

Translation for information purposes only

CGG

Tour Maine Montparnasse
33, avenue du Maine
75015 Paris

FINANCIAL RESTRUCTURING

INDEPENDENT APPRAISAL REPORT

Contents

1. INTRODUCTION	6
1.1. REGULATORY FRAMEWORK GOVERNING LEDOUBLE'S APPOINTMENT	6
1.2. STATEMENT OF INDEPENDENCE AND EXPERTISE	7
1.3. TASKS PERFORMED	7
1.4. STATEMENTS OBTAINED AND LIMITATIONS OF THE ENGAGEMENT	9
1.5. STRUCTURE OF THE REPORT	10
1.6. CONVENTIONS USED	10
2. BACKGROUND TO THE TRANSACTION	12
2.1. CGG	12
2.2. COMPANY'S OWNERSHIP STRUCTURE	12
2.2.1. NUMBER OF SHARES AND VOTING RIGHTS	12
2.2.2. DILUTIVE INSTRUMENTS	13
2.2.2.1. STOCK OPTIONS	13
2.2.2.2. CONVERTIBLE BONDS	13
2.3. STRUCTURE OF THE GROUP'S DEBT	14
2.4. REVIEW OF THE GROUP'S CURRENT FINANCIAL DIFFICULTIES	15
2.4.1. BREACH OF COVENANTS	15
2.4.2. DEBT SERVICING	16
2.4.3. MAIN GUARANTEES AND COLLATERAL GRANTED BY THE GROUP IN RESPECT OF ITS DEBT	16
2.5. REASON FOR THE TRANSACTION	18
3. STRUCTURE OF THE TRANSACTION	20
3.1. STAGE 1: ALLOTMENT OF FREE WARRANTS TO THE EXISTING SHAREHOLDERS: SHAREHOLDERS WARRANTS	23
3.1.1. MAIN CHARACTERISTICS OF STAGE 1	23
3.1.2. IMPACT OF STAGE 1 ON THE NUMBER OF SHARES AND VALUATION OF THE GROUP	23
3.2. STAGE 2: RIGHTS ISSUE FOR AN AMOUNT OF APPROXIMATELY €112 MILLION	24
3.2.1. MAIN CHARACTERISTICS OF STAGE 2	24
3.2.2. IMPACT OF STAGE 2 ON THE NUMBER OF SHARES AND VALUATION OF THE GROUP	26
3.3. STAGE 3: EQUITIZATION OF CBS AND SENIOR NOTES: CB ISSUE AND SENIOR NOTES ISSUE	27
3.3.1. MAIN CHARACTERISTICS OF STAGE 3	27
3.3.2. IMPACT OF STAGE 3 ON THE NUMBER OF SHARES AND VALUATION OF THE GROUP	30
3.4. STAGE 4: "EXCHANGE" OF SECURED DEBT	31

Translation for information purposes only

3.4.1.	MAIN CHARACTERISTICS OF STAGE 4	31
3.4.1.1.	<i>FRENCH REVOLVING FACILITY</i>	31
3.4.1.2.	<i>US REVOLVING FACILITY AND TERM LOAN B</i>	32
3.4.1.3.	<i>SUMMARY AND CHANGE IN TERMS AND CONDITIONS OF THE SECURED DEBT</i>	32
3.4.2.	IMPACT OF STAGE 4 ON THE NUMBER OF SHARES AND VALUATION OF THE GROUP	33
3.5.	STAGE 5: ISSUE OF UNSUBORDINATED, SECOND LIEN NEW NOTES	33
3.5.1.	MAIN CHARACTERISTICS OF STAGE 5	33
3.5.2.	IMPACT OF STAGE 5 ON THE NUMBER OF SHARES AND VALUATION OF THE GROUP	36
3.6.	GOVERNANCE	37

4. CGG'S BUSINESS AND ENVIRONMENT **38**

4.1.	SEISMIC AND GEOSCIENCE MARKET	38
4.1.1.	PRESENTATION AND SECTOR TRENDS	38
4.1.2.	CONTRACTUAL DATA ACQUISITION	39
4.1.3.	GEOPHYSICS AND CONSULTING	40
4.1.4.	SEISMIC EQUIPMENT	40
4.2.	CGG'S POSITIONING	41
4.3.	CGG'S HISTORICAL GROWTH AND DEVELOPMENT FACTORS	42
4.4.	HISTORICAL ANALYSIS OF CGG'S PERFORMANCE	43
4.4.1.	OPERATING REVENUES	43
4.4.2.	EBITDA AND EBIT	44
4.5.	BALANCE SHEET STRUCTURE	45
4.5.1.	GOODWILL	45
4.5.2.	INTANGIBLE ASSETS AND PROPERTY, PLANT & EQUIPMENT	46
4.5.3.	WORKING CAPITAL	46
4.5.4.	PROVISIONS	46
4.5.5.	DEFERRED TAXES	47
4.6.	DESCRIPTION OF THE GROUP'S DEBT	47
4.6.1.	BREAKDOWN OF DEBT AS OF JUNE 30, 2017	47
4.6.2.	REVIEW OF THE GROUP'S LISTED DEBT	49
4.6.2.1.	<i>CONVERTIBLE BONDS</i>	49
4.6.2.2.	<i>SENIOR NOTES</i>	51
4.7.	SUMMARY	52

5. MULTI-CRITERIA VALUATION OF CGG SHARES **53**

5.1.	ACCOUNTING, FINANCIAL AND FISCAL DATA	53
5.1.1.	ACCOUNTING STANDARDS	53
5.1.2.	NUMBER OF SHARES	54
5.1.3.	VALUATION DATE	54
5.1.4.	VALUATION OF TAX LOSS CARRYFORWARDS	54
5.1.5.	NET DEBT	55
5.1.5.1.	<i>NET DEBT USED IN INTRINSIC VALUATION</i>	55
5.1.5.2.	<i>NET DEBT USED IN PEERS VALUATION</i>	56
5.2.	VALUATION METHODS DISCARDED	56
5.2.1.	DISCOUNTED DIVIDENDS	56
5.2.2.	ADJUSTED NET ASSET VALUE	57
5.2.3.	COMPARABLE TRANSACTIONS METHOD	57
5.2.3.1.	<i>EXTERNAL TRANSACTIONS</i>	57
5.2.3.2.	<i>INTERNAL TRANSACTIONS</i>	57
5.2.3.3.	<i>PREVIOUS TRANSACTIONS</i>	57
5.3.	VALUATION AS A GOING CONCERN ISSUE OF CGG IN THE CONTEXT OF CHAPTER 11	58
5.4.	SHARE PRICE VALUATION	58
5.4.1.	HISTORICAL SHARE PRICE ANALYSIS	58
5.4.2.	PRICE TARGETS	61
5.4.3.	MARKET VALUATION	61
5.5.	INTRINSIC VALUATION USING THE DISCOUNTED CASH FLOW (DCF) METHOD	62
5.5.1.	SUMMARY OF THE DCF METHOD	62
5.5.2.	DISCOUNT RATE	63
5.5.3.	PERPETUAL GROWTH RATE	65
5.5.4.	BUSINESS PLAN	65
5.5.4.1.	<i>ACQUISITION</i>	66
5.5.4.2.	<i>MULTI-CLIENT</i>	66
5.5.4.3.	<i>SIR</i>	67
5.5.4.4.	<i>EQUIPMENT</i>	67
5.5.5.	PREFERRED APPROACHES AND SENSITIVITY ANALYSIS	68
5.5.6.	FACTORING IN DELAYED EXECUTION OF THE BUSINESS PLAN	69
5.6.	PEERS VALUATION METHOD	70
5.6.1.	PEERS SAMPLE	70

Translation for information purposes only

5.6.2.	METHOD OF CALCULATING EBITDA MULTIPLES BY REFERENCE TO ENTERPRISE VALUE (EV)	72
5.6.3.	PRESENTATION OF REGRESSION ANALYSIS	73
5.6.4.	SUMMARY OF PEERS VALUATIONS	73
5.7.	SUMMARY OF THE MULTI-CRITERIA VALUATION OF CGG SHARES BEFORE RESTRUCTURING	74

6. FINANCIAL ANALYSIS OF THE TRANSACTION **76**

6.1.	DILUTION FOR THE SHAREHOLDERS	76
6.1.1.	ANALYSIS BEFORE EXERCISE OF SHAREHOLDERS WARRANTS AND RIGHTS WARRANTS	76
6.1.2.	ANALYSIS AFTER EXERCISE OF SHAREHOLDERS WARRANTS AND RIGHTS WARRANTS	78
6.2.	ANALYSIS OF THE IMPACT OF THE TRANSACTION ON THE STAKEHOLDERS' INTEREST	79
6.2.1.	OUR APPROACH	79
6.2.2.	RECONCILIATION OF PRE- AND POST-TRANSACTION EQUITY	81
6.2.3.	ANALYSIS OF CHANGE IN THE SHAREHOLDERS' INTEREST	83
6.2.3.1.	NATURE OF THE SHAREHOLDERS' INTEREST PRE- AND POST-TRANSACTION	83
6.2.3.2.	NET IMPACT OF THE TRANSACTION FOR THE SHAREHOLDERS	84
6.2.4.	ANALYSIS OF THE CHANGE IN THE SENIOR NOTEHOLDERS' INTEREST	85
6.2.4.1.	NATURE OF THE SENIOR NOTEHOLDERS' POSITION PRE- AND POST-TRANSACTION	85
6.2.4.2.	NET IMPACT OF THE TRANSACTION FOR THE SENIOR NOTEHOLDERS	86
6.2.5.	ANALYSIS OF THE CHANGE IN THE CB HOLDERS' INTEREST	87
6.2.5.1.	NATURE OF THE CB HOLDERS' INTEREST PRE- AND POST-TRANSACTION	87
6.2.5.2.	IMPACT OF THE TRANSACTION ON THE CB HOLDERS' INTEREST	88
6.2.6.	ANALYSIS OF THE CHANGE IN THE INTEREST OF THE SENIOR NOTEHOLDERS AD HOC COMMITTEE	90
6.2.7.	ANALYSIS OF THE CHANGE IN DNCA'S INTEREST AS BACKSTOP	91
6.3.	IMPACT OF REFINANCING THE SECURED DEBT	92
6.4.	ANALYSIS OF DISCOUNTS/PREMIUMS INHERENT IN THE VARIOUS SHARE ISSUES	93

7. ANALYSIS AND VALUATION OF THE SHAREHOLDERS WARRANTS, RIGHTS WARRANTS AND RIGHTS **95**

7.1.	VALUATION OF OUT-OF-THE-MONEY WARRANTS POST-TRANSACTION	95
7.2.	THRESHOLD FOR TRIGGERING THE EXERCISE OF OUT-OF-THE-MONEY WARRANTS POST-TRANSACTION	97
7.3.	ANALYSIS OF THE PREFERENTIAL SUBSCRIPTION RIGHTS	98

8. CONCLUSION **99**

SCHEDULES **101**

1. INTRODUCTION

In connection with the financial restructuring of CGG (the "**Transaction**" or the "**Restructuring**"), Ledouble SAS ("**Ledouble**") was appointed as independent appraiser by the Board of Directors of CGG (the "**Board**") on June 9, 2017 to give an opinion on the fairness to the shareholders of CGG SA ("**CGG**" or the "**Company**") of the Restructuring as a whole, particularly with regard to:

- The subscription price of €3.12 and €10.26 for the capital increases reserved (the "**Reserved Capital Increases**") to be subscribed respectively by the holders of high yield notes ("**Senior Notes**") and holders of OCEANE convertible bonds ("**CBs**"), together called the "**Creditors**". The Reserved Share Issues will be subscribed by way of set off against the Creditors' claims on the Company. Several classes of warrants ("**Warrants**")¹ will also be issued to the Senior Noteholders;
- The subscription price of €1.56 for the new share issue with preferential subscription rights (the "**Rights**") open to all shareholders of the Company (the "**Shareholders**") (the "**Rights Issue**"). The Rights Issue will take the form of new shares each with one share warrant attached² (the "**ABSA**"). Shareholders will also receive an allotment of free Warrants³.

1.1. Regulatory framework governing Ledouble's appointment

Ledouble's appointment, the due diligence work underlying the Report and the Report itself (the "**Engagement**") are governed by Article [261-3](#)⁴ of the General Regulation of the *Autorité des Marchés Financiers* (AMF).

This independent appraisal report (the "**Report**") contains a fairness opinion as defined in Article 262-1.⁵ of the AMF General Regulation (the "**Fairness Opinion**"). It will be reproduced in full in the two securities notes on, respectively, the Rights Issue and the Reserved Capital Increases including the warrant issues (other than the Rights Warrants).

¹ "Warrants #3" or "New Notes Warrants", "Coordination Warrants" and "Backstop Warrants".

² "Warrants #2" or "Rights Warrants".

³ "Warrants #1" or "Shareholders Warrants".

⁴ Article 261-3 of the AMF General Regulation provides that: "Any issuer or offeror [...] may appoint an independent appraiser who will apply the provisions of this title."

⁵ Excerpt from Article 262-1.1: "The independent appraiser prepares a report on the financial terms of the offer or transaction. Content requirements for the report are set out in an AMF instruction. In particular, the report contains the statement of independence ..., a description of the due diligence performed and a valuation of the company in question. The report's conclusion takes the form of a fairness opinion."

1.2. Statement of independence and expertise

Ledouble has no connection with the Company or its legal⁶ and financial⁷ advisers (the "Advisers"), the Shareholders, the lending banks, the Creditors or their advisers:⁸

- Ledouble has no legal or financial connection with CGG or its shareholders;
- We do not have any conflicts of interest as defined in Articles 261-4 of the AMF General Regulation and Article 1 of AMF instruction No. 2006-08; for information, **Schedule 6** contains a list of the independent appraisals and financial analyses performed by Ledouble in the past few years, showing the underwriter of the relevant transactions;⁹
- We consider that the Engagement does not lead us to work regularly with the Advisers or within the same group.¹⁰

For information, and without calling our independence into question, Ledouble has performed regular bond portfolio valuation engagements for Bpifrance Participations, a shareholder of the Company, which are unconnected with the Engagement.¹¹

In accordance with Article 261-4 of the AMF General Regulation, we therefore certify that we have no past, present or future connection with the parties involved in the Transaction and their advisers that might affect our independence and impartiality; we were therefore able to perform the Engagement with total independence.

The skills and expertise of the teams that performed the Engagement are described in **Schedule 5**.

1.3. Tasks performed

We performed our work in accordance with the provisions of Articles 262-1 *et seq.* of the AMF General Regulation, its application instruction No. 2006-08 on independent appraisals and AMF recommendation No. 2006-15.¹²

The Engagement work program is shown in **Schedule 1** and the timeline in **Schedule 2**.

The documentation used to perform our work is listed in **Schedule 4**.

⁶ Weil Gotshal & Manges LLP, Linklaters LLP, Paul, Weiss, Rifkind, Wharton & Garrison LLP.

⁷ Lazard, Morgan Stanley, Philippe Villin Conseil, Alix Partners.

⁸ *For the Shareholders:* Barber Hauler, BDGS & Associés, Gleacher Schacklock.

