the performance bond. In addition, state law may impose certain statutory requirements for a performance bond. The cost of the performance bond is a project cost and is sometimes not required if the contractor is well established with a strong track record for completing projects on a timely basis. In addition, in certain geographical areas or markets, the availability of a number of proven construction contractors make substitution and replacement of a defaulting contractor an option with a strong developer. Some construction contracts may also be supported by payment bonds. In most construction contracts, liquidated damages for delays are payable by a contractor and a payment bond can be issued, in lieu of a letter of credit, to support the payment obligations of the contractor.

42 In many instances, these operators are not third-party operators, but an affiliate of the developer.

VII ENFORCEMENT OF SECURITY AND BANKRUPTCY PROCEEDINGS

Upon the occurrence and continuation of an event of default under the financing documents, the lenders, as secured parties,[43] may elect to exercise remedies against the project company and its assets. The remedies provided under a customary financing agreement will include the right to suspend making additional loans, to accelerate the outstanding obligations, to cure breaches of the project company under the project documents, to possess the project, to marshal the project's assets and to conduct a private or public sale of the project company and its assets. The financing documents will also provide that the lenders are also permitted to exercise all rights available to them under Article 9.

Chapter 6 of Article 9 is devoted to setting out the rights of creditors against personal property after a default in situations outside of bankruptcy. A secured party may deliver notices to account debtors of the project company, including the counterparty to the offtake agreement[44] and enforce obligations of an account debtor to make payment or render performance.[45] The secured party may take possession of the collateral and dispose of the collateral with or without judicial process.[46] The disposition of collateral may be conducted privately or publicly, but in all instances, must be undertaken in a commercially reasonable manner.[47]

Foreclosure on real property is subject to individual state laws. A foreclosing lender must also be aware that each state may have a special or unique statutory provision with respect to enforcement proceedings. For instance, California has the 'one action

43 In most transactions, a collateral agent is appointed to act on behalf of the lenders and the other secured parties under the credit agreement. Under customary financing documents, a collateral agent may only undertake actions that have been consented to by the majority lenders.

44 As indicated above, it is typical for lenders to obtain consents to collateral assignment or direct agreements with counterparties to material project documents. A consent or direct agreement will set forth the collateral account to which payments must be directed, and as a result, a post-default notice is unnecessary since there is an existing agreement to deposit proceeds into the collateral account for which the secured party has rights to in an event of default.

45 See Section 9-607 of the UCC.

46 See Section 9-609 of the UCC. The taking of possession and disposal of collateral without judicial process may be done so long as it can be accomplished without a breach of the peace. A secured party may also agree with the debtor to have the debtor assemble the collateral and make it available to the secured party.

47 See Section 9-610 of the UCC. The factors for determining whether conduct is commercially reasonable is a function of statutory provisions, such as Section 9-627, and case law. The UCC provides for certain 'safe harbour' provisions to demonstrate that a secured party has acted in a commercially reasonable manner. Section 9-612 offers one such safe harbour: 'a notification of disposition sent after default and 10 days or more before the earliest time of disposition set in the notification is sent within a reasonable time before the disposition.'

rule' under Section 726 of the California Code of Civil Procedure,[48] which requires that a secured party exhaust all of its remedies against the debtor's collateral before suing a debtor for deficiency, and a failure to do so may result in the loss of the secured party's liens on both personal and real property.

The proceeds of foreclosure are applied as follows: first, to reasonable expenses of collection and enforcement, including reasonable attorneys' fees; second, to interest and bank fees; third, to principal; and fourth, to any remaining outstanding obligations.

Most lenders in project finance transactions prefer to enter into work-out arrangements with defaulting borrowers in lieu of exercising Article 9 foreclosure remedies because of the flexibility available under a workout arrangement coupled with the basic reality that in a non-recourse project deal, the principal source of repayment is revenue generation rather than asset disposition. Federal bankruptcy of a project company is generally the least attractive scenario for lenders; a debtor is more likely to obtain some sort of relief under a bankruptcy proceeding than private workouts or Article 9 foreclosure.

