SUMMARY VALUATION REPORT

2BA14702 27 May 2011 Final



SINO-FOREST CORPORATION

Valuation of Purchased Forest Crops as at 31 December 2010





The cover photo shows a stand of Chinese fir (Cunninghamia lanceolata) in a forest in Wuning County, Jiangxi province. This stand which Pöyry measured during its field inspection in January 2011, is typical of the Chinese fir that Sino-Forest Corporation acquired in Jiangxi province in 2010.

Copyright © Pöyry (Beijing) Consulting Company Limited (2011)

All rights are reserved. This document or any part thereof may not be copied or reproduced without permission in writing from Pöyry (Beijing) Consulting Company Limited.



PREFACE

This report is issued by Pöyry (Beijing) Consulting Company Limited, Shanghai Branch (Pöyry) to Sino-Forest Corporation (SFC) for its own use. No responsibility is accepted for any other use.

The report contains the summary opinion of Pöyry as to the market value of SFC's Planted Forest estate in China, as at 31-December 2010. The provision of this report is subject to the terms of the Disclaimer provided on the following page.

Doug Parsonson VICE-PRESIDENT

Steve Croskery PRINCIPAL

Contact details:

Steve Croskery 2208-2210 Cloud 9 Plaza No. 1118 West Yan'an Road Shanghai 200052 PR CHINA Tel. + 86 21 6115 9660 Fax + 86 21 6115 9670 E-mail: steve.croskery@poyry.com

Pöyry (Beijing) Consulting Company Limited, Shanghai Branch



DISCLAIMER

On behalf of our client, Sino-Forest Corporation (the "Client"), Pöyry (Beijing) Consulting Co., Ltd. Shanghai Branch (hereinafter "Pöyry") has developed the following report: Valuation of China Purchased Forest Crops as at 31 December 2010 (the "Report") in connection with a market valuation of The Client's Chinese Forestry Assets (the "Valuation"). The Client has agreed that Pöyry may provide you with an excerpt of this report (the "Summary") in your capacity as [analyst/stakeholder] of the Client. Pöyry's acceptance to providing the Summary to you is conditional upon you agreeing to the terms and conditions of this undertaking. All other use is strictly prohibited and no other person or entity is permitted to use this report, unless otherwise agreed in writing by Pöyry. **By accepting delivery of this report, the Recipient acknowledges and agrees to the terms of this disclaimer.**

NOTHING IN THIS REPORT IS OR SHALL BE RELIED UPON AS A PROMISE OR REPRESENTATION OF FUTURE EVENTS OR RESULTS. PÖYRY HAS PREPARED THIS REPORT BASED ON INFORMATION AVAILABLE TO IT AT THE TIME OF ITS PREPARATION AND HAS NO DUTY TO UPDATE THIS REPORT.

Pöyry makes no representation or warranty, expressed or implied, as to the accuracy or completeness of the information provided in this report or any other representation or warranty whatsoever concerning this report. This report is partly based on information that is not within Pöyry's control. Statements in this report involving estimates are subject to change and actual amounts may differ materially from those described in this report depending on a variety of factors. Pöyry hereby expressly disclaims any and all liability based, in whole or in part, on any inaccurate or incomplete information given to Pöyry or arising out of the negligence, errors or omissions of Pöyry or any of its officers, directors, employees or agents. Recipients' use of this report and any of the estimates contained herein shall be at Recipients' sole risk.

Pöyry expressly disclaims any and all liability arising out of or relating to the use of this report except to the extent that a court of competent jurisdiction shall have determined by final judgment (not subject to further appeal) that any such liability is the result of the willful misconduct or gross negligence of Pöyry. Pöyry also hereby disclaims any and all liability for special, economic, incidental, punitive, indirect, or consequential damages. **Under no circumstances shall Pöyry have any liability relating to the use of this report in excess of the fees actually received by Pöyry for the preparation of this report.**

All information contained in this report is confidential and intended for the exclusive use of the Recipient. The Recipient may transmit the information contained in this report to its directors, officers, employees or professional advisors provided that such individuals are informed by the Recipient of the confidential nature of this report. All other use is strictly prohibited.

All rights (including copyrights) are reserved to Pöyry. No part of this report may be reproduced in any form or by any means without prior permission in writing from Pöyry. Any such permitted use or reproduction is expressly conditioned on the continued applicability of each of the terms and limitations contained in this disclaimer.



ASSUMPTIONS AND LIMITING CONDITIONS

This is a summary of the full report of the same title and was prepared at the request of and for the exclusive use of the client, Sino-Forest Corporation (SFC). This report may not be used for any purpose other than the purpose for which it was prepared. It should be read in conjunction with the Background Papers accompanying the Valuation of China Purchased Forest Crops as at 31 December 2010. This draws on the earlier valuation of SFC's China Forest crops that Pöyry undertook as at 31 December 2009. The results of this valuation were presented in Report 2BA12945: *Valuation of China Forest Crop Assets as at 31-Dec 2009*. That report was issued on 23 April, 2010.