For the lending banks: Rothschild, Kirkland & Ellis, Depardieu Brocas Maffei.

For the CB holders: JG Capital, AM Conseil, Darrois Villey Maillot Brochier.

For the Senior Noteholders: Messier Marris, DLA Piper, Willkie Farr & Gallagher, Millstein.

⁹ This statement of independence is valid for all Ledouble team members involved in the Engagement. A brief profile of the team members is given in **Schedule 5**.

¹⁰ As defined in Article 261-4 I of the AMF General Regulation.

¹¹ Furthermore, the fees for the Bpifrance Participations engagement do not represent a material amount relative to Ledouble's annual revenues.

¹² "Independent appraisals in connection with financial transactions."

Given the background to the Engagement, our work consisted of:

- Obtaining an understanding of the business and environment of the Company and its subsidiaries (the "**Group**") and, after analyzing this information, performing a multi-criteria valuation of CGG shares; and
- Analyzing the financial aspects of the Transaction and reviewing the overall outcome for the Shareholders and Creditors, i.e., the Senior Noteholders on the one hand, and the CB holders on the other, in order to give our opinion on the fairness of the Transaction to the Shareholders.

Our work was based on:

- Contacts and meetings with the people in charge of the Transaction within the Group, members of the Board, the Advisers, representatives of the Senior Noteholders and CB holders and their respective advisers, representatives of the Shareholders and the court-appointed administrator (*administrateur judiciaire*); a list of our contacts is provided in **Schedule 3**;
- Reading and understanding the various presentations¹³ of the Transaction and the related legal documentation;¹⁴
- Reviewing the Board' deliberations and decisions taken at the General Meetings of Shareholders prior to the Transaction;
- Analyzing the Group's legal, accounting and financial information, and in particular the 2016 Annual Report ("**2016 AR**") and the 2017 half-year financial report ¹⁵ ("**2017 HYFR**");
- Reviewing the Company's public and regulated information;¹⁶
- Identifying key events in the Company's life and the Group's business in the past few fiscal years and the current fiscal year;
- Reading brokers' reports on CGG;
- Measuring investment and financing constraints related to the Group's business in the current context;
- Reviewing in detail the various components of the Group's business plan by business line (the "**Business Plan**") in conjunction with the operational managers responsible

¹³ Including, inter alia, the Company's press releases dated:

- [May 12, 2017](#) ("Restructuring Update"),
- [June 2, 2017](#) ("CGG announces an agreement in principle on financial restructuring plan with its main creditors and DNCA"),
- [June 14, 2017](#) ("Following agreement with key financial creditors, CGG begins legal process to implement balance sheet restructuring and create sustainable capital structure").

¹⁴ Including:

- Safeguard plan (*plan de sauvegarde*),
- Lock-up Agreement,
- Private Placement Agreement,
- Restructuring Support Agreement.

¹⁵ "Detailed results for the first half of 2017."

¹⁶ Partly available on the Company's website. [online], <http://www.cgg.com/en>.

for drawing up the Business Plan and the Advisers, in support of the due diligence reports drawn up by CGG appointed experts;

- Integrating the Business Plan data in our valuation models after adjustments made in consultation with Group management ("**Management**");
- Using our financial databases¹⁷ for both the Company and its competitors;
- Valuing CGG shares on a multi-criteria basis, including a "sum of the parts" valuation (SOP) by reference to the operating segments¹⁸ and specific aggregates of the Group;¹⁹
- Analyzing the various stages of the Restructuring arrangements;
- Valuing the dilutive instruments issued pursuant to the Transaction whose exercise price appears to be out of the money relative to the theoretical value of CGG shares after the Restructuring;²⁰
- Reviewing the split of the value between the stakeholders in the Restructuring on the one hand, and the economic position of each of the parties to the Transaction on the other, in order to present the overall outcome of the Restructuring for the Shareholders, the Senior Noteholders and the CB holders;
- Finally, evaluating the effects of the Transaction on the Shareholders' interest and percentage holding in the Company's capital.

1.4. Statements obtained and limitations of the Engagement

We obtained confirmation from Management of the significant information we used in the course of our Engagement.

In accordance with usual practice for independent appraisals, we did not audit or otherwise verify the historical and forward-looking information provided to us but merely sought to assess its likelihood and consistency. In this respect, we considered that all of the information provided to us by our various contacts was reliable and provided in good faith.

The Report is not intended to be a recommendation to enter into the Transaction.

It is not the independent appraiser's role, in this case, to identify alternative financial restructuring arrangements to the Transaction.

The independent appraiser cannot be held liable for the full content of the securities notes referred to in the introduction, in which the Report is reproduced, and is liable only for the content of the Report. The report is set by reference to information transcribed in the securities notes as of October 6, 2017.

¹⁷ Bloomberg (financial inputs and peer group comparisons), Thomson One (brokers' reports), Mergermarket (comparable transactions) and S&P Capital IQ (brokers' reports and comparable transactions).

¹⁸ "Contractual Data Acquisition" or "Acquisition"; "Geology, Geophysics and Reservoir" or "GGR" (comprising Multi-Client Data or "MC" and "Subsurface Imaging and Reservoir" or "SIR"); "Equipment"; and "Corporate" (§ 4.2).

¹⁹ Including EBITDAS, defined as earnings before interest, tax, depreciation, amortization net of amortization costs capitalized to multi-client surveys, and share-based compensation cost.

²⁰ Shareholders Warrants and Rights Warrants.

1.5. Structure of the Report

Our Report includes the following sections:

- Background to the Transaction (§ 2);
- Structure of the Transaction (§ 3);
- CGG's business and environment (§ 4);
- Our multi-criteria valuation of CGG and a summary of our valuation work (§ 5);
- Financial analysis of the Transaction (§ 6);
- Valuation of the dilutive instruments²¹ and the preferential subscription rights (§ 7).

The conclusion of the Report presents our opinion on the fairness of the Transaction to the Shareholders (§ 8).

1.6. Conventions used

The amounts presented in the Report are expressed in:

- euros (€ or EUR) or dollars (\$) or USD);
- thousands of euros (€K) or thousands of dollars (\$K) ;
- millions of shares (m);
- millions of euros (€m) or millions of dollars (\$m);
- billions of euros (€bn) or billions of dollars (\$bn).

Cross-references to parts and sections of the Report are shown in parentheses using the sign §. Any differences in the arithmetic totals are due to rounding.

[Hyperlinks](#) [online] may be activated in the electronic version of the Report.

²¹ Shareholders Warrants and Rights Warrants.

Intentionally left blank.

2. BACKGROUND TO THE TRANSACTION

2.1. CGG

CGG is a French *Société Anonyme* with a capital of €17,706,519 divided into 22,133,149 common shares²² each with a par value of €0.80, having its registered office at Tour Montparnasse, 33 avenue du Maine, 75015 Paris.

It is registered at the Paris Trade and Companies Registry under registration number 969 202 241 and has a fiscal year beginning on January 1 and ending on December 31.

The shares comprising CGG's capital are traded on compartment B of the Euronext regulated market in Paris²³ and in the form of American Depositary Shares on the New York Stock Exchange.

2.2. Company's ownership structure

2.2.1. Number of shares and voting rights

As of June 30, 2017, the number of shares comprising the Company's capital and the theoretical number of voting rights were owned as follows:

As at June 30, 2017	Number of shares	% capital	Theoretical voting rights	% of voting rights	Voting rights exercisable in a General Meeting	% of voting rights
BPIFrance Participations	2 069 686	9.35%	2 459 110	10.90%	2 459 110	10.91%
IFP Energies Nouvelles	107 833	0.49%	107 833	0.48%	107 833	0.48%
Concert	2 177 519	9.84%	2 566 943	11.38%	2 566 943	11.39%
AMS Energie	1 838 026	8.30%	1 838 026	8.15%	1 838 026	8.15%
DNCA Finance	1 756 314	7.94%	1 756 314	7.78%	1 756 314	7.79%
CGG Actionnariat	273	0.00%	546	0.00%	546	0.00%
Other shareholders	16 336 020	73.81%	16 378 533	72.58%	16 378 533	72.66%
Treasury shares	24 997	0.11%	24 997	0.11%	0	0.00%
Total	22 133 149	100.00%	22 565 359	100.00%	22 540 362	100.00%

Source: Company

Since May 22, 1997, in accordance with the bylaws²⁴, double voting rights have been conferred on all fully paid-in registered shares held in the name of the same shareholder for at least two years.

On July 28 and August 31, 2017, AMS Energie notified the Company that its interest in the capital and voting rights had fallen below 5% and 1% respectively.

²² As of June 30, 2017.

²³ ISIN FR0013181864, symbol CGG.

²⁴ Article 14.6 of the bylaws, 2016 AR, p. 218.

2.2.2. Dilutive instruments²⁵

Dilutive instruments comprise stock options plans and CBs.

2.2.2.1. Stock options

For several years, the Company has provided senior executives and corporate officers with stock option plans.

As of June 30, 2017, a total of 446,937 stock options were in issue, as no options have been exercised in the past two fiscal years.

The exercise price for these options is higher than CGG's share price (\$ 5.4).

Plans	Grant date	Start of exercise period	Expiration date	Subscription price	Balance at 12/31/2016	Balance at 06/30/2017
2009 plan	16/03/09	17/03/10	16/03/17	224.00 €	30,581	-
2009 plan	06/01/10	07/01/10	06/01/18	373.44 €	8,668	8,668
2010 plan	22/03/10	23/03/11	22/03/18	493.44 €	51,493	51,493
2010 plan	21/10/10	22/10/11	21/10/18	428.80 €	3,128	1,564
2011 plan	24/03/11	25/03/12	24/03/19	646.72 €	39,541	38,440
2012 plan	26/06/12	27/06/14	26/06/20	476.48 €	20,141	19,819
2013 plan	24/06/13	25/06/15	24/06/21	493.44 €	42,485	39,450
2014 plan	26/06/14	27/06/16	26/06/22	274.88 €	48,404	44,891
2015 plan	25/06/15	26/06/17	25/06/23	160.64 €	60,581	55,675
2016 plan	23/06/16	24/06/18	23/06/24	21.76 €	205,815	186,937
Total					510,837	446,937

Sources: 2016 AR and Company

As adjusted further to the capital increase dated February 5, 2016 and the reverse stock split dated July 20, 2016

2.2.2.2. Convertible bonds

In November 2012, the Company issued 11,200,995 Convertible Bonds due January 1, 2019 ("CBs 2019") for an aggregate par value of €360,000,000, for the purpose of partly financing the acquisition of Fugro's Geoscience Division.

In May 2015, CGG made a simplified public offer to exchange the 11,200,995 CBs 2019 outstanding for new CBs due January 1, 2020 ("CBs 2020"). The exchange ratio was set at five CBs 2020 for two CBs 2019. Accordingly:

- On June 26, 2015, holders of CBs 2019 tendered to the aforementioned offer 90.3% of their CBs or 10,114,014 CBs 2019, leaving a balance of 1,086,981 CBs 2019 in issue as as of December 31, 2016;
- The Group issued 25,285,035 CBs 2020 for an aggregate par value of €325,165,550.²⁶

²⁵ Source: 2016 AR, p. 212.

²⁶10,114,014 CBs 2019s / 2 * 5 = 25,285,035 CBs 2020.

Initially, the conversion ratio for both the CBs 2019 and CBs 2020 was one share for one CB. This was adjusted to 1.422 shares for one CB following the new share issue made on February 5, 2016, then to 0.044 of a share for one CB 2020 following the reverse stock split made on July 20, 2016.

The CBs may be redeemed before maturity at the Company's discretion, subject to certain conditions.

	Issue date	Initial nominal amount	Initial number of bonds	Number of bonds as of June 30, 2017	Potential number of shares as of June 30, 2017 in the event of conversion
Convertible Bonds 2019	November 2012	€360m	11,200,995	1,086,912	47,824
Convertible Bonds 2020	May 2015	€325m	25,285,035	25,285,035	1,112,541
					1,160,365

Source: Company

2.3. Structure of the Group's debt

CGG's debt is predominantly fixed-rate and denominated in US dollars. It totaled \$2.8 billion at end-June 2017 and included:

- Unsecured guaranteed Senior Notes due 2020, 2021 and 2022;
- Bonds convertible into new or existing shares: CBs 2019 and CBs 2020 (§ 2.2.2.2), unsecured and unguaranteed;
- Senior term loans due 2019 secured and guaranteed on a *pari passu* basis with the US and French revolving loan agreements; and
- Credit lines.

Guarantees relating to borrowings are listed in **Schedule 8**.

The Creditors hold unsecured debt (Senior Notes and CBs or "**Unsecured Debt**") for an aggregate amount of almost \$1.9 billion.²⁷ The secured debt (Term Loan B and the credit lines or "**Secured Debt**") is included in overall debt for an amount of around \$2.7 billion subject to renegotiation. The Group's debt, resulting from the 2017 first half consolidated financial statements, can be summarized as follows, before and after IFRS adjustments (issuance costs).²⁸

²⁷ Excluding accrued interest and after movements in 2017, i.e., as of June 30, 2017 (before the impact of IFRS adjustments): CBs (\$403.5m, § 3.3.1) + Senior Notes (\$1,543.5m, § 3.3.1) = \$1,947m.

²⁸ Source: 2017 HYFR, p 20.

As of June 30, 2017 (\$ m)	Gross debt excl IFRS adjustments	IFRS adjustments	Gross Debt
Senior Notes	1 552	-22	1 530
Senior Notes 2020			453
Senior Notes 2021			660
Senior Notes 2022			417
Convertible Bonds	411	-43	368
Convertible Bonds 2019			37
Convertible Bonds 2020			331
Unsecured Debt	1 963	-65	1 898
Term Loan B	338	-5	333
Credit lines	465	-6	459
Debt subject to renegotiation	2 765	-75	2 690
Bank loans and other borrowings	5		5
Finance leases	58		58
Accrued interests	59		59
Gross debt	2 887	-75	2 812

2.4. Review of the Group's current financial difficulties

2.4.1. Breach of covenants

Some of the Group's debt is subject to various financial covenants (the "Covenants"), breach of which can lead to payability acceleration of the sums due to the Creditors. The Covenants applicable to each type of debt²⁹ are as follows:

- French and US revolving credit facilities arranged in 2013 and renewed on February 4, 2016, along with Term Loan B:
 - A minimum Group liquidity balance (cash and cash equivalents plus available revolving credit) of \$175 million at each quarter end;
 - A maximum net debt to EBITDAS ratio, calculated on a rolling basis and declining over time, of:
 - 5.00x for the twelve rolling months ending in 2016;
 - 4.75x for the twelve rolling months to March 2017;
 - 4.25x for the twelve rolling months to June 2017;
 - 4.00x for the twelve rolling months to September 2017;
 - 3.50x for the twelve rolling months to December 2017;
 - 3.25x for the twelve rolling months to March 2018; and
 - 3.00x for the following twelve month rolling periods;
 - A minimum interest coverage ratio (EBITDAS to interest expense) of 3.00x.

²⁹ List presented in the financial statements as of December 31, 2016 (2016 AR, pp. 260-261), the terms and conditions of which still apply as of June 30, 2017.