Federal bankruptcy law[49] pre-empts state law creditor laws, including Article 9. A bankruptcy case for a debtor may be voluntary (filed by the debtor) or involuntary (filed by creditors).[50] Once a bankruptcy petition is filed, it creates a bankruptcy estate and imposes an 'automatic stay' against creditors that prevents any creditor from taking action against the debtor or its assets.[51] The rights of a lender to exercise any of its remedies under the finance documents or Article 9 is prohibited after the imposition of an automatic stay notwithstanding its senior secured position. In addition, some liens, such as unperfected security interests, may be invalidated under Section 544(a) of the Bankruptcy Code.[52] There are two basic types of bankruptcy cases for corporations and other business organisations: Chapter 7 and Chapter 11 cases.

Chapter 7 of the Bankruptcy Code covers a liquidation bankruptcy in which all personal property[53] is converted to cash and distributed among the creditors. The bankruptcy court will appoint a bankruptcy trustee to oversee the liquidation of the debtor's estate.

Chapter 11 of the Bankruptcy Code applies to reorganisation of the debtor's assets, rather than liquidation. A debtor retains custody of its assets and is considered a 'debtor-in-possession'. A debtor will be subject to a Chapter 11 plan pursuant to which

48 The purpose of Section 726 of the California Code of Civil Procedure was to protect defaulting debtors against multiple suits and harassment from secured parties by requiring 'one form of action for the recovery of any debt or the enforcement of any right secured by mortgage upon real property', but failing to comply with this provision has serious consequences for lenders.

49 Federal bankruptcy law is a composite of the Bankruptcy Act of 1898, the Bankruptcy Reform Act of 1978 and The Bankruptcy Abuse Prevention and Consumer Protection Act of 2005.

50 Section 301 of the Bankruptcy Code addresses voluntary bankruptcy petitions and Section 303 of the Bankruptcy Code provides for involuntary bankruptcy filings.

51 See Section 362 of the Bankruptcy Code.

52 Section 544(a) may only invalidate the lien of a creditor, but does not extinguish the underlying claim. A creditor with an invalidated lien will be treated as an unsecured creditor.

53 There are exceptions for exempt property, but this generally does not apply in project finance.

a debtor will operate in the post-petition period. The debtor initially has an exclusive period in which to propose a Chapter 11 plan, but if the debtor fails to propose a plan that is accepted by creditors, any party in interest may file a plan and more than one plan may be filed.[54] After confirmation of the Chapter 11 plan, the debtor must perform under the approved plan. The liens of a pre-petition lender will not extend to personal or real property acquired after the filing of Chapter 11.[55] In some instances, where a debtor can obtain financing from a post-petition lender, that post-petition lender may be granted, by order of the bankruptcy court, priority over pre-petition lenders.[56] A debtor-in-possession may continue to use, sell and lease encumbered property in the ordinary course of business in accordance with the Chapter 11 plan.

VIII SOCIO-ENVIRONMENTAL ISSUES

A number of licensing and permit requirements are relevant to project finance transactions in the United States. The project company will need to comply with federal permits as well as state, county and municipal permits applicable to projects in its jurisdiction. Permitting obligations are customarily spread among the project company and the counterparties to various project documents, ideally allocated to the parties best suited to perform and manage such obligations.

For the construction period, a number of permits will need to be obtained by the construction contractor in connection with the performance of its obligations, including building permits, air quality permits and construction permits with respect to any demolition, erection or construction of facilities. The project company will customarily obtain permits that will need to be issued in the name of the project owner during the construction period, as well as permits that may need to be in place during both construction and operational periods. These permits include local permits (such as any facility site permits and road use agreements) as well as federal permits (such as a Federal National Pollutant Discharge Elimination System permit if stormwater is likely to cause discharge from a construction site). Certain types of projects will need to obtain specialised permits. For example, since wind turbine generators will exceed federal obstruction standards, a wind energy generating facility must demonstrate there is no substantial adverse effect in order to obtain a 'Determination of No Hazard to Air Navigation' from the Federal Aviation Administration for each of its wind turbine generators.