Data describing the area of forest owned, by species, age and location were provided by SFC.

Pöyry has not viewed any of the contracts relating to forest land-use rights, cutting rights or forest asset purchases. Legal matters are beyond the scope of this report and the valuation is prepared on the assumption that titles to the forest assets are according to the data provided by SFC. Maps, diagrams and pictures presented in this report are intended merely to assist the reader.

Inspections of SFC areas were made as part of this valuation. These were at specific locations selected by Pöyry in Jiangxi province in January 2011.

This appraisal assumes that the forests visited by Pöyry in the field inspection represent the full range of conditions that exist for the species seen.

Any existing liens and encumbrances have been disregarded, and the forest resource has been appraised as though free and clear under responsible ownership and competent management.

Unless otherwise stated in this report, the existence of hazardous materials or other adverse environmental conditions, which may or may not be present on the property, were neither called to the attention of Pöyry, nor did the consultants become aware of such during the inspection.

Pöyry recognises the possibility that any valuation can eventually become the subject of audit or court testimony. If such audit or testimony becomes necessary as a result of this valuation, it will be a new assignment subject to fees then in effect. Pöyry has no responsibility to update this report for events and circumstances occurring after the date of this report.

Any liability on the part of Pöyry is limited to the amount of fee actually collected for work conducted by Pöyry. Nothing in the report is, or should be relied upon, as a promise by Pöyry as to the future growth, yields, costs or returns of the forests. Actual results may be different from the opinion contained in this report, as anticipated events may not occur as expected and the variation may be significant.



EXECUTIVE SUMMARY

This is an estimate of the market value of the part of SFC's total China forest estate that was purchased by the company (referred to as Purchased Forest'). The date of this valuation is as at 31 December, 2010.

The physical and financial forest description is based on data provided by SFC to Pöyry as part of the valuation, and data and information that Pöyry has otherwise obtained. This refers to forest area, yield, costs and log prices, that are inputs to the Forest Estate Model.

A discount rate of 11.5%, applied to pre-(income) tax cash flows has been used in this valuation. This is the same rate used for the 31-December 2009 valuation. The exchange rate (RMB:USD) used is 6.5918; the rate prevailing on 31 December, 2010.

Pöyry's estimate of the market value of SFC's Purchased Forest estate, as at 31 December 2010, is <u>USD 2 683.684million</u>.

The valuation is most sensitive to gross log price, with increases of 10% increasing crop value by 18% and vice-versa. Increases in harvesting and cartage costs of 10% reduce the NPV by 6%. The forest crop value is quite insensitive to changes in overhead costs and land rentals. This is because nearly 80% of the NPV accrues over the next five years.

The value is unresponsive to changes in forestry direct costs and associated indirect costs. This is because the largest part of these costs occurs in the first year of a crop's life. Because the valuation model is based on the costs and revenues of only the current crop, and there is only a small area of young forest incurring early age costs, then changes in these costs has no material impact on the value of the current crop.



PREFA	ACE	Ι
DISCL	AIMER	п
ASSUN	IPTIONS AND LIMITING CONDITIONS	III
EXECU	UTIVE SUMMARY	IV
1	INTRODUCTION	1
2	PURPOSE AND SCOPE	2
2.1 2.2	Purpose of the Valuation Update Scope of the Valuation Update	2 2
3	METHODOLOGY	3
4	FIELD INSPECTION	4
5	FOREST DESCRIPTION - AREA AND YIELDS	8
5.1 5.2 5.3	Stocked Area of Forest Forest Growth and Yield Statement on Yield Tables and Estimates of Growth and Yield	8 10 14
6	FOREST MANAGEMENT AND HARVESTING COSTS	15
7	LOG MARKET AND PRICE OUTLOOK	17
8	WOOD FLOW AND ALLOCATION MODEL	18
9	DISCOUNTED CASH FLOW VALUATION	20
9.1 9.2 9.3 9.4 9.5	Overview Treatment of Taxation Scope of the Analysis Timing of Cash Flows Date of Valuation	20 20 20 21 21
10	VALUATION RESULTS	22
10.1 10.2	Exchange Rate Valuation as at 31 December 2010	22 22
11	SENSITIVITY ANALYSIS	23



1 INTRODUCTION

In April 2009, Pöyry presented its report '2BA12945 - Valuation of China Forest Crop Assets as at 31-December 2009' to Sino-Forest Corporation (SFC). That report covered both SFC's Planted and Purchased forest crops that totalled nearly 491 400 hectares (ha) in area.