- Senior Notes : the Senior Notes are subject to cross default clauses, which would lead to default in the event of non-payment or the early payability on the French and US revolving credit facilities / Term Loan B (including the case of an early payability following a covenant breach).

Covenants attached to debt	
Financial liabilities	Covenant
Senior Notes	<i>Interest cover</i>
French / US Revolving Facilities / Term Loan B	<i>(i) minimum liquidity threshold (ii) maximum debt ratio (iii) interest cover</i>

The Group had been experiencing difficulties and was unable to meet the debt and interest coverage covenants relating to the French and US revolving credit facilities and Term Loan B, which were therefore suspended:

- Initially as of December 31, 2016 and then March 31, 2017 in order to avoid an event of default occurring during the restructuring plan negotiations, (the “**Restructuring Plan**”);
- Then until June 30, 2017 as referred to in the 2016 AR and 2017 HYFR;
- Under the Lock-up Agreement (§ 2.5), the Creditors undertook to suspend calculation of the Covenants until the end of the Restructuring.

2.4.2. Debt servicing

In the absence of financial restructuring, the Group’s operating cash flows would be insufficient to cover the debt repayments falling due. In addition, the minimum liquidity ratio would no longer be met as of 2018.

The Group disclosed the uncertainties over its solvency upon publication of its 2017 half-year financial statements.³⁰

The circulation of cash within the Group is now restricted by the terms and conditions of the French safeguard procedure and the Chapter 11 proceedings in the United States (§ 2.5).

2.4.3. Main guarantees and collateral granted by the Group in respect of its debt

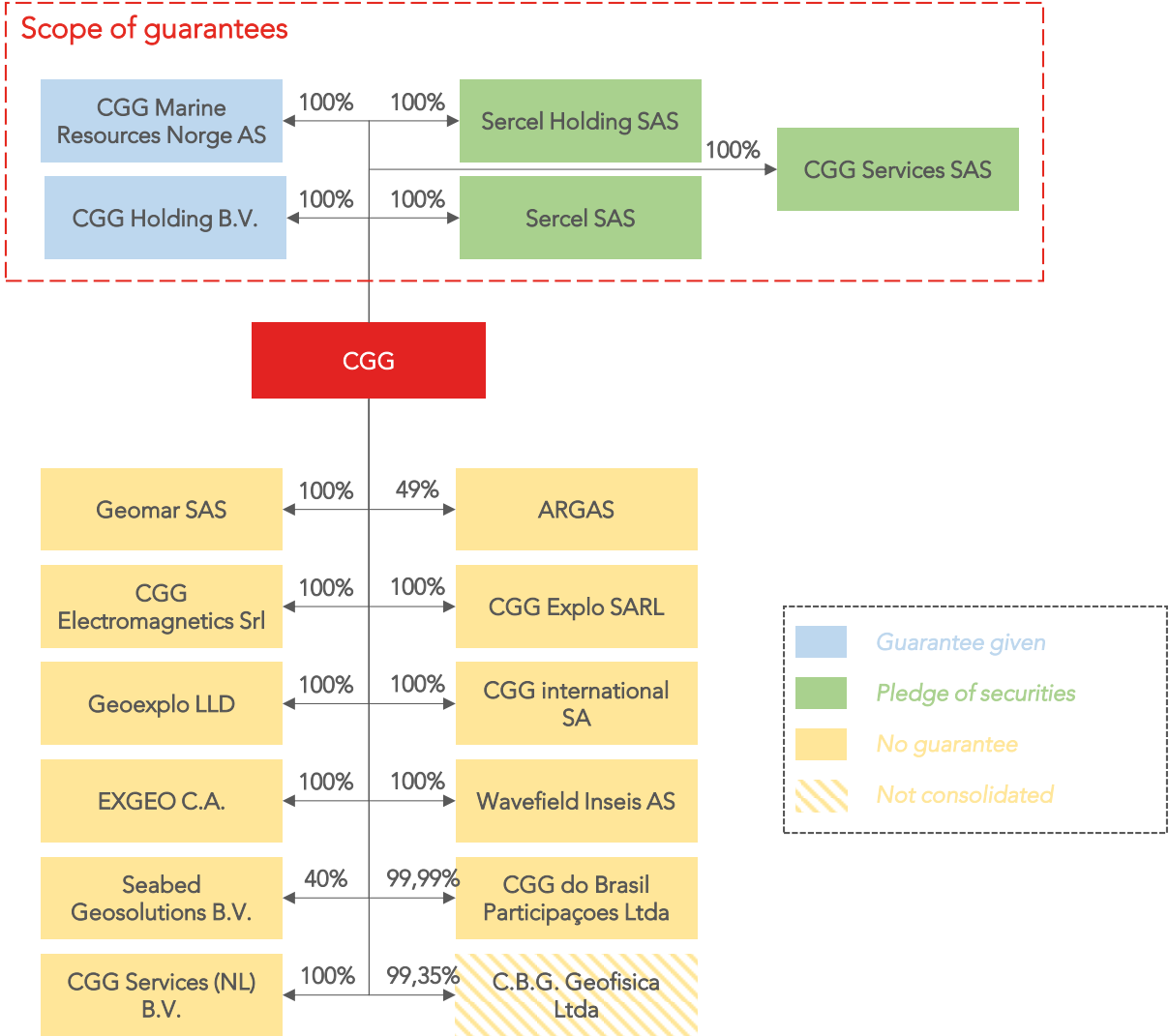
In the absence of financial restructuring, the lending banks and the guaranteed Creditors³¹ could call their guarantees, which are broken down into three categories:

- Guarantee given by a subsidiary;
- Pledge of shares of the subsidiary;
- Pledge of the subsidiary’s assets.

³⁰ 2017 HYFR, pp. 14-15.

³¹ Collateral or guarantees have been given for the credit lines, bank financing and Senior Notes; a more detailed description is provided in **Schedule 8**.

These guarantees are shown in the diagram below, identifying the Company’s direct subsidiaries,³² which illustrates the very limited nature of those subsidiaries that have not been pledged as collateral.



33

The Company’s direct subsidiaries under the categories “Guarantee given” and “Pledge of securities” hold substantial equity interests as head entities of the Group’s various operations; the extent of the collateral and guarantees granted to the Creditors and lending banks can therefore be assessed over this scope. **Schedule 8** gives a more detailed description of the structure of the guarantees related to the main legal entities.

The weight of non-guarantor Group entities can be assessed by analyzing the key financial data (equity, operating revenue, operating income) related to these companies directly owned by CGG SA³⁴.

³² Shares or assets of which have been given as collateral.
³³ C.B.G. Geofisica Ltda is in liquidation and is therefore no longer consolidated.
³⁴ The figures in this table are presented at 100% i.e. do not reflect the percentage interest held in these companies and have been converted using the spot exchange rate as at 31 December 2016.

Key figures of companies in which CGG holds direct equity stakes (as of December 31, 2016, in \$ m)

Key figures of non-guarantor companies	% stake	Equity attributable to equity holders of the parent	Revenue from ordinary activities	Operating income
Total Groupe CGG		1 120.7	1 195.5	(220.2)
Wavefield Inseis AS	100.0%	100.3	-	(1.3)
CGG do Brasil Participações Ltda	100.0%	22.7	92.2	41.4
C.B.G. Geofísica Ltda	99.4%	<i>Non consolidée</i>		
CGG Explo	100.0%	3.7	35.7	(5.3)
CGG international SA	100.0%	7.8	6.3	1.9
Geomar SAS	100.0%	8.6	10.0	0.4
CGG Electromagnetics Srl	100.0%	0.9	1.8	0.4
Geoexplo	100.0%	(2.0)	-	(0.0)
EXGEO C.A	100.0%	(1.8)	-	0.2
CGG Services N.L BV	100.0%	42.2	20.7	(3.3)
ARGAS	49.0%	131.5	137.7	6.7
Seabed Geosolutions B.V.	40.0%	214.9	196.9	(28.5)

These figures, which have been taken from the consolidation packages of the non-guarantor subsidiaries, illustrate their limited contribution within the Group.

Conversely, the guarantor direct subsidiaries are lead holding companies of the Group's operating divisions, such that virtually all of CGG's business is housed in companies whose assets or shares have been given as collateral.

Management is not able to provide details of the individual contributions of the various legal entities to the Business Plan.³⁵ Consequently, the share of the Group's value assigned to the various Creditors under the guarantees cannot be determined accurately.

2.5. Reason for the Transaction

As a direct result of the recession affecting the oil and oil services industry since early 2013, the Group announced on January 5, 2017 that it would have to start discussions with the various stakeholders³⁶ concerned in order to carry out a financial restructuring (the "Stakeholders").

³⁵As the Business Plan is drawn up by business segment.

³⁶According to the Company's press release of June 14, 2017, the Stakeholders are:

- members of the *ad hoc* Committee collectively representing approximately 53.8% of the aggregate principal amount of the secured debt, i.e., other than the Senior Notes and CBs (the "**Secured Lenders Coordination Committee**");
- members of the *ad hoc* Committee representing approximately 52.4% of the aggregate principal amount of the Senior Notes (the "**Senior Noteholders ad hoc Committee**");
- the representative of the CB holders;
- DNCA, shareholder and bondholder, owns 7.9% of the Company's capital, 5.5% of the aggregate principal amount of the Senior Notes and 20.7% of the aggregate principal amount of the CBs.

For that purpose, CGG asked the President of the Paris Commercial Court to appoint an *ad hoc* representative to assist it in its discussions with the various Stakeholders. Through an order on February 27, 2017, an *ad hoc* representative was appointed for a period of five months.

The timeline and proceedings of the negotiations with the Stakeholders are described in **Schedule 7**.

At the end of the discussions with the Stakeholders,³⁷ the Company, the Secured Lenders Coordination Committee, the Senior Noteholders *ad hoc* Committee and DNCA reached an agreement in principle on June 1, 2017 regarding a financial restructuring plan, then on June 13, 2017 entered into legally binding agreements ("**Lock-up Agreement**" or agreement to support the Restructuring) confirming the agreement in principle. Under these agreements, the parties to the Transaction undertook to carry out any action reasonably necessary for the implementation and completion of the Restructuring.

On June 14, 2017, the Paris Commercial Court placed the Company in safeguard proceedings (*procédure de sauvegarde*), appointing SELARL FHB³⁸ as official administrator (*administrateur judiciaire*), and SELAFA MJA³⁹ as official representative (*mandataire judiciaire*).

Concomitantly and to the extent that the Senior Notes are governed by the law of New York State and that the courts of that State have jurisdiction to hear any dispute relating to them, the Company filed for Chapter 15 protection under the US Federal Bankruptcy Code so that the effects of the safeguard proceedings would be recognized in the United States.

The application for the safeguard proceedings to be recognized in the United States via a Chapter 15 filing was made before the U.S. Bankruptcy Court of the Southern District of New York on June 14, 2017 and granted on July 13, 2017.

In addition, the Group's foreign subsidiaries that are debtors or guarantors in respect of the Group's debt obligations⁴⁰ applied for and were granted, on June 14, 2017, Chapter 11 protection under the US Federal Bankruptcy Code.

³⁷The press releases of [May 12, 2017](#), entitled "Restructuring Update", [June 2, 2017](#), entitled "CGG announces an agreement in principle on financial restructuring plan with its main creditors and DNCA", and [June 14, 2017](#), entitled "Following agreement with key financial creditors, CGG begins legal process to implement balance sheet restructuring and create sustainable capital structure", describe the key steps in the negotiations presented in **Schedule 7**.

³⁸Represented by Maître Hélène Bourbouloux, previously *ad hoc* representative.

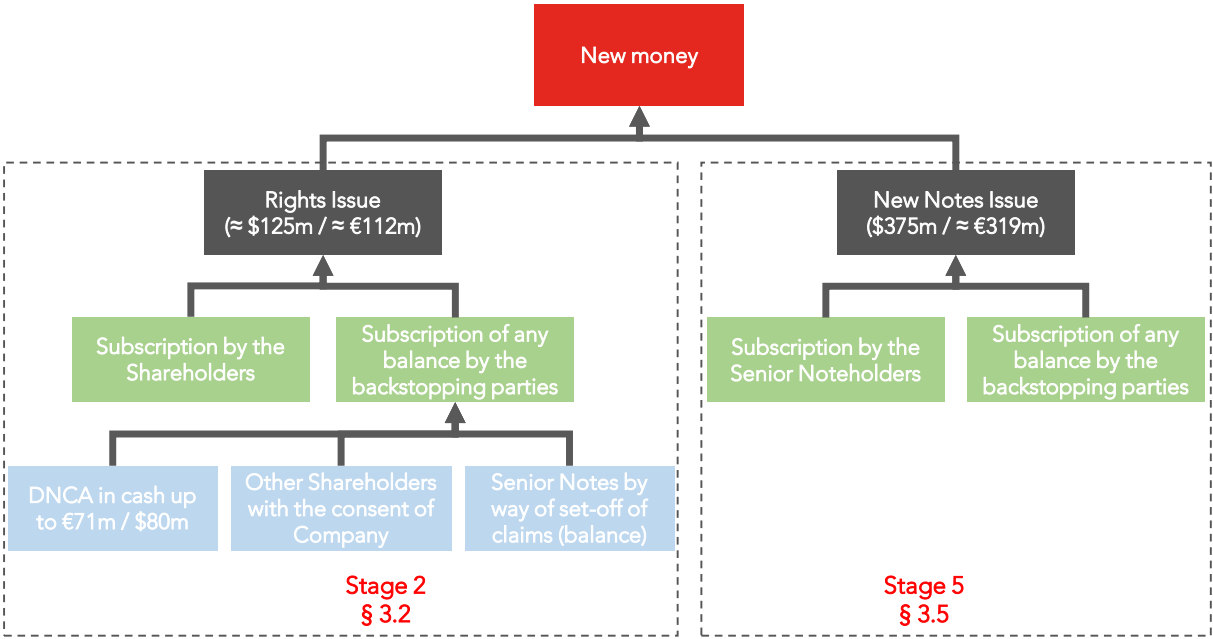
³⁹Represented by Maître Cécile Jouve.

⁴⁰The companies are CGG Holding BV, CGG Marine BV, CGG Holding I (UK) Ltd, CGG Holding II (UK) Ltd, CGG Holding (US) Inc., CGG Services (US) Inc., Alitheia Resources Inc., Viking Maritime Inc., CGG Land (US) Inc., Sercel Inc., Sercel-GRC Corp, CGG Marine Resources Norge AS, CGG Canada Services Ltd and Sercel Canada Ltd.