54 See Section 1121 of the Bankruptcy Code. The substantive terms of the Chapter 11 plan are set out in Section 1123 of the Bankruptcy Code.

55 To the extent that a security agreement includes a provision to cover property acquired after the execution of the security agreement, Section 9-204 provides that such after-acquired property will be part of the collateral covered under the security agreement. Section 522(a) of the Bankruptcy Code overrides this state law by making it clear that property acquired by debtor after the Chapter 11 filing will not be subject to liens pursuant to any pre-petition security agreement.

56 See Section 364(d) of the Bankruptcy Code. Section 364(d) sets out requirements as to when a post-petition lender can 'prime' the priority of a pre-petition lender.

Certain permits will need to be obtained at or around the time of commercial operation. Emissions and noise permits in certain jurisdictions are obtained during the testing period based on the results of the test performance of the facility. Other permits for use and operation will need to be obtained by the project company or its operator. To the extent feedstock or other fuel is used to supply the facility, one or more permits will need to be obtained to allow the project company to transport and consume such fuel.

It is customary for lenders and investors to obtain a Phase I environmental site assessment (ESA) from an environmental consultant. A Phase I ESA will include a physical inspection of the site, examination of public records for environmental liens, prior land usage and permits, and other investigations to determine whether any hazardous materials have been released or could potentially be released on the site. To the extent that a Phase I ESA reveals any recognised environmental condition or a potential environmental condition, a Phase II ESA will be undertaken and involve more intrusive sampling and measurements. In addition, a number of studies may be needed to demonstrate that the environmental and site impact does not adversely affect cultural resources or wildlife.[57]

Importantly, compliance with the 'Equator Principles'[58] may not be a legal requirement for financial institutions participating in project finance transactions, but it is an internal requirement for many banks participating in the project finance market. Accordingly, many financing agreements require that the borrower comply with the Equator Principles.

IX PPP

The PPP structure is used in a subset of the project financing transactions where a governmental entity and private sector entity are collectively engaged in the development, construction and operation of a public project. In the United States, the federal government does not usually engage directly in PPP transactions, but plays an important role through legislation and allocation of funding to states for infrastructure projects. The PPP market can be supported with legislation promoting infrastructure projects, together with funding to states. States and local governmental agencies are the principal players in the PPP market. Unfortunately, legislation for PPP projects is not uniform throughout the 50 states and private sector developers and investors must understand the differences in both process and substance in the state where they seek to bid for a PPP project. The bidding process itself varies from state to state, but the underlying tenet of establishing an open and competitive process is a common theme. The review and acceptance process for bids differs substantially as each state has differing statutory requirements as to the evaluation criteria.

57 The nature of the studies needed will depend on the type of project. For example, bat and avian studies are needed to assess the impact of wind turbine generators.

58 The term 'Equator Principles' is described in 'An industry approach for financial institutions in determining, assessing and managing environmental and social risk in project financing', dated 4 June 2003 and developed and adopted by the International Finance Corporation and various other banks and financial institutions.

One of the major considerations for PPP transactions is the level of public support for the project, the potential private investor and its respective bid. Public support can directly or indirectly affect both legislation with respect to PPPs and the bid and approval process for any potential PPP project.

The vast majority of PPP transactions in the United States to date has been primarily focused on transportation infrastructure projects.

X FOREIGN INVESTMENT AND TAX ISSUES

An investor in the US must consider the application of federal, state and local income taxes, franchise taxes, transfer taxes, and intangible taxes. There is considerable variation in different state and local tax regimes, which makes it difficult to generalise about state and local tax considerations, which are therefore not addressed.