This year, the Planted and Purchased forest crops have been valued separately.

This report is a summary of Pöyry's valuation of SFC's Purchased Forest crops in China, as at 31 December 2010.

The subject area of Purchased Forest, as described further in this report, is 573 644 ha. This compares with about 440 850 ha of Purchased Forest in last year's valuation.

2 PURPOSE AND SCOPE

2.1 **Purpose of the Valuation Update**

The purpose of the valuation is to estimate the market value of the forests for asset reporting purposes. A useful definition of "market value" is:

"the most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming that the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

- *The buyer and seller are typically motivated.*
- Both parties are well informed or well advised, and acting in what they consider their own best interests.
- A reasonable time is allowed for exposure in the open market.
- The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale"¹.

The market value of the tree crop assets is estimated as at **31 December 2010**.

2.2 Scope of the Valuation Update

As a valuation update, the exercise has specifically addressed the following:

- Changes to the area of tree crops, by location, species and age, between 31 December 2009 and 31 December 2010
- Acknowledgement of recent inventory data and their impact on yield estimates
- Acknowledgement of changes in forestry and harvest-related costs
- Acknowledgement of expectations for generally higher longer-term log prices.

¹ Uniform Standards of Professional Appraisal Practice, The Appraisal Institute (www.appraisalinstitute.org).

3 METHODOLOGY

A full description of valuation methodology is provided in the background papers.

For this valuation Pöyry used the *income method* (i.e. assessing the present value of the anticipated future net earnings stream). The *income method* employs a conventional discounting approach. In referencing wider evidence of investors' expectations of a return on capital, one common basis for the discount rate is the Weighted Average Cost of Capital (WACC). The cost of equity may be examined within the Capital Asset Pricing Model (CAPM).

In many countries, the consideration of the *comparable sales method*, through the estimation of implied discount rates (from analyses of sales where the purchase price is known), is possible. Even so the generation of IDR's is usually challenging. In China it is even more difficult, as sales of reasonably well described forests where the sales price is known, are extremely rare.

Accordingly, this valuation is a calculation of the net present value of the forecast net revenue expected to be generated through the management and harvest of the subject forest area. As such the valuation is based on the *income* method.

A discount rate of 11.5% has been applied to the pre-(income) tax cash flows. This is the same discount rate as has been applied in Pöyry's valuations of SFC's China forest assets over at least the past three years.

4 FIELD INSPECTION

During 2010, SFC increased its forest holdings in Jiangxi by about 45 000 ha, to a total area of around 70 000 ha.

Because of this significant addition, Pöyry chose to inspect some of these forests during its inspection program as part of the forest valuation as at 31 December 2010.

Of the approximately 70 000 ha of Purchased Forest in Jiangxi, 47% is in Chinese fir, 37% in Masson pine, and the balance of 16% in 'Other' species. Other species is typically a mix of species, comprising a variety of hardwoods growing in association with Masson pine, and sometimes Chinese fir. Sometimes the mix includes broadleaf species, Chinese fir and Masson pine.

During the week 18-21 January 2011, two Pöyry staff inspected some of the recently-acquired forest in Jiangxi province.

From the data description of forest area owned, by province, county, species, and age, Wuning and Xiushui counties, both in the north-western part of the province, were selected for the inspection.

During the four days in these two counties, several forests were visited. Plots were established and measured in Chinese fir, Masson pine, and a Chinese fir/Masson pine mixture. SFC provided maps of the forests visited, and these were used in the comparison of SFC's record of stocked area of forest, with that assessed from analysis of satellite imagery, conducted by Pöyry and the subject of a separate 'Background Paper'.

Three plots were established in Wuning and two in Xiushui. The stands were in the range of 20 to 25 years old. Calculated recoverable volumes from these plots ranged from 65 to 120 m^3 /ha, with a mean from the five plots of 101 m^3 /ha.

The yield tables applied to these crops in Jiangxi in the Forest Estate Model (the basis of the wood flow and cash flow forecast underlying the valuation) have, for Chinese fir, a recoverable volume of 105 m^3 /ha at age 20 years, and 118 m^3 /ha at age 25 years. The yield table for Masson pine, assumes a recoverable volume of 87 m^3 /ha at age 20 years, and 93 m^3 /ha at age 25 years.

In Pöyry's experience, the growth and yield of Chinese fir in Jiangxi province is significantly slower and lower than in Hunan province, where nearly 60% of SFC's Chinese fir crops are growing.

The following photos provide a sense of the size and form of the tree crops, and the land conditions of the forests inspected.

S PÖYRY

Photo 4-1:

Masson pine of typically average to poor form being measured in forest in Wuning county. Eventhough the stem form is poor, the recovery rate can be very high, with very short lengths, sometimes as short as 60 cm, being cut and peeled for veneer sheets.