3. STRUCTURE OF THE TRANSACTION

The Transaction, as proposed by the Company (§ 1), has five stages, summarized in the figures below. A more detailed analysis of each stage can be found in § 3.1 to § 3.5:

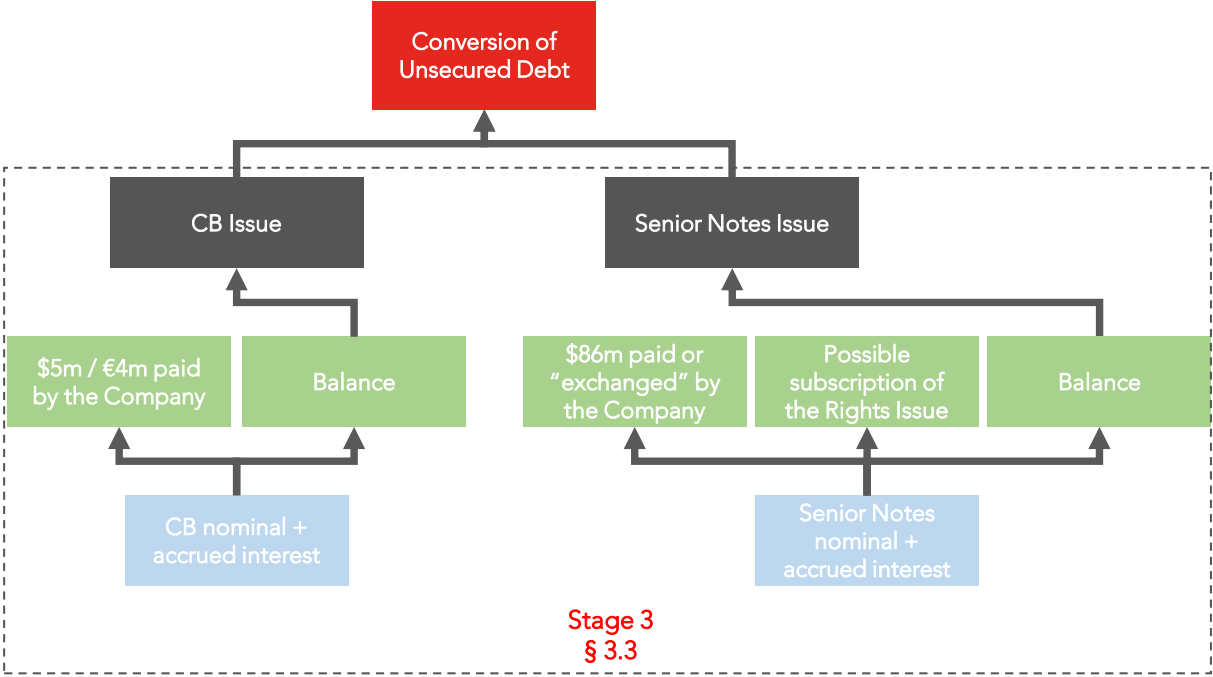
- > Allotment of free share warrants to the existing Shareholders (the “Shareholders Warrants”): Stage 1;
- > Injection of new money via:
 - A rights issue of approximately \$125 million or approximately €112 million⁴¹ for existing Shareholders in the form of shares with share warrants (the “Rights Issue”): Stage 2; and
 - A \$375 million or approximately €319 million⁴² issue of high-yield bonds (the “New Notes Issue”): Stage 5



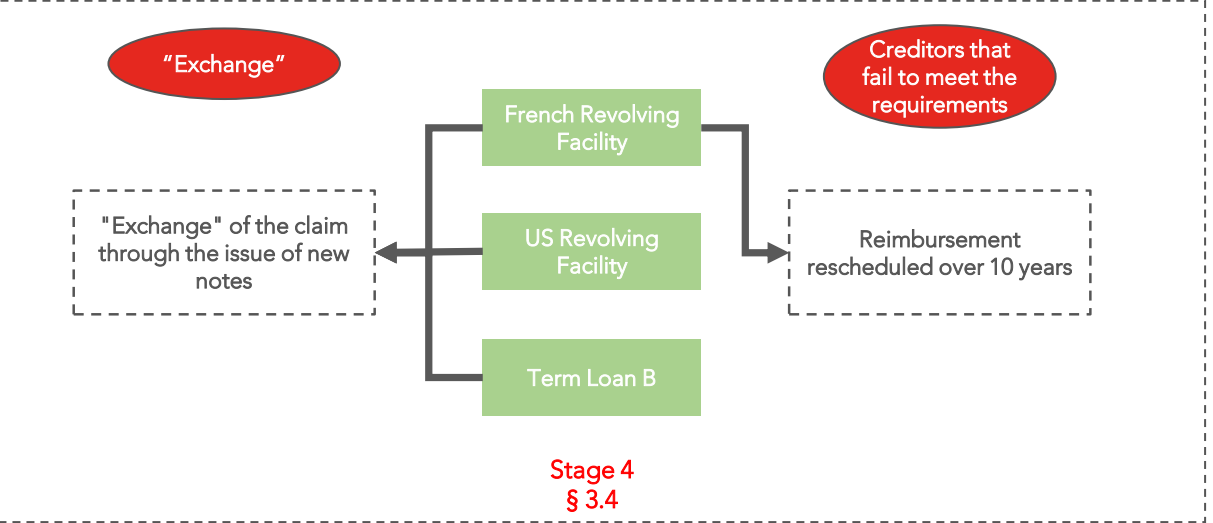
- > The equitization of the Unsecured debt (CBs and Senior Notes) through reserved share issues subscribed by way of set-off against claims (“CB Issue” and “Senior Notes Issue” detailed below in § 3.3.1), which, given the amounts involved, will significantly dilute existing Shareholders: Stage 3

⁴¹ After adjustments related to fractional shares, the amount of the Rights issue is different to the initial amount of \$ 125 million. The cash collateral may also be given by one or more other significant shareholders on the initiative of the company (§ 3.2).

⁴² Based on a \$ /€ spot exchange rate as of September 29, 2017: 0.8516.



> The "Exchange" of the French Revolving Facility, US Revolving Facility and Term Loan B for new notes or, for the French Revolving Facility, rescheduling of the debt. As part of the approval of the safeguard plan by the committee of banks and financial institutions, all creditors with claims under the French Revolving Facility have opted for the "Exchange", it being stipulated that creditors that fail to meet the requirements for the implementation of the Exchange will see their claims (which will not benefit from the Initial Repayment) rescheduled over 10 years: **Stage 4**



Prior to completing these various stages, a capital reduction not motivated by losses will be made by reducing the par value of the shares comprising the Company's capital from €0.80 to €0.01 per CGG share (the "Share"). The amount of the capital reduction will be allocated to a non-distributable reserve account. This prior transaction will enable the issuance of the New Notes Warrants, Coordination Warrants and Backstop Warrants whose exercise price, which may not be lower than par value, is €0.01.

The five stages of the Transaction, summarized below,⁴³ are described in more detail in § 3.1 to § 3.5.



⁴³ The amounts of equitized debt included accrued interest not yet paid.

3.1. Stage 1: Allotment of free Warrants to the existing Shareholders: Shareholders Warrants

3.1.1. Main characteristics of Stage 1

One free Shareholders Warrant will be allotted to each Share held by all Shareholders of record on the ex-rights date set for the rights issue (§ 3.2.2).

The key characteristics of the Shareholders Warrants are:⁴⁴

- Allotment of one Shareholders Warrant per existing Share;
- Shareholders Warrant subscription price of €3.12 per new Share;
- Exercise ratio of four CGG new Shares for three Shareholders Warrants⁴⁵;
- Exercise period of four years as of the date on which all conditions related to the effective completion of the Restructuring Plan pursuant to the Safeguard Plan, Chapter 11 and Chapter 15 have been met (the "Restructuring Effective Date").⁴⁶

The Shareholders Warrants allotted to the Company in respect of its treasury shares will be canceled immediately.

3.1.2. Impact of Stage 1 on the number of Shares and valuation of the Group

Based on the number of Shares outstanding as of June 30, 2017, a total of 22.1 million Shareholders Warrants⁴⁷ will be issued, which could ultimately (subject to adjustments relating to transactions affecting the capital) give rise to rights to subscribe 29.5 million new Shares at an exercise ratio of 1.33x, or three Shareholders Warrants for four new Shares.

Assuming that all the Shareholders Warrants are exercised, the Company would receive €92 million in issue proceeds.

In millions		
Number of Warrants issued	22.1	Number of CGG Shares as at June 30, 2017
Number of Warrants canceled	(0.0)	Treasury shares as at June 30, 2017
Number of Warrants issued non canceled	22.1	
Exchange ratio	1.33 x	4 new Shares for 3 Warrants
Number of potential Shares	29.5	
Subscription price per new Share	€3.12	
Potential impact on the valuation	92.0	€ m

⁴⁴ The detailed characteristics of the Shareholders Warrants are described in Schedule 3 of the Board's report to the General Meeting of Shareholders to be held on October 31, 2017.

⁴⁵ Subject to rounding adjustments.

⁴⁶ This is scheduled to be January 17, 2018 according to the expected timetable for the Transaction, bearing in mind that the Shareholders Warrants can only be exercised after the five stages of the Restructuring have been completed.

⁴⁷ The warrants granted to the Company corresponding to its treasury shares shall be immediately cancelled.

3.2. Stage 2: Rights issue for an amount of approximately €112 million

3.2.1. Main characteristics of Stage 2

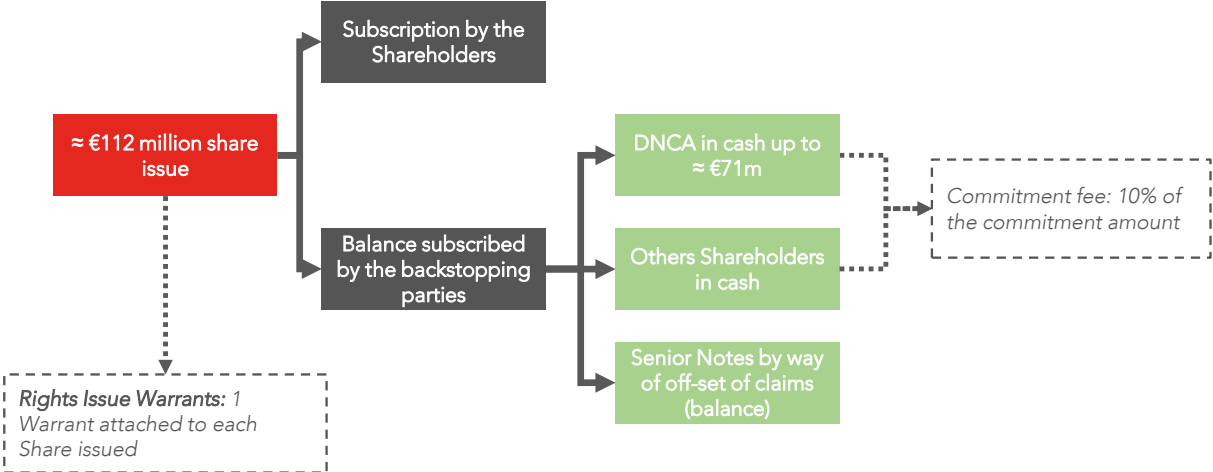
The rights issue (“Rights Issue”) will take the form of an issue of shares with warrants with the following characteristics:⁴⁸

Main characteristics of the Rights Issue	
Subscribers	Shareholders (or DNCA and if need be any other significant shareholder acting as a backstop in agreement with the Company ⁴⁹ and/or Senior Noteholders as backstops).
Issue amount	Approximately €112 million, after adjustments related to fractional shares.
Issue price	€1.56 per new Share accompanied by a warrant.

A specific analysis of the Rights allotted to the existing Shareholders pursuant to this issue is provided below for information (§ 7).

The Rights Issue is fully backstopped such that any shares unsubscribed by the Shareholders under their Rights will be taken up as follows:

- > In the first instance in cash by DNCA for an amount of \$80 million or approximately €71 million and in cash by any other significant shareholder acting as a backstop in agreement with the Company;
- > The balance by the Senior Note holders, by way of partial set off against their claims on the Company.

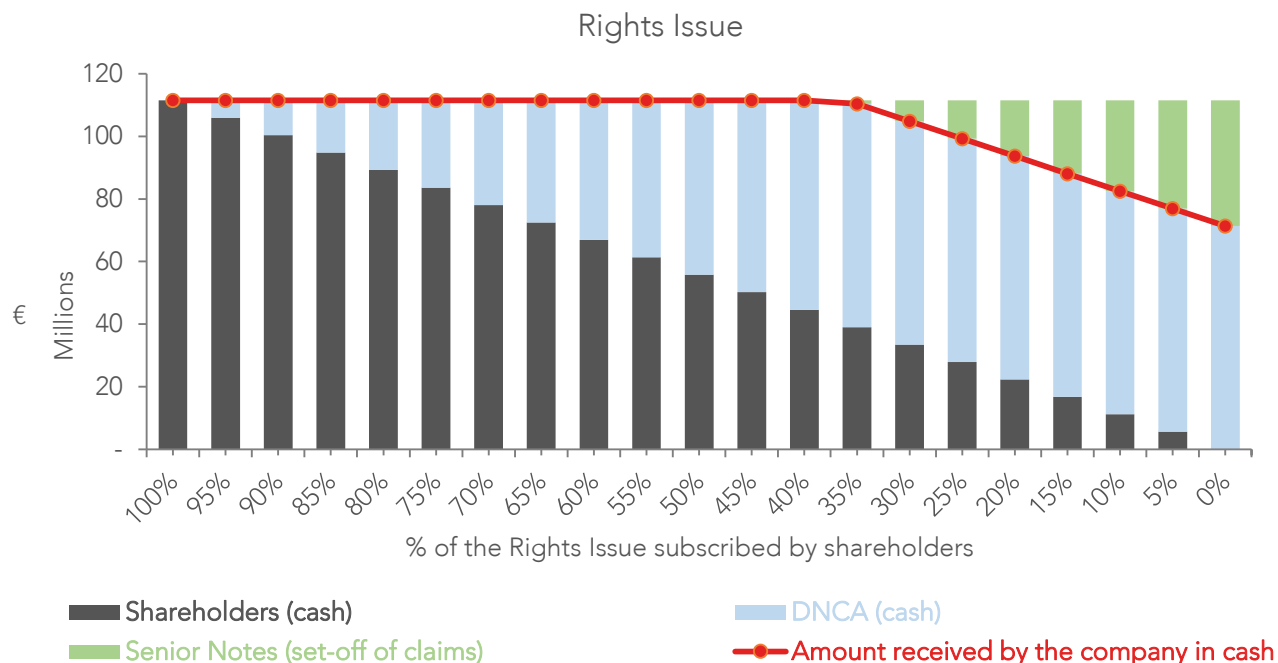


⁴⁸The detailed characteristics of the Rights Issue and the Rights are described in Schedule 3 of the Board's report to the General Meeting of Shareholders to be held on October 31, 2017.

⁴⁹ The signing of the Restructuring Plan support agreement by shareholders must take place at least 21 days before the date of General Meeting of Shareholders.

In any event, the Rights Issue will take place to the extent that it is backstopped.

The Seniors Noteholders' backstop commitment will be triggered if the Shareholders subscribe less than 36% of the Rights Issue.⁵⁰ Below that percentage, the amount received in cash by the Company will decrease progressively from around €112 million to €71 million if the Shareholders do not subscribe to the Rights Issue and in the absence of cash collateral by a significant shareholder with the company's consent (excluding DNCA in respect of the backstop for the issue).