A non-US lender to a US project will generally be subject to US federal withholding tax at a rate of 30 per cent on interest payments. This withholding may be reduced if the lender is entitled to the benefits of an applicable income tax treaty, many of which provide for an exemption from, or reduction in, withholding tax on interest. However, almost all US tax treaties include fairly mechanical anti-treaty shopping tests, and there are a number of other anti-abuse rules that make it very difficult for a non-treaty lender to access the US treaty network. Nevertheless, certain non-bank lenders that are not treaty eligible may qualify for an exemption from withholding on interest if they are not otherwise related to the borrower, and the loan is in 'registered form' for US tax purposes (which is generally easy to ensure).

The tax consequences of an equity investment in a US project will depend on whether the investor invests in the project through a partnership or corporation for US tax purposes. In either case, project income will generally be subject to net income tax, although in the case of a partnership this may be imposed on the partners (collected by partnership advance withholding). In addition, where the investment is made through a corporation, distributions that constitute dividends will be subject to US federal withholding tax at a rate of 30 per cent. Where the investment is made through a partnership, an equivalent branch profits tax may be imposed on the non-US partners on amounts they are deemed to have repatriated. These withholding or branch profits taxes may be reduced or eliminated by an applicable income tax treaty. There can be substantial variation in tax consequences depending on the structure for the project and the relevant investment vehicles.

XI DISPUTE RESOLUTION

In US project finance transactions, the historical preference of lenders is to have the financing documents governed by the law of New York State and to require borrowers and other counterparties to financing documents to consent to the jurisdiction of the courts of New York. The comparatively straightforward issues raised in disputes involving loans and other credit facilities have been viewed as rendering those disputes more suitable to judicial as opposed to arbitral determination.

Nonetheless, US courts follow the strong policy in favour of arbitration to enforce agreements that have elected arbitration. There are a number of project documents that provide arbitration as the avenue for settling disputes. Parties choose from a large variety of institutions and rules, or *ad hoc* arbitration under rules of the parties' own design. Arbitral proceedings can be tailored by contract to modify the institutional rules and meet the specific needs of the particular transaction. Parties in US transactions typically designate the American Arbitration Association for their project finance disputes. Parties frequently choose New York as the place of arbitration.

The United States is also a party to the New York Convention and the 1975 Inter-American Convention on International Commercial Arbitration, which requires courts of contracting states to give effect to private agreements to arbitrate and to recognise and enforce arbitration awards made in other contracting states. Other enforcement mechanisms are available, including multilateral treaties, bilateral friendship, commerce and navigation treaties and traditional principles of comity among nations.

XII OUTLOOK AND CONCLUSIONS

Over the long term, project finance is expected to continue to be a popular vehicle to finance the necessary energy and infrastructure assets in the United States, particularly to replace the ageing fleet of coal-fired plants, nuclear plants and other public infrastructure, given the support of the strong legal framework and a strong, sophisticated private financing market (in addition to political support and other factors).

The US Energy Information Administration (US EIA) estimates that energy consumption, across all sectors, will increase by 0.4 per cent per year from 2012 to 2040.[59] While additions to power plant capacity are expected to slow from the construction boom years in the early 2000s, we expect to see more long-term growth in certain sectors, such as projects from renewable sources and natural gas.[60] For example, the US EIA projects that electricity generation from renewable sources will grow so that its share of total US energy generation will increase from 13 per cent in 2011 to 16 per cent in 2040 in the reference case, or as high as 27 per cent if greenhouse gas emissions fees are enacted.[61] Additionally, projections from industry sources foresee that the United States may need up to US$2 trillion to support its standard infrastructure needs in the coming years.[62] With the enduring need for energy and infrastructure, the United States will look to project finance structures as one of the tools for satisfying such need.