Photo 4-2:

View of some of SFC's Jiangxi Chinese fir forest across a lake. Tree stocking is not especially high, nor tree size large.



S PÖYRY

Photo 4-3:

Track into measure Chinese fir forest in Xiushui county. Conditions in January 2011 were cold and quite difficult. Plot slopes were in the range 20 to 35°.



Photo 4-4:

Chinese fir being measured in Xiushui County. Typical good stem of this species is evident.



Photo 4-5: Chinese fir - exhibiting the typical very good form of this species.



Photo 4-6:

Stump (near ground level) of recently-felled Chinese fir - tree age estimated to be about 24 years.



5 FOREST DESCRIPTION - AREA AND YIELDS

5.1 Stocked Area of Forest

Data describing the stocked area of Purchased Forest owned, by species, age and location, were provided by SFC. It is important that the users of this report understand this. This valuation is not a due diligence review. Pöyry has neither verified the authenticity of the total area of forest said to be owned, nor its ownership. Rather, Pöyry has relied on the description of the stocked area of forest that is said to be owned, by species, age and location, as was provided by SFC.

Pöyry did conduct an analysis of the stocked area as identified on a set of maps representing the areas selected for the field inspection in Jiangxi. Each of the stands for which maps were provided were identified in satellite imagery, and a comparison was made between the stand boundary shape and the internal stocked area. For the purchased forest, so assessed in Jiangxi province, this analysis showed that for the total area, Pöyry's estimate of stocked area overall was 4% less than that of SFC's. At a compartment level, the range of Pöyry's area estimate to SFC's mapped area record, was from -11% (i.e. Pöyry's area estimate being 11% less than SFC's), to +11% (i.e. Pöyry's area estimate being 11% more than SFC's).

Pöyry does not hold this out to be a substantial area verification that might be conducted as part of a due diligence assignment. It is, at best, an indication that, <u>overall</u>, SFC's area records are reasonably accurate.

However, Pöyry highlights again that we have relied on the description of the stocked area of forest that is said to be owned, by species, age and location, as was provided by SFC.

The total area of Purchased Forest, as at 31 December 2010 was 573 644 ha. This compares with about 440 850 ha of Purchased Forest in last year's valuation. The change in area arises from harvesting, sales of standing forest, and significant forest acquisitions during the year.

The Purchased Forest area, as at 31 December 2010, is described in the following tables and charts.

Province	Prov Abbrev	Acacia	Broadleaf	Chinese fir	Eucalyptus	Foreign Pine	Masson Pine	Other mixed Species	Yunnan Pine	Grand Total
Yunnan	YUNN		110 034	1 773		5 710	3 096	17 761	48 369	186 743
Hunan	HUNA		8 030	97 428	1 080		23 173	30 151		159 863
Guangxi	GUAX			3 238	23 331		15 279	48 869		90 716
Jiangxi	JIAN		119	34 642			27 905	12 386		75 052
Guizhou	GUIZ		90	28 619			3 930	10 140		42 780
Sichuan	SICH								10 579	10 579
Guangdong	GUAN	87	345	678	1 571	2 173	2 833	96		7 783
Fujian	FUJI				128					128
Grand Total		87	118 619	166 377	26 111	7 883	76 215	119 403	58 948	573 644

Area of Purchased Forest in China owned by SFC as at 31 December 2010 (ha)

(by Province and Species)

Table 5-1:



Figure 5-1: Area of Purchased Forest owned by SFC as at 31 December 2010

(by Province and, Species and Age as at Dec 2010)

Table 5-2:

The following tables show the stocked area of forest by province and by species as at December 2009 and 2010.

Province	Area (ha) 2010	% Total 2010	Area (ha) 2009	% Total 2009
Yunnan	186 743	33	106 544	24
Hunan	159 863	28	131 979	30
Guangxi	90 716	16	138 453	31
Jiangxi	75 052	13	30 486	7
Guizhou	42 780	7	19 765	4
Sichuan	10 579	2		0
Guangdong	7 783	1	7 979	2
Heilongjiang		0	5 520	1
Fujian	128	0	128	0
Grand Total	573 644	100	440 854	100

Net Stocked Area of Forest owned by SFC by Province - December 2010 and 2009

The major changes to net stocked area between December 2009 and 2010 have been in Yunnan, Jiangxi, Hunan, Guizhou, and Sichuan provinces, where SFC's forest holdings have increased. There have been reductions to SFC's forest area in Guangxi and Heilongjiang.