The parties that are backstopping the Rights Issue in cash (and not by way of claims set-off) will receive a backstop fee equal to 10% of the backstop amounts (the "Rights Issue Backstop Fee"). Accordingly, DNCA⁵¹ will receive approximately €7 million, and no fee will be paid to the Senior Noteholders backstopping the Rights Issue by way of claims set-off.

Each Share issued pursuant to the Rights Issue will have one warrant attached ("Rights Warrants"):

- The subscription price will be €4.02 per new Share;
- The exercise ratio will be 3 Rights Warrants for 2 new Shares;⁵²
- The exercise period will be five years as of the Restructuring Effective Date;
- The Rights Warrants will be tradable and application will be made for their admission to trading on the Euronext Paris regulated market.

⁵⁰Amount backstopped by the Senior Noteholders / Amount of the Rights Issue = (\$45m or approximately €40m) / (\$125m or approximately €112m) = 36% if no other significant shareholder guarantees all or a part of Right Issue

⁵¹Through DNCA Finance and DNCA Invest. To date, we are not aware of any other parties liable to receive the Rights Issue Backstop Fee.

⁵² Subject to rounding adjustments.

3.2.2. Impact of Stage 2 on the number of Shares and valuation of the Group

Based on the percentage of the Rights Issue subscribed by the Shareholders, we measured the minimum and maximum impact of the issue and the impact of the potential resulting exercise of the Rights Warrants on the number of Shares of the Company and the valuation of the Group.

> Impact of Rights Issue

Insofar as the Rights Issue will be fully subscribed due to the backstop arrangements, the number of Shares issued is unconnected with the percentage subscribed by the Shareholders.

The number of Shares of the Company will therefore increase by 71.9 million, which will be allocated among the subscribers, namely the Shareholders on the one hand, and DNCA⁵³ and the Senior Noteholders if the backstop is triggered.

Based on the issue price of €1.56, the impact of the Rights Issue on the Group's valuation is €112.2 million.

In millions and € m	% of Rights Issue subscriptions		Comments
	0%	100%	
Subscription by the Shareholders	-	71.9	Cash
Subscription by DNCA (backstop)	45.8	-	Cash
Subscription by the Senior Noteholders (backstop)	26.2	-	Set-off of claims
Number of Shares subscribed in the Rights Issue	71.9	71.9	
Subscription price per new Share	€1.56	€1.56	
Potential impact on the valuation	112.2	112.2	€ m
Of which Shareholders	-	112.2	€ m - Increase in cash
Of which DNCA (backstop)	71.4	-	€ m - Increase in cash
Of which Senior Noteholders (backstop)	40.8	-	€ m - Decrease in debt

Payment by the Company of the Rights Issue Backstop Fee, amounting to approximately €7 million, will reduce the amount of cash received by the Company.

> Impact of exercise of the Rights Warrants

The Rights Warrants allotted pursuant to the Rights Issue will entitle the holders to acquire 48 million Shares of the Company, which will receive cash proceeds of €192.8 million in respect of the subscription price, taking into account a subscription price of €4.02 per Share and an exercise ratio of 0.67, i.e. 3 Rights Warrants giving the right to subscribe 2 new Shares.

⁵³ Or, if appropriate any other guarantor with the approval of the Company.

In millions and € m	% of Rights Issue subscriptions		Comments
	0%	100%	
Rights Warrants acquired by Shareholders	-	71.9	1 Warrant per new Share subscribed
Rights Warrants acquired by DNCA (backstop)	45.8	-	1 Warrant per new Share subscribed
Rights Warrants acquired by Senior Noteholders (backstop)	26.2	-	1 Warrant per new Share subscribed
Number of Rights Warrants	71.9	71.9	
Exchange ratio	0.67 x	0.67 x	3 Warrants for 2 new Shares
Number of potential Shares	48.0	48.0	
Of which Shareholders	-	48.0	
Of which DNCA (backstop)	30.5	-	
Of which Senior Noteholders (backstop)	17.4	-	
Subscription price per new Share	€4.02	€4.02	
Potential impact on the valuation	192.8	192.8	€ m
Of which subscription by the Shareholders	-	192.8	€ m - Increase in cash
Of which subscription by DNCA (backstop)	122.6	-	€ m - Increase in cash
Of which subscription by the Senior Noteholders (backstop)	70.1	-	€ m - Increase in cash

3.3. Stage 3: Equitization of CBs and Senior Notes: CB Issue and Senior Notes Issue

3.3.1. Main characteristics of Stage 3

The Transaction includes two capital increases involving the conversion into shares of the whole of the amount due in principal and accrued interest in respect of the CBs and Senior Notes on the last date of the subscription period for the Rights Issue (the "Reference Date⁵⁴"), subject to the payments stated below.

As the subscription price for the Reserved Capital Increases will be paid by way of claims set-off, the value of the relevant claims has to be determined. As of the date of the Report, we were not in possession of the external auditors' opinion on the liquid, due and payable nature of the relevant claims. Nevertheless, there have been several court decisions related to the issue of the value of capitalized claims, echoing the ruling of February 7, 1972 handed down by the commercial division of the *Cour de cassation*⁵⁵, which confirm that the face value of a capitalized claim is justified, even in the context of a business continuation plan for a distressed company.⁵⁶

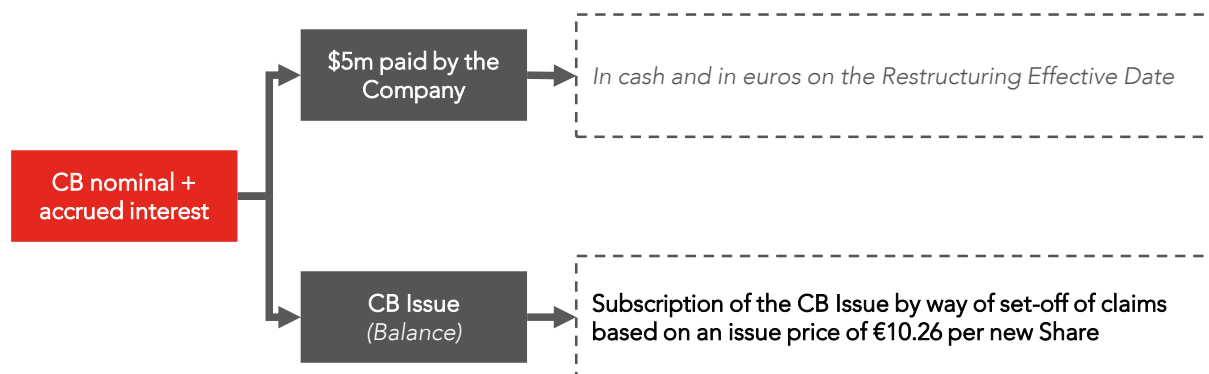
⁵⁴The Reference Date is December 20, 2017 in the Transaction's expected timetable.

⁵⁵ Versailles Appeal Court, October 25, 1990; Aix-en-Provence Appeal Court, April 9, 1992.

⁵⁶ On the grounds that, in the case of the limited liability company (SARL) in question, "there is nothing to prevent payment for the shares subscribed being made by way of set off against the subscriber's claim on the company, as there would be nothing to prevent the company, in the event of a cash payment, from settling that claim immediately."

Fargues (2011). "Capitalization of claims", p. 17 and seq. http://mja-assas.fr/wp-content/uploads/La-conversion-de-cr%C3%A9ances-en-capital_Marion-FARGUES_2011.pdf

I - Conversion of CBs: CB Issue



The key characteristics of the share issue reserved for CB holders (the CB Issue) are as follows:⁵⁷

- Waiver of preferential subscription rights for the benefit of a certain category of persons;
- Issue price of €10.26 per new Share;
- Subscription by way of set off against the par value of the CBs plus unpaid accrued interest on the Reference Date, less an amount equal to \$5 million or approximately €4.5 million⁵⁸ (the "CB Equitized Amount" or "CB Claim");
- Based on accrued interest calculated on the Reference Date scheduled in the expected timetable for the Transaction, *i.e.*, December 20, 2017, the total amount (including issue premium) of the CB Issue would be €362 million⁵⁹.

\$ m	Comments	
Nominal amount of CBs	403.5	As at June 30, 2017
Accrued interest	6.6	As at December 20, 2017
Nominal + accrued interest	410.2	
Repayment	(5.0)	
CB Equitized Amount	405.2	
€/€ exchange rate	1.1206	Safeguard Plan rate
CB Equitized Amount (€ m)	361.6	⁶⁰

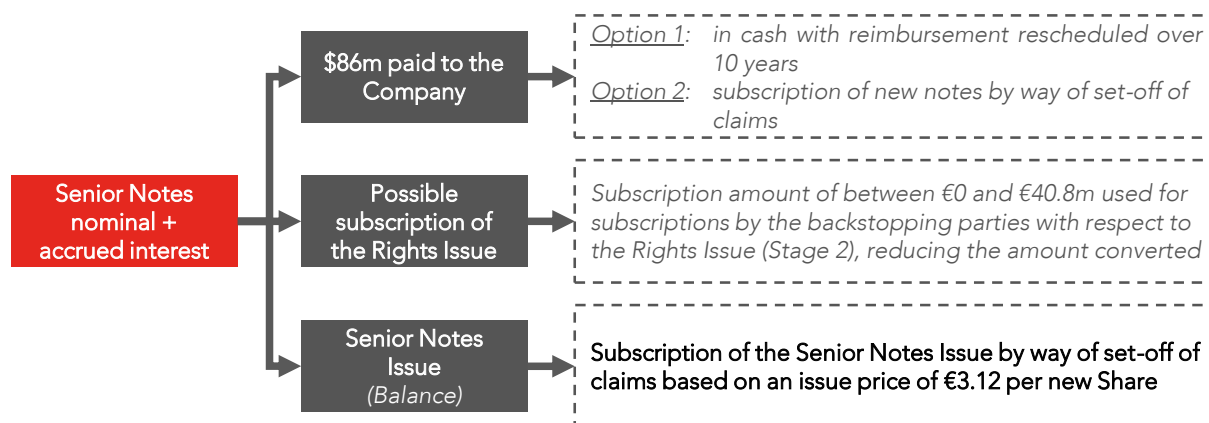
⁵⁷ The detailed characteristics of CB Issue are described in the Board's report to the General Meeting of Shareholders to be held on October 31, 2017.

⁵⁸ Paid in cash by the Company on the Restructuring Effective Date .

⁵⁹ Post payment of € 4.5 million.

⁶⁰ The par value shown in the table is not the same as the accounting balance of the CBs shown in the IFRS balance sheet (§ 2.3) because of a difference in the exchange rates used translate them.

II - Conversion of Senior Notes: Senior Notes Issue



The key characteristics of the share issue reserved for Senior Noteholders (“the Senior Notes Issue”) are as follows:⁶¹

- Waiver of preferential subscription rights for the benefit of a certain category of persons;
- Subscription price of €3.12 per new Share;
- The amount of Senior Notes equitized (the “Senior Notes Equitized Amount” or “Senior Notes Claim”) is calculated on the basis of three factors:
 - Principal amount of the debt and unpaid accrued interest on the Reference Date;
 - Less the sum of \$86 million or approximately €77 million to be paid by the Company, either in cash deferred over a period of 10 years or by way of “exchange” against new notes issued by the Company, at the holder’s option⁶²;
 - The amount of any claim equitized as part of the Rights Issue through the backstop commitment made by Senior Noteholders (Stage 2, § 3.2) will be deducted from the balance⁶³.

The Senior Notes Equitized Amount will be between €1,350 million and €1,391 million⁶⁴ depending on whether or not the Senior Noteholders have subscribed to the Rights Issue under their backstop commitment.

⁶¹ The detailed characteristics of the Senior Notes Issue are described in the Board's report to the General Meeting of Shareholders to be held on October 31, 2017.

⁶² These new notes will have the same characteristics as the New Notes, it being nevertheless stipulated that they will not confer any entitlement to the New Notes Warrants. The detailed characteristics of these two options are described in the Board's report to the General Meeting of Shareholders to be held on October 31, 2017.

⁶³ As a reminder, the Rights Issue is \$80m backstopped by DNCA and the balance by the Senior Noteholders.

⁶⁴ Including the amount of accrued interest calculated on the Reference Date scheduled in the expected timetable for the Transaction, i.e., December 20, 2017.

Translation for information purposes only

\$ m	Min	Max	Comments
Senior Notes nominal amount	1,543.5	1,543.5	As at June 30, 2017
Accrued interest	101.5	101.5	As at December 20, 2017
Nominal + accrued interest	1,645.0	1,645.0	
Repayment	(86.0)	(86.0)	
Amount converted during Rights Issue	(45.7)	-	See Stage 2 - § 3.2.1
Senior Notes Converted Amount	1,513.2	1,559.0	
€/\$ exchange rate	1.1206	1.1206	Safeguard Plan rate
Senior Notes Converted Amount (€ m)	1,350.4	1,391.2	⁶⁵

3.3.2. Impact of Stage 3 on the number of Shares and valuation of the Group

The number of Shares issued pursuant to the two Reserved Capital Increases will be:

- 35.2 million Shares for the CB Holders;
- Between 432.8 and 445.9 million⁶⁶ Shares for the Senior Noteholders.

The impact on the Group's valuation corresponds to the reduction in debt resulting from the equityization:

- €362 million the for CB Issue;
- Between €1,350 million and €1,391 million for the Senior Notes Issue.

€ m	% of Rights Issue subscriptions		Comments
	0%	100%	
CB Converted Amount	361.6	361.6	As at December 20, 2017
Subscription price per new Share	10.26 €	10.26 €	
Number of Shares from the CB conversion	35.2	35.2	
Senior Notes Converted Amount	1,350.4	1,391.2	As at December 20, 2017
Subscription price per new Share	€3.12	€3.12	
Number of Shares from the Senior Notes conversion	432.8	445.9	

To our knowledge, no fees will be paid in respect of Stage 3 of the Transaction.

⁶⁵ The par value shown in the table is not the same as the accounting balance of the Senior Notes shown in the IFRS balance sheet (§ 2.3) because of a difference in the exchange rates used to translate them.

⁶⁶ Depending on whether or not the Senior Noteholders have subscribed to the Rights Issue under their backstop commitment.

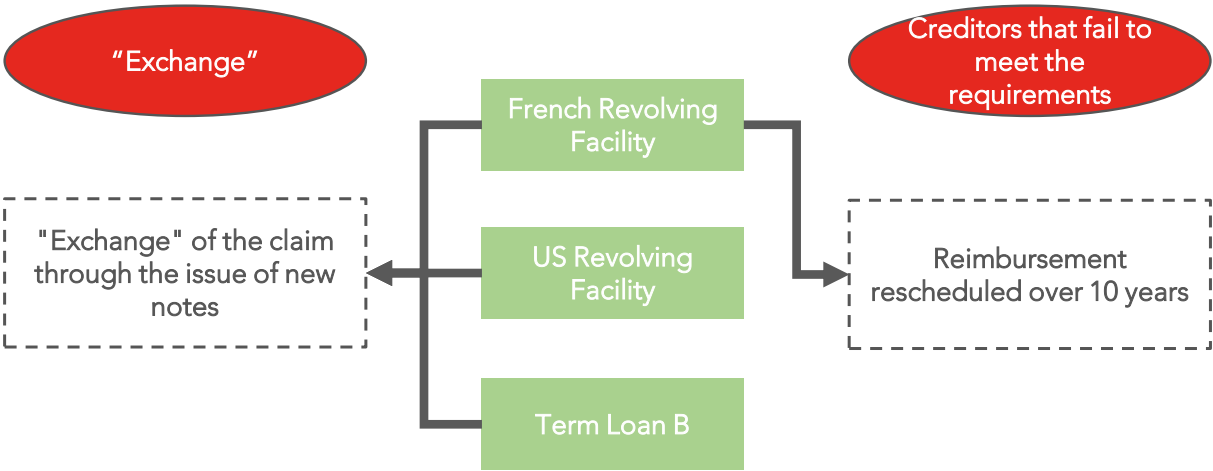
3.4. Stage 4: "Exchange" of Secured Debt

3.4.1. Main characteristics of Stage 4

The Secured Debt comprises the French Revolving Facility, US Revolving Facility and Term Loan B.