---

59 This is based on the 'reference case' scenario under the US Energy Information Administration, Annual Energy Outlook 2014 (April 2014).

60 New electricity capacity additions averaged 35GW a year from 2000 to 2005. By contrast, from 2006 to 2012, the annual capacity additions averaged only 19GW per year. The US EIA forecasts that annual builds through 2016 will average 16GW per year and, although they will drop to below 9GW per year between 2016 until 2023, they will average 14GW per year from 2025 until 2040.

61 Ibid.

62 Muhabbat Mahmudova, Gaurav Sharma & Yoann Rey, 'Global Infrastructure: H1 2011 Regions', *Infrastructure Journal* (3 August 2011).

Appendix 1

ABOUT THE AUTHORS

CAROLINA WALTHER-MEADE

Milbank, Tweed, Hadley & McCloy LLP

Carolina Walther-Meade is a member of Milbank's global project finance group and the firm's Latin America practice group in the New York office. A partner since 2007, Ms Walther-Meade has extensive experience in cross-border financings and international project finance and development, with an emphasis on infrastructure, mining and energy projects throughout Latin America. She has also been involved in numerous acquisition financings and structured financings in the region. Her practice includes representation of commercial bank syndicates, multilateral and export credit agencies and other lenders, as well as corporate developers and industrial groups. She spent one-and-a-half years with Milbank based in Brazil and continues to spend a significant amount of time in Milbank's São Paulo office.

Ms Walther-Meade is consistently recognised as a leading project finance lawyer by *Chambers Latin America*. She grew up in Mexico and speaks Spanish and Portuguese fluently. She is an advisory board member of the Women in Law Empowerment Forum.

KAREN WONG

Milbank, Tweed, Hadley & McCloy LLP

Karen Wong has been a partner in Milbank's global project finance group since 1996 and is resident in the Los Angeles office. Ms Wong focuses on the representation of sponsors and financing parties in connection with the development, acquisition, financing and restructuring of power, petrochemical and other infrastructure facilities in Asia and North America. In the past few years, she has represented a number of financing parties in debt financings, leveraged lease and single investor lease transactions involving wind, solar, hydro and biomass projects, as well as representing the project sponsor of several coal and petroleum coke gasification projects in the United States.

In 2011, Ms Wong was selected as one of the *Daily Journal*'s 'Top 25 Clean Tech Lawyers' in California and also featured as one of the state's 'Top 75 Women Lawyers'. She is listed in *Chambers USA* for projects and *The International Who's Who of Business Lawyers*, and has been recommended in *PLC Which Lawyer?* for banking and finance.

HENRY SCOTT

Milbank, Tweed, Hadley & McCloy LLP

Henry Scott is a senior associate in Milbank's global project finance group in the Los Angeles office. Mr Scott's experience includes project finance, asset-based financing, and general corporate work. He has experience representing both financing parties and sponsors in debt and equity financing transactions involving wind, solar, and geothermal generation projects, coal gasification facilities, and onshore LNG terminals, as well as rail and road PPP infrastructure projects. He regularly advises buyers and sellers in the acquisitions, workouts, and dispositions of energy and infrastructure assets.

MIGUEL DURAN

Milbank, Tweed, Hadley & McCloy LLP

Miguel Duran is an associate in Milbank's global project finance group and is based in the Los Angeles office. He has experience representing both financing parties and sponsors in the development and financing of solar and wind power projects, gasification facilities and other infrastructure projects in the United States and Latin America.

MILBANK, TWEED, HADLEY & McCLOY LLP

1 Chase Manhattan Plaza
New York
NY 10005
United States
Tel: +1 212 530 5000
Fax: +1 212 530 5219
cwalther-meade@milbank.com

601 South Figueroa Street
30th Floor
Los Angeles
CA 90017
United States
Tel: +1 213 892 4000
Fax: +1 213 629 5063
kwong@milbank.com
hscott@milbank.com
cchwang@milbank.com

www.milbank.com