	-			
Species	Area (ha) 2010	% Total 2010	Area (ha) 2009	% Total 2009
Chinese fir	166 377	29	151 311	34
Other mixed Species	119 403	21	105 749	24
Broadleaf	118 619	21	87 977	20
Masson Pine	76 215	13	67 108	15
Yunnan Pine	58 948	10	0	0
Eucalyptus	26 111	5	24 225	5
Foreign Pine (slash pine)	7 883	1	4 397	1
Acacia	87	0	87	0
Total	573 643	100	440 854	100

Table 5-3:			
Net Stocked Area of Fores	st owned by SFC by Spe	ecies - December 2	2010 and 2009

The major changes in area by species from December 2009 to 2010 has been in Yunnan pine, with acquisitions in Yunnan and Sichuan provinces. SFC's holdings of broadleaf, other mixed species and Masson pine have also increased .

5.2 Forest Growth and Yield

Yield tables are used to represent how the volume of wood per unit area changes with age for a *typical* stand for each type of forest in SFC's estate. Ideally, yield tables and matching or associated stocked area information would be available to cover the full range of site conditions, stand management and other factors that influence yield across a large forest estate like SFC's.

At this stage, SFC is not at a level of detail or sophistication in the implementation of its forest inventory program or Forest Management Information System (FMIS) that captures the inherent variability within a large forest and matches specific yield representations with specific areas.

However, SFC made significant advances with both of these processes during 2010. Insofar as describing the growth and yield of the Purchased Forest, SFC has made available to Pöyry measurement data from 636 plots established in 2010 across three provinces, two species and a range of sites and age-classes within its Purchased Forest estate. This is a major step forward in the description of yield potential from the forest.

Pöyry analysed these data and, as a result, has adjusted the yield table representing the forecast growth and yield of SFC's Purchased Chinese fir Forest in Guizhou Province. This new yield table (as at December 2010) is shown in graphical form in Figure 5-3 below. At a harvest age of 20 years, the yield has been reduced from 202 m³/ha to 105 m³/ha. This is a substantial reduction, but was justified by the data made available. This same lower volume yield table has been applied to the Chinese fir acquisitions in Jiangxi province. This is based on Pöyry's measurements and observations during the field inspection in January 2011, and other work Pöyry has carried out in Jiangxi province. The inventory data supported the continued application of the higher volume yields for Chinese fir in Hunan province, which contains nearly 60% of SFC's Chinese fir.

Analysis of SFC's inventory data for broadleaf forest in Yunnan, and comparisons with an inventory that Pöyry undertook there in 2008 supported the upwards revision of prices applied to the Yunnan broadleaf large size log.

The yield table for Yunnan pine in Yunnan and Sichuan provinces was derived from data collected in this species in these provinces by Pöyry during other work.

The yield curves underlying the yield tables used in the 2010 SFC valuation for seven main species in the Purchased Forest, are shown in Figure 5-2 to Figure 5-9.

The charts show projected recoverable volume per hectare, by log type and age. The legend indicates the log type or log grade. These are defined by small end diameter (sed) of the logs, and relate to the prices used in the Forest Estate Model².

Figure 5-2:

Yield Curve applied to Chinese Fir Crops Purchased by SFC except those in Guizhou and Jiangxi – 2010 Valuation



Figure 5-3:

Yield Curve applied to Chinese Fir Crops Purchased by SFC in Guizhou and Jiangxi – 2010 Valuation



 $^{^{2}}$ The Forest Estate Model (FEM) is used to model, and optimise the management and harvest of the forest. Inputs include the physical and financial description of the forest, a set of specified constraints and the discount rate. The key outputs are a wood flow and cash flow representing the management and harvest of the forest.













Figure 5-7: Yield Curve applied to Yunnan Pine Crops – 2010 Valuation













5.3 Statement on Yield Tables and Estimates of Growth and Yield

In Pöyry's forest valuations in Australasia, the Americas, Africa and Europe, the forest owner or manager usually provides Pöyry with an area description and a yield description of the forest. These descriptions are typically in the form of tables of the stocked area and associated recoverable yield expectations, by species, location and age.

Pöyry then spends some time during the field inspection phase of a valuation assignment verifying the reasonableness of these area and yield statements. The focus importantly, is on verification, in contrast to the generation or development of this forest description information.

In this valuation, while SFC does provide Pöyry with tables of the stocked area of forest owned as at valuation date, it does not provide Pöyry with tables or any predictions of growth and yield, rather, leaving this aspect of the Forest Description to Pöyry.

From the area description provided by SFC, Pöyry selects where to focus its field inspections. The focus is typically on locations, species and age-classes that in Pöyry's opinion will contribute most to the total forest value. Where there are significant new areas of forest in the estate, Pöyry will endeavour to visit these locations and species.

As part of the field inspections, SFC provides maps of forest area and forest record information on species and age of the crops within these areas. GPS data is recorded in the field and later used in conjunction with the maps to compare areas of forest as mapped and recorded, against that independently assessed using satellite imagery. The existence of tree crops by species and age, as per the maps and forest records, are also verified as part of the field inspection process.