In Stage 4 of the Transaction, the intention is to exchange this Secured Debt into new Notes, it being stipulated that the creditors in respect of the French Revolving Facility have a second option, which is to reschedule their claims over 10 years.

As stated above, all creditors with claims under the French Revolving Facility have opted for the "Exchange"⁶⁷. As a result, only creditors that fail to meet the requirements for the implementation of the Exchange will see their claims⁶⁸ rescheduled over 10 years.



3.4.1.1. French Revolving Facility

Each lender in this category will have the choice between two options⁶⁹:

- The "Exchange" of the balance of the debt outstanding under the French Revolving Facility for first lien secured bonds with a maturity of five years as of the Restructuring Effective Date and bullet repayment at maturity:
 - The amount converted is equal to the aggregate amount of the debt, excluding due and unpaid interest and fees that are payable in cash on the Restructuring Effective Date, and the amount effectively paid in respect of the "Initial Repayment"⁷⁰;

⁶⁷ The Securities Note on the Reserved Capital Increases states, "Pursuant to the approval of the safeguard plan by the lending bank committee, all lenders under the "Multicurrency Revolving Facility Agreement" have elected for Option 1."

⁶⁸ Claims that will not benefit from the Initial Repayment (§ 3.4.1.1).

⁶⁹ The detailed characteristics of these bonds are described in Schedule 1 of the Board's report to the General Meeting of Shareholders to be held on October 31, 2017.

⁷⁰ Partial paydown of the Secured Debt in cash, subject to certain conditions, up to a maximum amount of \$150m, on a *pari passu* basis and *pro rata* to the principal amount of the entire Secured Debt, excluding the portion of the French Revolving Facility subject to the 10-year repayment.

- Interest comprising (i) a floating LIBOR coupon⁷¹ plus a margin of 650 basis points per year in cash and (ii) rolled up interest (“PIK”) of between 0% and 2.50% per year; the final rate will be determined on the Restructuring Effective Date according to the amounts outstanding on that date.⁷²
- Failing that, rescheduling of the debt over ten years, starting as of the date of the safeguard plan judgment,⁷³ as follows:
 - 1% a year in years 1 and 2;
 - 5% a year in years 3 to 9;
 - 63% in year 10.

The applicable variable interest rate will be calculated on a variable basis EURIBOR / LIBOR⁷¹ plus a margin of 5.5% per annum⁷⁴.

Because of the option selected by lenders under the French Revolving Facility, only creditors that fail to meet the requirements will have repayment of their claims rescheduled.

3.4.1.2. US Revolving Facility and Term Loan B

For these two loans, the Chapter 11 plan provides for an “Exchange” on the terms identical to those open to lenders under the French Revolving Facility.

3.4.1.3. Summary and change in terms and conditions of the Secured Debt

The following comparison of the pre- and post-Transaction lending terms and conditions shows that the Transaction leads to less favorable financing terms and conditions, coupled with a reduction in the Group’s indebtedness.⁷⁵

Comparison of borrowing terms		
	Pre-Transaction - Post waivers (§ 4.6.1)	Post-Transaction
Secured Debt		
French Revolving Facility	Euribor/Libor + 5.5%	Exchange: Libor +6.5% + between 0% ad 2.5% PIK [max] Rescheduling: Euribor/Libor + 5.5%
US Revolving Facility	Floating rate + 4.5% or 5.5%	Libor +6.5% + between 0% ad 2.5% PIK [max]
Term Loan B	Libor + 5.5%	Libor +6.5% + between 0% ad 2.5% PIK [max]

We note that the pre-Transaction rate applicable to the US Revolving Facility depends on the characteristics of the requested drawdown. Depending on whether the variable rate is Adjusted LIBO rate or Alternate Base Rate⁷⁶, the rate is 4.5% or 5.5% respectively.

⁷¹ With a floor of 100 basis points.

⁷² The post-Transaction PIK interest will be between 0% and 2.5% depending on the amount of Secured Debt outstanding after the Initial Repayment.

⁷³ Principal and interest.

⁷⁴ Included an utilization fee.

⁷⁵ Table presents annual margins and the margin of 5.5% of French Revolver Facility includes an utilization fee.

⁷⁶ Alternate Base Rate shall mean, for any day, a rate per annum equal to the greatest of (i) the Prime Rate in effect on such day, (ii) the Federal Funds Effective Rate in effect on such day plus 1/2 of 1% and (iii) the Adjusted LIBO Rate for a one-month Interest Period on such day (or if such day is not a Business Day, the immediately preceding Business Day) plus 1.00%. The Alternate Base Rate cannot be below to 2%.

3.4.2. Impact of Stage 4 on the number of Shares and valuation of the Group

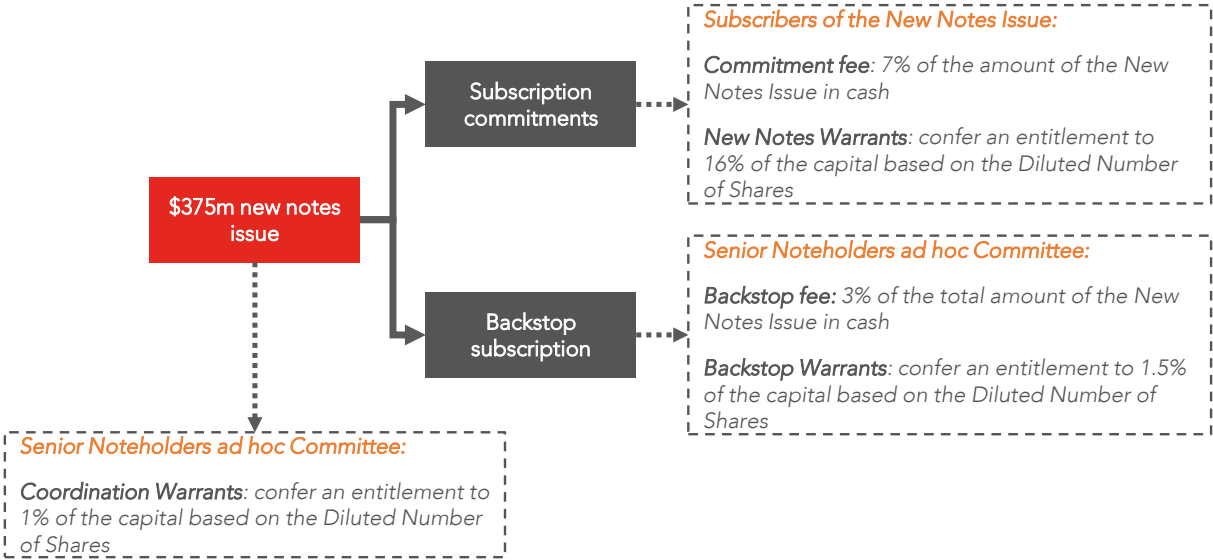
Stage 4 consists of an alteration to the terms and conditions of the Secured Debt, which has no impact either on the Group’s valuation or on the number of shares comprising the Company’s capital.

However, it should be noted that the interest payable (annual and PIK) is significantly higher under the Secured Debt “Exchange”.

3.5. Stage 5: Issue of unsubordinated, second lien new notes

3.5.1. Main characteristics of Stage 5

The diagram below illustrates the issue of new high-yield, unsubordinated, second lien notes in an amount of \$375 million (the New Notes Issue), governed by the laws of the State of New York.



Translation for information purposes only

The key characteristics of the New Notes are as follows⁷⁷:

Key characteristics of the New Notes	
Subscribers	Senior Noteholders.
Issue amount	\$375 million or approximately €319 million ⁷⁸ including a tranche in euros not exceeding \$100 million. ⁷⁹
Maturity	6 years as of the Restructuring Effective Date.
Interest rate	USD tranche: LIBOR (with a 1% floor) + 4% per year cash + 8.5% PIK per year; EUR tranche: EURIBOR (with a 1% floor) + 4% per year cash + 8.5% PIK per year.

The 8.5% annual PIK interest increases the repayment at maturity by about 60% of the nominal amount.

The New Notes Issue will be combined, in accordance with the Private Placement Agreement dated June 26, 2017, with the allotment of three categories of warrants⁸⁰:

- The “**New Notes Warrants**”⁸¹ allotted to those subscribing the New Notes;
- The “**Backstop Warrants**”⁸¹ in payment of a fee for the New Notes backstop commitment, allotted to the Senior Noteholders *ad hoc* Committee;
- “**Coordination Warrants**”⁸¹ allotted to the members of the Senior Noteholders *ad hoc* Committee⁸² as payment for the global coordination role played by them with respect to the Transaction.

⁷⁷ Second lien collateral will also be given to the New Noteholders according to the information provided in the 21st resolution in the Board's report to the General Meeting of Shareholders to be held on October 31, 2017.

⁷⁸ Based on the \$/€ spot rate on September 29, 2017: 0.85168.

⁷⁹ Based on the Reuters USD/EUR rate applicable at 12h00 (Paris time) on the second business day preceding the last day of the Right Issue subscription period.

⁸⁰ Two are allotted to the Senior Noteholders *ad hoc* Committee

⁸¹ The detailed characteristics of these bonds are described in Schedule 5 of the Board's report to the General Meeting of Shareholders to be held on October 31, 2017.

⁸² In its composition as of June 14, 2017.

The characteristics of these three classes of Warrants are as follows:

Key characteristics of the three classes of Warrants	
Exercise period	6 months as of the Restructuring Effective Date.
Exercise price	€0.01 per new Share.
Ratio	<p>Right to a percentage of the total number of Shares comprising the Company's capital after dilution arising from the Rights Issue, CB Issue, Senior Notes Issue, exercise of the New Notes Warrants, Coordination Warrants and Backstop Warrants, but before exercise of the Shareholders Warrants and Rights Warrants (the "Diluted Number of Shares"):</p> <ul style="list-style-type: none"> - 16% for the New Notes Warrants; - 1% for the Coordination Warrants; - 1.5% for the Backstop Warrants.
Admission to regulated market	These Warrants will not be admitted to trading on a regulated market, but they will be freely tradable and cleared by Euroclear France. ⁸³

We used an iterative process to model the number of Shares arising on the exercise of New Notes Warrants, Coordination Warrants and Backstop Warrants in order to calculate the Diluted Number of Shares (§ 3.5.2).

The Company will also pay fees in cash for:

- The undertaking to subscribe the New Notes Issue ("New Notes Commitment Fee") in accordance with the Private Placement Agreement dated June 26, 2017, equal to 7% of the amount of the New Notes Issue;
- The New Notes Issue backstop provided by the Senior Noteholders *ad hoc* Committee (the "New Notes Backstop Fee") in the event that Senior Noteholders do not subscribe, in accordance with the aforementioned Private Placement Agreement, equal to 3% of the amount of the New Notes Issue.⁸⁴

⁸³ Euroclear France is a central clearing counterparty that provides clearing and settlement services for trades in French securities.

⁸⁴ Fees payable on closing.

3.5.2. Impact of Stage 5 on the number of Shares and valuation of the Group

After the fifth stage of the Transaction, the number of Shares comprising the Company's capital will be increased to a maximum of 705.7 million before any exercise of the Shareholders Warrants (Stage 1) or Rights Warrants (Stage 2).

In millions	% of Rights Issue subscriptions				Comments
	0%	% of capital	100%	% of capital	
<i>Number of Shares pre-Transaction</i>	22.1	3.2%	22.1	3.1%	As at June 30, 2017
<i>Treasury shares</i>	(0.0)	(0.0%)	(0.0)	(0.0%)	As at June 30, 2017
Shareholders	22.1	3.2%	22.1	3.1%	
Rights Issue	71.9	10.4%	71.9	10.2%	Stage 2
CB Issue	35.2	5.1%	35.2	5.0%	Stage 3
Senior Notes Issue	432.8	62.8%	445.9	63.2%	Stage 3
Exercise of New Notes Warrants	110.3	16.0%	112.9	16.0%	Stage 5
Exercise of Coordination Warrants	6.9	1.0%	7.1	1.0%	Stage 5
Exercise of Backstop Warrants	10.3	1.5%	10.6	1.5%	Stage 5
Diluted Number of Shares	689.7	100.0%	705.7	100.0%	

The number of Shares arising upon the exercise of the New Notes Warrants, Backstop Warrants and Coordination Warrants has been calculated using an iterative process, such that the percentage holdings of the Diluted Number of Shares corresponds to those described above (§ 3.5.1).⁸⁵

It should be noted that our figures are slightly different from those presented in the securities notes, since our analysis is based on the number of shares outstanding as of June 30, 2017, i.e. **excluding treasury shares**.

As regards the Group's valuation,⁸⁶ the only impact of these three classes of Warrants comes from the payment of the issue price upon their exercise:

En M et M€	% of Rights Issue subscriptions	
	0%	100%
New Notes Issue amount	319.4	319.4
New debt	(319.4)	(319.4)
<i>New Notes Issue impact on the valuation</i>	-	-
Number of Shares from the New Notes Warrants exercise	110.3	112.9
Number of Shares from the Coordination Warrants exercise	6.9	7.1
Number of Shares from the Backstop Warrants exercise	10.3	10.6
Total number of Shares from the Warrants exercise	127.6	130.6
Subscription price per new Share	€0.01	€0.01
<i>Warrants impact on the valuation</i>	1.3	1.3

Payment by the Company of approximately €32 million in New Notes Commitment and Backstop Fees will reduce the value of the Group.

⁸⁵ 16% for the New Notes Warrants, 1% for the Coordination Warrants and 1.5% for the Backstop Warrants.

⁸⁶ The cash received in respect of the New Notes Issue having an corresponding amount of debt.

3.6. Governance

Subject to voting by the General Meeting of the Company's shareholders on resolutions allowing the implementation of the Restructuring Plan, the structure and composition of the Company's Board of Directors after the Restructuring will be defined in consultation with DNCA and members of the Senior Noteholders *ad hoc* Committee, which will become and will remain shareholders of the Company.

The structure and composition of the Board will be determined in accordance with the provisions of the AFEP-MEDEF Code no later than three months after the Restructuring Effective Date.

4. CGG'S BUSINESS AND ENVIRONMENT

Prior to valuing CGG shares on a multi-criteria basis (§ 5), we analyzed the Group's strengths, weaknesses, opportunities and threats by reviewing available sector, market and financial information.

4.1. Seismic and geoscience market

Our sector review focuses on the seismic and geoscience market as a whole and then on the segments in which CGG operates.

4.1.1. Presentation and sector trends

The seismic and geoscience market in the broad sense has a large array of operators ranging from international groups with a comprehensive offering such as CGG, PGS, TGS and WesternGeco to local companies specializing in one of the Group's business segments.

Their clients are mainly companies operating in the following segments and services of the oil exploration & production industry:

- Geophysical data acquisition (land, marine or multi-physics);
- Seismic data processing;
- Consulting and support in identifying exploration targets;
- Manufacture of seismic equipment.

Since 2012, the seismic industry has experienced a 60% decline in activity,⁸⁷ due to a continuous deterioration in market conditions:

- Oil prices below \$60 per barrel since August 2015;
- Cuts in the Exploration & Production (E&P) budgets of the large oil and gas companies; the seismic market, which historically represented 2-3% of E&P expenditure, has now fallen to less than 1%.⁸⁸

Geophysics companies, which are positioned upstream in the oil services industry, have been directly affected by the fall in hydrocarbon prices.

⁸⁷ Source: [E&P Magazine - Seismic Industry In A World Of Pain – January 1, 2017](#).

⁸⁸ Source: [Wood Mackenzie – Global Upstream: 5 things to look for in 2017 - December 2016](#).

In a weakened market, visibility remains poor, but there are signs of a slight recovery expected as of 2018 driven by the following factors:

- Increase in oil prices, although remaining below pre-2015 levels;⁸⁹
- An upturn in E&P investment of about 3% as of 2017⁹⁰ and beyond, driven by the following factors:
 - Need to develop new oil and gas reserves due to a shortage of supply;
 - Improvement in recovering existing reserves;
- Attribution of new exploration licenses (Brazil, Mexico, Myanmar);
- Replacement of marine equipment with newer technology; the equipment on vessels delivered during the last major wave of deliveries in 2010-2013, which has a life of about 5-7 years, is beginning to show signs of obsolescence.

Against this backdrop, prices are not expected to decline further from their currently low level.

4.1.2. Contractual data acquisition

The seismic data acquisition business comprises several segments:

- Marine: marine seismic surveys are conducted through the deployment of submersible cables (streamers) and acoustic sources (airguns) from specialized vessels.
- Land: this segment is principally focused on seismic data acquired on land areas, using topographical and data acquisition equipment based on various acoustic sources such as vibrators, explosives or airguns;
- Multi-physics: this segment is principally focused on the acquisition and interpretation of airborne electromagnetic, magnetic, radiometric and gravimetric data on land or offshore using aircraft and helicopters.

Four international companies (CGG, PGS, Polarcus and WesternGeco) comprised 80% of the 3D marine market at the end of 2016.⁹¹ The land and multi-physics acquisition markets are more fragmented with the presence of both local and international players, including Argas, BGP, CGG, Fairfield, Geokinetics, Magseis, SAE, Seabed Geosolutions BV, Sinopec and WesternGeco.

⁸⁹ Over the period 2017-2019, oil price forecasts ranged from \$52.4 to \$53.1 (ICE Brent, Source Bloomberg), \$55.0 to \$61.5 (Crude oil average, Source World Bank) and \$55.0 to \$56.3 (Dated Brent, light blend 38 API, source IMF).

⁹⁰ Source: [Wood Mackenzie – Global Upstream: 5 things to look for in 2017 - December 2016](#).

⁹¹ Source: 2016 AR, p. 11.

The contraction in demand as of 2014 (3D volumes estimated at 375,000 km² in 2017 versus more than 500,000 km² in 2013⁹²) led to a fall in prices and a reduction in the global 3D vessel fleet to 30 (versus 62 in 2012-2013⁹³). Given current client demand levels (3D volumes estimated at 400,000 km² in 2018-2019⁹⁴), the market remains oversupplied, putting pressure on prices.

4.1.3. Geophysics and consulting⁹⁵

Geophysics operators provide a range of services such as selling and licensing multi-client seismic and geological surveys, selling the associated software, and providing geophysical consulting services. These services aim to assist clients in identifying their exploration targets.

Competition in this business is focused on location, availability of surveys and technology used. The main companies are large international groups (CGG, PGS, TGS and WesternGeco).

Demand in the Multi-Client market is improving but remains under pressure in a highly competitive environment with gloomy prospects for seismic data processing and imaging activities.

4.1.4. Seismic equipment

The geophysical equipment market involves the manufacture and sale of the equipment used in land and marine data acquisition.

Ongoing technological development makes this a competitive market in which Sercel, a CGG subsidiary, is the leader with a 50% share.⁹⁶ Competitors are Geospace Technologies, Inova, Ion Geophysical, Teledyne and WesternGeco.

Worldwide activity decreased by 45% in 2015 and 41% in 2016, due to weakness of demand for land and marine equipment, mainly related to the reduction of the global seismic fleet.⁹⁷

Currently, the sector is still suffering from the lack of investment by clients but CGG believes that aging equipment and a decrease in excess equipment could boost the manufacturing business from 2018.

⁹² Source: Fearnley Securities, April 25, 2017.

⁹³ Source: CGG.

⁹⁴ Source: Fearnley Securities, April 25, 2017.

⁹⁵ Geology, Geophysical and Reservoir.

⁹⁶ Source: 2016 AR, p. 17.

⁹⁷ Source: 2016 AR, p. 17.

4.2. CGG's positioning

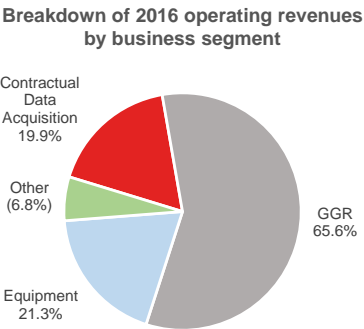
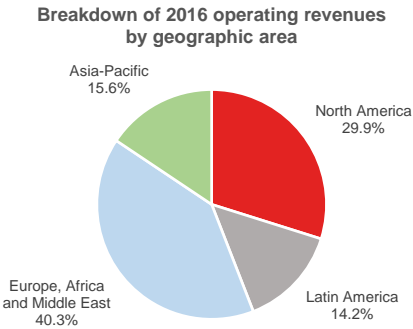
CGG is a leading player in the geoscience market, providing geophysical services and equipment mainly for the hydrocarbon exploration & production industry.

The Group has a high degree of vertical integration and a very broad offering in equipment and services.

It is organized into three operating segments:

- > **Contractual data acquisition:** land, marine and airborne seismic data acquisition services, with a fleet of five 3D vessels, two source vessels and sixteen aircraft;
- > **Geology, Geophysics & Reservoir (GGR),** which comprises two business lines:
 - **Multi-Clients (MC):** this purpose of this activity is to to acquire and process land and marine seismic data, which is licensed to clients;
 - **Subsurface Imaging and Reservoir (SIR):** this business line processes subsurface data to create high-definition images;
- > **Equipment:** through its subsidiary Sercel, the Group manufactures land and marine seismic equipment.

In 2016, most of CGG's business was international. GGR accounted for more than half of its business.



4.3. CGG's historical growth and development factors

The Group in its current structure, before the impact of the crisis, was built up gradually through successive acquisitions, supported by heavy investment in innovation and research & development (R&D):

- **1931:** creation of CGG SA; its initial business was the sale of geophysical techniques for assessing subsurface resources;
- **1956:** creation of subsidiary SMEG, which became Sercel in 1962, a company specializing in the manufacture of seismic data acquisition equipment;
- **1966:** creation of the Saudi joint venture Argas, 51% owned by TAQA and 49% by CGG;
- **1981:** initial public offering on the Paris stock exchange;
- **1997:** initial public offering on the New York Stock Exchange;
- **1999:** acquisition by Sercel of US company Syntron;
- **2004:** acquisition by Sercel of Thales Underwater Systems' seismic equipment business;
- **2005:** acquisition of Norwegian company Exploration Resources ASA;
- **2006:** acquisition by Sercel of Vibration Technology Ltd, a Scottish company specializing in the development, manufacture and sale of wireless seismic data acquisition systems, and creation of Ardiseis FZCO in Dubai, 51% owned by CGG and 49% by TAQA;
- **2007:** acquisition of Veritas, making CGG the global leader in the seismic industry;
- **2008:** acquisition of Norwegian company Wavefield Inseis ASA;
- **2008:** acquisition by Sercel of Metrolog, a French company specializing in downhole instruments, and Quest Geo, a UK company specializing in navigation software;
- **2012:** acquisition by Sercel of the assets of Geophysical Research Corporation, a supplier of downhole sensors and gauges for the oil and gas industry, and creation of the joint venture Seabed Geosolutions BV (SGBV), 60% owned by Fugro and 40% by CGG;
- **2013:** acquisition of Fugro's Geoscience division;
- **2014:** divestiture of land data business in North America (excluding multi-client and reservoir monitoring business) to Geokinetics, and merger of Argas and Ardiseis in a new Argas Group, 51% owned by TAQA and 49% by CGG.

4.4. Historical analysis of CGG's performance

The data presented below are taken from the consolidated financial statements for 2012 to 2016 and the first half of 2017.

The table below shows a five-year summary of CGG's revenues and profitability, measured in terms of EBITDAS⁹⁸ or EBIT⁹⁹, in both absolute terms and as a percentage of operating revenues.

\$m	2012	2013	2014	2015	2016	june-17
Operating Revenues	3 414	3 767	3 097	2 102	1 196	599
Change in %		10.3%	(17.8%)	(32.1%)	(43.1%)	N/A
EBITDAS	1 006	1 140	776	453	274	24
Change in %		13.3%	(31.9%)	(41.6%)	(39.6%)	N/A
EBITDAS margin (%)	29.5%	30.3%	25.0%	21.5%	22.9%	4.1%
EBIT	368	(394)	(779)	(1 136)	(405)	(195)
EBIT margin (%)	10.8%	(10.5%)	(25.2%)	(54.0%)	(33.9%)	(32.6%)

4.4.1. Operating revenues

The decline in operating revenues since 2014 is due to the difficult operating conditions caused by falling hydrocarbon prices, which has affected all of the Group's business lines.

As of June 30, 2017, operating revenues were split 25% in Acquisition, 63% in GGR, 14% in Equipment and 2% in intra-group eliminations.

This trend is due to:

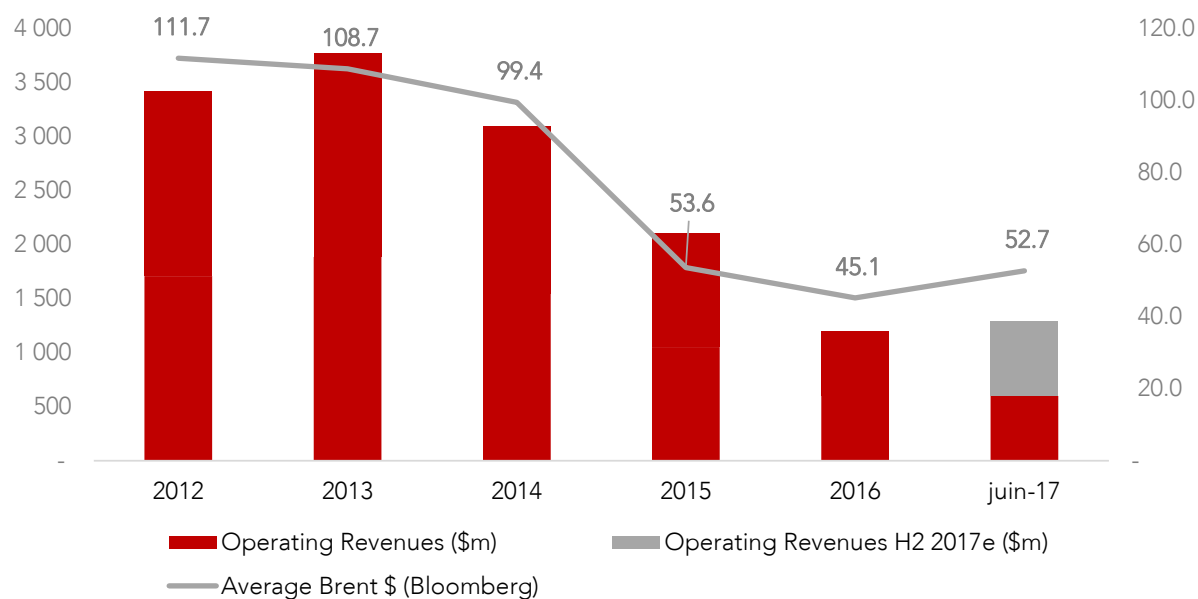
- A continuous fall in oil prices;
- Contraction in investment by exploration and production (E&P) companies;
- Falling prices and volumes in the seismic market;
- Downsizing of CGG's seismic fleet to five vessels (§ 4.2).¹⁰⁰

⁹⁸ EBITDAS is defined as earnings before interest, tax, net income of equity-accounted companies, depreciation, amortization net of amortization costs capitalized to multi-client surveys and share-based compensation cost. Share-based compensation cost includes stock options and shares issued under share allocation plans. EBITDAS is presented as additional information as it is one measure used by certain investors to determine operating cash flow and ability to meet debt service and capital expenditure requirements. Source: 2016 AR, p. 5.

⁹⁹ Earnings before interest and tax.

¹⁰⁰ Versus 21 in 2013. Source: 2013 AR, p. 9.

Translation for information purposes only



4.4.2. EBITDAS and EBIT

EBITDAS margin fell sharply over the review period, reaching 22.9% in 2016 (versus 29.5% in 2012). Faced with challenging market conditions, the Group embarked on a cost cutting plan in 2014 (the "Transformation Plan") including staff cuts, site closures and rationalization of the vessel fleet. EBITDAS margin adjusted for transformation costs ("Adjusted EBITDAS") was therefore 27.4% in 2016 (versus 29.6% in 2012).

\$m	2012	2013	2014	2015	2016	june-17
EBITDAS	1 006	1 140	776	453	274	24
EBITDAS margin (%)	29.5%	30.3%	25.0%	21.5%	22.9%	4.1%
Transformation costs	6	20	218	208	54	125
Adjusted EBITDAS	1 012	1 160	994	661	328	149
Adjusted EBITDAS margin (%)	29.6%	30.8%	32.1%	31.4%	27.4%	24.9%
EBIT	368	(394)	(779)	(1 136)	(405)	(195)
EBIT margin (%)	10.8%	(10.5%)	(25.2%)	(54.0%)	(33.9%)	(32.6%)

A combination of goodwill and asset impairment coupled with the recognition of restructuring costs related to the Transformation Plan led to negative margins from 2013 to 2016, a period when the Group incurred recurring transformation costs to respond to trends and challenges in the seismic market.

4.5. Balance sheet structure

The following table shows trends in the broad balance sheet structure over the past five fiscal years in terms of goodwill, intangible assets, property, plant & equipment, working capital and debt.