As outlined above, in the absence of yield tables to verify, Pöyry has established a small number of inventory plots and measured SFC's various tree crops in locations of interest. Using these data, collected over several years, Pöyry has developed a set of yield tables that broadly describe the average growth and yield of SFC estate. These are generic yield tables, by species. Pöyry does not claim that these broadbased and generic yield tables adequately capture the full extent of variation in site and crop quality characteristics, nor in turn adequately reflect the true mean growth and yield that will be realised from the forest estate as a whole.

In 2010, as a result of SFC implementing an inventory program the data situation for the Purchased Chinese fir Forest has improved markedly. This has resulted in the changes to yield tables applied to Chinese fir in Guizhou, as described above. Progressively, as more data becomes available from SFC's inventory program, further refinements to yield tables and their application will be made. These are just as likely to be increases in growth and yield expectations, as they are reductions.

6

FOREST MANAGEMENT AND HARVESTING COSTS

This section summarises the main costs associated with the management and harvest of the SFC Purchased Forest estate.

It covers:

- Direct costs of forestry operations e.g. forest establishment, tree crop tending and maintenance, direct costs of security and crop protection
- Direct costs of harvesting e.g. tree felling, delimbing of stem, cutting to extractable/marketable log lengths, carriage to forest roadside, debarking, log storage
- Harvest roading costs including pre-harvest tracking and road construction
- Cartage costs transport of log from forest roadside to mill or market (the assumed price point)
- Indirect costs of forestry operations
- Indirect costs of harvesting and marketing
- Forest business management and administration overhead all staff remuneration, offices and rentals, power, telecommunications, vehicle running, R&D, external professional services, PR and communications, insurance, R&M and depreciation of assets, memberships, subs and levies. Large forestry businesses require planning, forestry operational, and corporate management services. While some economies of scale do occur, for large complex forestry business this is a substantial cost.
- Harvest taxes and fees
- Costs of land use rentals.

All of these costs have been reviewed as part of the 2010 valuation. The following table lists these main cost items, as applied in last year's valuation, and the valuation of December 2010 as averages and ranges.

Changes in average costs come about as a result of increases in labour and fuel costs in China, Pöyry's rationalisation of costs applied to operations between provinces and the change in the composition of the forest asset, by province and species.

Table 6-1:

Costs of Management and Harvest of SFC's China Purchased Forest Estate

Cost Item	2010	2009
Direct costs of forestry operations (forest establishment, maintenance, tending, prot	ection etc.)	
total first five years of forest crops life (RMB/ha) note has little effect on value of current crop	11 112	9 693
Direct costs of harvesting (RMB/m ³)		
Range	75 to 210	58 to 186
simple average	146	119
Harvest roading (RMB/m ³)	10	10
Cartage - log transport to point of sale or price point (RMB/m ³)		
Range	70 to 105	62 to 93
simple average	96	86
Indirect costs of forestry operations (% of direct)	10	10
Indirect costs of harvesting and marketing (RMB/m ³)	20	20
Forest business management and administration overhead (RMB/ha/a)	280	300
total forest business mgt & admin o/hd cost in year 1 of model (RMB millions)	161	132
Harvest taxes and fees [10% roadside price for logs + RMB6.5/m ³]		
average from the management and harvest of the current crop over life of the model (RMB/m ³)	75	67
Cost of land use - rentals (RMB/ha/a)	275	250
total cost of land use (rentals) in year 1 of model (RMB millions)	158	110
Total of all costs over the management and harvest of the forest (RMB/m ³)	389	325

Note: These are Pöyry's estimates of the cost of management and harvest of a forest estate of the sort being valued. These costs have been used in the Forest Estate Model and valuation of the forest crop.

7

LOG MARKET AND PRICE OUTLOOK

Pöyry develops its view of price outlooks by taking into consideration various price influencing factors. These are discussed in detail in the Log Market and Price Outlook included in the Background Papers. With these factors in mind, Pöyry has reviewed log price trends in China, especially since 2007 (Figure 7-1). Pöyry has used the above inputs to develop the prices included in the 2010 valuation model. Comparison of the 2010 prices with those assumed in the 2009 valuation model showed these prices to be broadly consistent between years. This effectively means that forecast long-run prices remain approximately the same, in absolute terms, as those applied in last year's valuation.

Figure 7-1: Log Price Trends by Grade



8 WOOD FLOW AND ALLOCATION MODEL

The physical and financial descriptions of the forest, outlined above, are brought together in the form of input to the Forest Estate Model from which wood flows and cash flows are generated. The Forest Estate Model employs a linear programming formulation which allows constraints to be specified and applied to the management and harvest of the forest estate. These constraints include the specification of:

- Minimum and maximum harvest ages by species
- Replanting assumptions in terms of croptypes and expected future crop yields
- Levels of harvest volume (or area), in total or by defined parts of the forest estate, by species and location and period, and, where appropriate,
- The minimum and maximum volumes of particular log grades that can go to certain destinations.

With every constraint added to or incorporated in the model, and the tighter or more demanding any particular constraint, the lower the value of the forest will be. This is simply because the 'optimal solution' is more constrained, and in turn lower.

Constraints applied to the modelling of potential wood flow from the Sino-Forest estate are as follows:

- A total harvest volume per year, by province, of no more than SFC's proportion of the province's total area of mature and over-mature timberland plantation forest, multiplied by the provincial Annual Allowable Cut (volume) from timberland plantation forest, i.e. SFC's area share of the AAC. The AAC used is that of the 11th 5-Year Plan, being the most recent as at time of the analysis.
- Harvesting and smoothing constraints that allow or constrain certain crops, and volumes by species and location to be harvested in a manner that limits changes in the volume harvested between years and between 5-year periods or lustra, by location and species.

Regeneration assumptions are also applied to the model that specify to which species and future yield table harvested crops will be regenerated.

Both the harvesting and the smoothing constraints seek to ensure a sensible and practicable harvest of the forest in a manner that would allow reasonable management of harvesting resources and avoid any undesirable impact on the log market.

The following chart shows the modelled harvest from the SFC Purchased Forest estate over the next 60 years. It shows the volume arising from the current crop, and that arising from the harvesting of replanted crops. Only the cash flows from the management and harvest of the current crop are considered in this valuation.

Figure 8-1: Wood Flow by Rotation



Because SFC's forest resource is relatively mature, with the capacity to produce a large harvest volume in the early periods, a high early harvest has been allowed. This is consistent with the modelling of wood flow in the past two years..

While this valuation does not seek to model specifically what the current owner is doing or might be planning in terms of harvesting, Pöyry takes some leading from the current owner's recent performance and intentions insofar as modelling the near-term harvest from the forest. Over the past four years, Sino-Forest has sold, as stumpage, 9.9 million m³ (2007), 10.1 million m³ (2008), 14.2 million m³ (2009), and in 2010 17.6 million m3 in total standing volume terms. Applying an average recoverable volume factor of 75% (from total standing to recoverable volume of saleable logs – the basis of Pövry's wood flow and valuation), these volumes equate to around 7.4 million m³ (2007), 7.6 million m³ (2008), 10.7 million m³ (2009) and 13.2 million m3 (2010). These levels of sales have all been from a smaller base of forest area owned than what is owned as at 31 December 2010. In Pöyry's opinion, the levels of harvest modelled in the first five years are achievable, in terms of market absorption, and harvesting and wood-processing capacity, assuming that the Chinese economy continues to grow at or near 8%/year in GDP. Pöyry believes that the harvesting strategy is one that a rational forest owner of the Sino-Forest estate might follow.

This high early harvest reduces to a harvest rate that is constant in terms of the annual volume within each five-year period and restricted in the level of change between lustra. This embodies some level of smoothing of the harvest by species and by province.

9 DISCOUNTED CASH FLOW VALUATION

9.1 Overview

The diagram below illustrates the structure of the valuation model. Generation of the initial inputs (the wood flows) has been described in the previous section. Revenue is generated at each log destination, the price point being delivered at mill gate (AMG). Harvesting and transport costs, annual forest management costs, indirect overhead costs and the cost of land-use (rentals) are deducted from this revenue to give an operating margin.

The linear programming model generates all of these costs streams, since their profile depends on the harvesting strategy and age-class structure of the forest.



Figure 9-1: Schematic Illustration of the Forest Valuation Process

9.2 Treatment of Taxation

This valuation has been based on real pre-tax cash flows to which Pöyry has applied what we consider an appropriate discount rate. This is to translate the pretax cash flow forecast into a net present value representative of the market value of the tree crop asset.

9.3 Scope of the Analysis

The valuation reported in this summary is for the **Current rotation analysis** - only the revenue and costs associated with the existing tree crop are included in the analysis.



The approach is consistent with wider business appraisal that generally seeks to confine the analysis to the current investment cycle, and thereby avoid unnecessary conjecture.

9.4 Timing of Cash Flows

Cash flows are assumed to arise, on average, at mid-period. Accordingly, with the first period being the 12 months from 01 January to 31 December 2011, the mid period is 30 June 2011. The first period's net cash flow has therefore been discounted for 6 months or 0.5 years, from 30 June 2011 back to the valuation date of 31 December 2010. Period 2 is from 01 January to 31 December 2012. The mid-period is 31 June 2012. Accordingly, the period 2 net cash flow has been discounted for 1.5 years, period 3 for 2.5 years and so on.

9.5 Date of Valuation

The date of the valuation is **31 December 2010**. The cash flows contributing to the SFC Purchased Forest market valuation (current crop) arise during the 26 year period beginning 01 January 2011 and ending 30 December 2036.

Seventy-eight percent of the total NPV accrues over the first 5 years, 94% over the first 10 years, and 98% over the first 15 years.

10 VALUATION RESULTS

10.1 Exchange Rate

The cost and price data applied in the valuation is in Chinese Renminbi (RMB). The resulting cash flows generated from the forest estate wood flow and allocation model are also in RMB.

For reporting, Pöyry has applied a USD to RMB exchange rate of 6.5918³. This is the published rate for 31 December 2010.

10.2 Valuation as at 31 December 2010

Pöyry has estimated the market value of the SFC Planted eucalypt Forest tree crop assets as at 31 December 2010 to be **USD2 683.684 million**. This is the net present value of the pre-tax cash flows arising from the future management and harvest of the existing forest crops during their <u>current rotation</u>. The valuation uses an 11.5% discount rate applied to real, pre-tax cash flows.

³ OANDA.com *The Currency Site* http://www.oanda.com/currency/converter/.

11 SENSITIVITY ANALYSIS

A sensitivity analysis has been conducted that addresses the main drivers of value within the current rotation valuation model. These are:

- Discount rate and log price changes (in combination)
- Changes in the level of fixed overhead costs
- Changes in the costs of production (logging, loading and log cartage)
- Changes in the level of land rentals
- Changes in the level of forestry costs (to show that these are immaterial).

Table 11-1: Log Price Sensitivity

	Real Discount Rate applied to Pre-tax Cash Flows			
Scenario	10.5%	11.5%	12.5%	
	Current Rotation Value (USD million)			
10% Real Price Increase	3 274.715	3 162.659	3 058.700	
No Real Price Increase (Base)	2 778.603	2 683.684	2 595.643	
10% Real Price Decrease	2 282.490	2 204.709	2 132.585	

Table 11-2: Overhead Cost Sensitivity

	Real Discount Rate applied to Pre-tax Cash Flows			
Scenario	10.5%	11.5%	12.5%	
	Current Rotation Value (USD million)			
RMB350 O/Hd cost/ha/a (i.e. +25%)	2 752.545	2 658.484	2 571.241	
RMB280 O/Hd cost/ha/a (Base)	2 778.603	2 683.684	2 595.643	
RMB210 O/Hd cost/ha/a (i.e25%)	2 804.660	2 708.883	2 620.045	

Table 11-3: Harvest Cost Sensitivity

	Real Discount Rate applied to Pre-tax Cash Flows			
Scenario	10.5%	11.5%	12.5%	
	Current Rotation Value (USD million)			
10% Harvest & Cartage Cost Increase	2 601.400	2 512.765	2 430.569	
Harvest Cost (Base)	2 778.603	2 683.684	2 595.643	
10% Harvest & Cartage Cost Decrease	2 955.805	2 854.602	2 760.717	

Table 11-4: Land Rental Sensitivity

	Real Discount Rate applied to Pre-tax Cash Flows			
Scenario	10.5%	11.5%	12.5%	
	Current Rotation Value (USD million)			
RMB345 Rental cost/ha/a (i.e. +25%)	2 753.010	2 658.934	2 571.677	
RMB300 Rental cost/ha/a (Base)	2 778.603	2 683.684	2 595.643	
RMB225 Rental cost/ha/a (i.e25%)	2 804.195	2 708.433	2 619.609	

Table 11-5: Forestry Cost Sensitivity

	Real Discount Rate applied to Pre-tax Cash Flows				
Scenario	10.5%	11.5%	12.5%		
	Current R	Current Rotation Value (USD million)			
10% Forestry Cost Increase	2 777.282	2 682.404	2 594.401		
Forestry Cost (Base)	2 778.603	2 683.684	2 595.643		
10% Forestry Cost Decrease	2 779.923	2 684.963	2 596.885		

The valuation is most sensitive to gross log price, with increases of 10% increasing crop value by 18% and vice-versa. Increases in harvesting and cartage costs of 10% reduce the NPV by 6%. The forest crop value is quite insensitive to changes in overhead costs and land rentals. This is because nearly 80% of the NPV accrues over the next five years.

The value is unresponsive to changes in forestry direct costs and associated indirect costs. This is because the largest part of these costs occurs in the first year of a crop's life. Because the valuation model is based on the costs and revenues of only the current crop, and there is only a small area of young forest incurring early age costs, then changes in these costs has no material impact on the value of the current crop.