\$m	2012	2013	2014	2015	2016	june-17
Goodwill	2 416	2 483	2 042	1 229	1 223	1 230
Intangible assets	935	1 272	1 374	1 287	1 185	1 166
Property, plant & equipment	1 160	1 558	1 238	885	709	350
Financial assets	54	48	142	88	52	67
Investments in companies under equity method ...	125	326	138	201	191	213
Total non-current assets	4 688	5 686	4 933	3 689	3 359	3 025
Working capital	408	567	608	614	427	475
Net working capital	408	567	608	614	427	475
Assets held for sale, net	394	38	38	34	19	17
Other assets/liabilities	(47)	(42)	(31)	(20)	(21)	(18)
Other assets/liabilities	347	(4)	8	15	(3)	(1)
Deferred tax assets	171	223	98	52	26	22
Deferred tax liabilities	(106)	(149)	(154)	(136)	(68)	(72)
Net deferred tax	65	74	(56)	(84)	(42)	(50)
Provisions for retirement benefit obligation	(57)	(84)	(74)	(58)	(60)	(65)
Other provisions	(87)	(132)	(252)	(318)	(213)	(110)
Total provisions	(145)	(216)	(326)	(375)	(273)	(175)
Cash and cash equivalents	1 520	530	359	385	539	315
Financial instruments	2	1	(1)	(0.7)	-	-
Financial liabilities	(2 305)	(2 748)	(2 779)	(2 885)	(2 850)	(2 812)
Net debt	(783)	(2 217)	(2 421)	(2 500)	(2 312)	(2 497)
Non-controlling interests	(99)	(90)	(53)	(46)	(36)	(35)
Net assets attributable to owners of CGG	4 483	3 800	2 693	1 312	1 121	741

4.5.1. Goodwill

Following the reorganization of CGG into four reporting segments in the third quarter of 2015, the cash-generating units (CGU) were redefined.

Despite the deterioration in the Group's business, asset impairment tests performed at end-2016 did not lead to any additional goodwill impairment.

As of December 31, 2016, impairment tests¹⁰¹ were performed on the Group's goodwill and intangible assets to determine their recoverable amount.¹⁰²

The assumptions underlying these tests were:

- Long-term growth rate of 2.0% to 2.5% depending on business line;

¹⁰¹ Source: 2016 AR, Note 11, pp. 254-257.

¹⁰² In accordance with IAS 36 — Impairment of Assets.

Translation for information purposes only

- Post-tax discount rate unchanged from 2015, considered to reflect the weighted average cost of capital (WACC) for the relevant segment:
 - 10.0% for the Equipment segment, or 12.9% pre-tax;
 - 8.5% for the Marine Data Acquisition CGU, or 11.9% pre-tax;
 - 9.5% for the GGR segment CGUs, corresponding to a pre-tax rate of between 11.7% and 12.5%.

No impairment tests were performed as of June 30, 2017.

4.5.2. Intangible assets and property, plant & equipment

Intangible assets and property, plant & equipment account for almost 40% of total assets.

All costs related to Multi-Client surveys¹⁰³ are capitalized in intangible assets.¹⁰⁴ Multi-client surveys are measured at cost less accumulated amortization, or at fair value.

As of June 30, 2017, Marine and Land multi-client surveys amounted to \$833 million (more than 70% of total intangible assets).

Property, plant & equipment mainly comprises machinery & equipment and vehicles & vessels.¹⁰⁵

4.5.3. Working capital

Working capital is marginal compared with the main balance sheet categories.

4.5.4. Provisions

As of December 31, 2016, provisions totaled \$272.8 million, comprising:

- \$135.0 million in provisions for onerous contracts;
- \$59.5 million for retirement and other staff benefit obligations;
- \$37.0 million for restructuring costs related to the Transformation Plan;
- \$41.3 million for employee and client disputes.¹⁰⁶

As of June 30, 2017, provisions totaled \$174.5 million and were similar in nature to the provisions recognized as of December 31, 2016.

¹⁰³ Seismic surveys licensed to clients on a non-exclusive basis.

¹⁰⁴ Source: 2016 AR, Note 10, pp. 253-254.

¹⁰⁵ Source: 2016 AR, Note 9, pp. 252-253.

¹⁰⁶ Source: 2016 AR, Note 16, p. 276.

4.5.5. Deferred taxes¹⁰⁷

At end-2016, CGG had a pool of unrecognized tax-loss carryforwards of approximately \$1.5 billion, including \$1.3 billion in evergreen carryforwards; the balance of \$0.2 million expires in 2017.

The Group does not recognize net deferred tax assets on tax loss carryforwards of entities that have a history of recurring losses with little probability of recovery or where there is a dispute with the tax authority.

Net deferred tax assets (liabilities) recognized as of December 31, 2016 totaled \$(41.6) million, including \$(31.8) million for France, \$(22.4) million for the United States and \$13 million for Norway. The amount of recognized deferred tax assets on tax loss carryforwards was 116.7 million and deferred tax assets on staff benefit obligations, not immediately deductible, amounted to \$28.9 million.

As of June 30, 2017, net deferred tax assets (liabilities) totaled \$(50) million.

4.6. Description of the Group's debt

4.6.1. Breakdown of debt as of June 30, 2017

As of June 30, 2017, net debt recognized in the balance sheet amounted to \$2,497 million.

As of June 30, 2017 (\$m)	
Senior Notes	1 530
Convertible Bonds	368
Term Loan B	333
Credit lines	459
Debt subject to renegotiation	2 690
Bank and other borrowings	5
Lease agreements	58
Accrued interests	59
Gross debt	2 812
Cash	(315)
Net debt	2 497

As of June 30, 2017, gross debt totaled \$2.8 billion (\$ 2.3), mainly comprising:

- High yield bonds:
 - \$453 million of Senior Notes due 2020 issued in April 2014 with a coupon of 5.875%;
 - \$675 million of Senior Notes due 2021 issued in May 2011, January 2017 and March 2017 with a coupon of 6.50%;
 - \$417 million of Senior Notes due 2022 issued in May 2014 with a coupon of 6.875%;

¹⁰⁷ Source: 2016 AR, Note 24, pp. 288-292 and valuation of tax loss carryforward (§ 5.1.4).

- Convertible bonds totaling \$368 million:
 - \$37 million issued in 2012 with a coupon of 1.25%, due 2019;
 - \$331 million issued in 2015 with a coupon of 1.75%, due 2020;
- A \$333 million bullet loan due 2019 entered into by CGG Holding US in November 2015 under a Term Loan Credit Agreement ("**Term Loan B**"). The interest rate is Libor (with a 1% floor) plus 5.50%;
- Two revolving credit lines totaling \$459 million:
 - A \$325 million (revised downward to approximately \$300 million) Multicurrency Revolving Facility Agreement (the "**French Revolving Facility**") due 2018 entered into by the Company in July 2013¹⁰⁸, with an interest rate of Euribor or Libor plus, 5.50%.¹⁰⁹ The amount drawn down as of June 30, 2017 was \$299 million.
 - A \$165 million floating-rate Credit Agreement (the "**US Revolving Facility**"),¹¹⁰ due 2018. The amount drawn down as of June 30, 2017 was \$160 million.

In summary, the structure of the Group's debt subject to the Restructuring and their financial conditions were as follows as of June 30, 2017:

Characteristics of the debt subject to renegotiation						
Debt	Maturity date	Debt listed	Currency	Interest rate	Type of interest	
Senior Notes						
Senior Notes due 2020	2020	✓	€	5.875%	Cash	
Senior Notes due 2021	2021	✓	\$	6.50%	Cash	
Senior Notes due 2022	2022	✓	\$	6.875%	Cash	
CBs						
2019 CBs	2019	✓	€	1.25%	Cash	
2020 CBs	2020	✓	€	1.75%	Cash	
Term Loan B	2019	x	\$	Libor + 5.5%	Cash	
Credit lines						
French Revolving Facility	2018	x	\$	Euribor/Libor + 5,5%	Cash	
US Revolving Facility	2018	x	\$	Floating rate + 4.5% or 5.5%	Cash	

¹⁰⁸ The drawdown currency in € or \$.

¹⁰⁹ This premium follows the waivers letters of December 2016 and March 2017 and integrates the commission.

¹¹⁰ Higher of the prime rate as determined by Crédit Suisse AG, the Federal Fund Effective Rate plus 0.5 x 1% and the adjusted Libor rate, plus a margin of 5.50% depending on the drawdown currency (dollars or euros) following of the waivers letters of December 2016 and March 2017.

The interest due on the Senior Notes and convertible bonds that become due after May 15, 2017¹¹¹ has not been paid since the start of the Safeguard procedure on June 14, 2017.

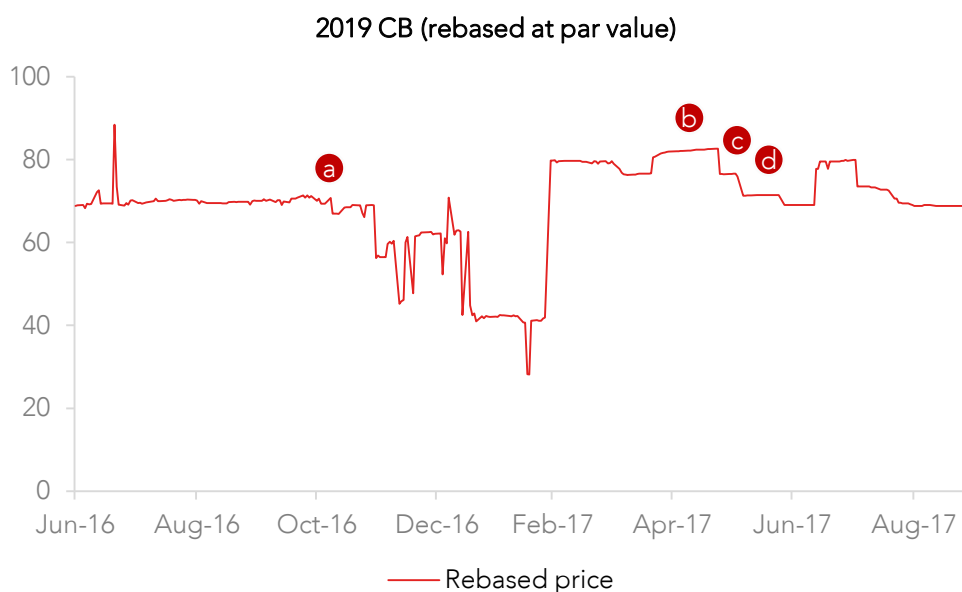
4.6.2. Review of the Group's Listed Debt

The convertible bonds¹¹² and the Senior Notes¹¹³ are listed in France and Luxembourg respectively. They are trading at a discount to their par value and their quoted price has been affected in particular by the publication of the following CGG press releases:

- (a) Results for the third quarter of 2016, November 8, 2016;
- (b) Restructuring update, May 12, 2017;
- (c) Signing of memorandum of understanding, June 2, 2017;
- (d) Opening of Safeguard procedure and Chapter 11 proceedings on June 14, 2017.

4.6.2.1. Convertible Bonds

For ease, the discount between the par value and quoted price of the CBs has been rebased below on the unit par value at the time of issue, i.e., €32.14 for the CBs 2019 and €12.86 for the CBs 2020.

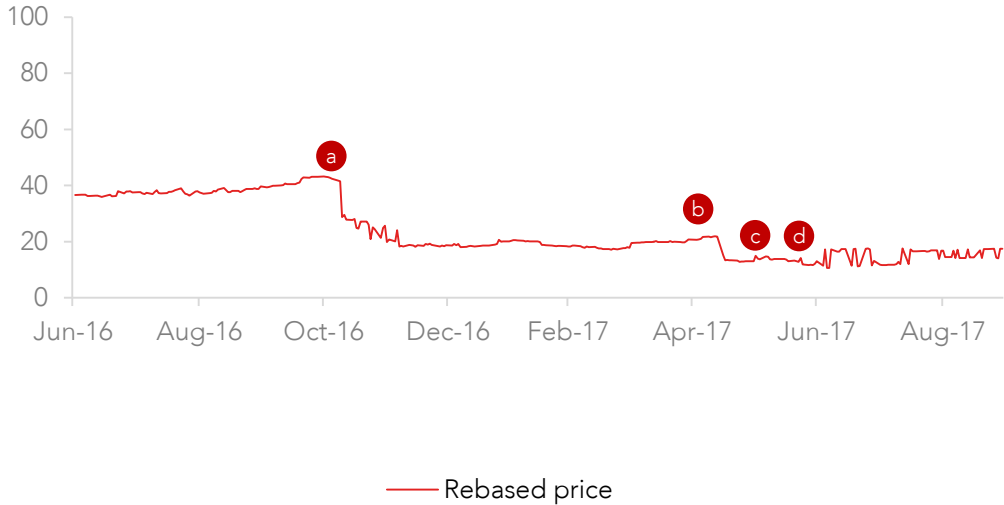


¹¹¹ The contract provided a 30-day grace period to allow no maturity due before June 15, 2017.

¹¹² ISIN:
FR 0011357664 for the 2019 convertibles
FR 0012739548 for the 2020 convertibles

¹¹³ ISIN:
XS1061175607 and XS1061175862 for the 2020 Senior Notes
US204384AB76 and USF1704UAD66 for the 2021 Senior Notes
USF1704UAC83, US 12531TAA79 and US12531TAB52 for the 2022 Senior Notes

2020 CB (rebased at par value)



Trends in the quoted price of the CBs 2019 are presented above for indicative purposes. They should not be construed as relevant with regard to their par value, i.e., \$37 million (§ 4.6.1) due to the lower trading volumes since the exchange for CBs 2020 in 2015 (§ 2.2.2.2).

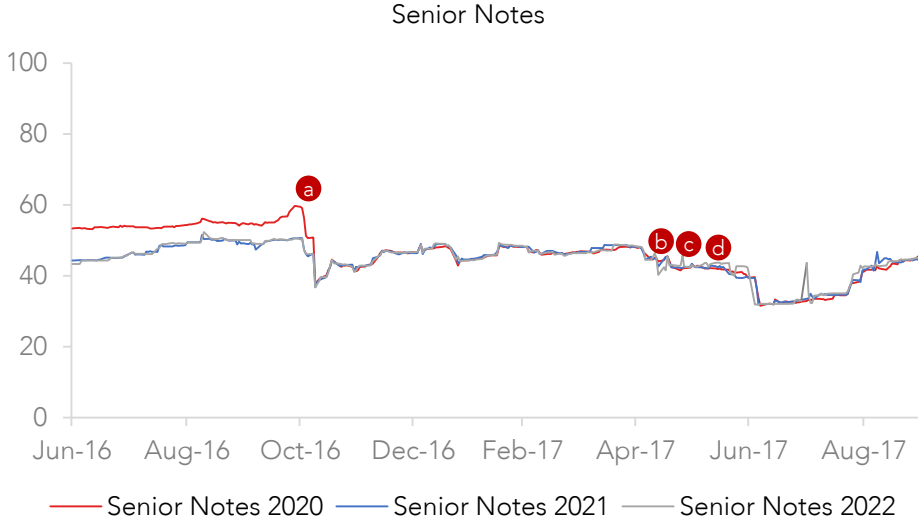
The discount¹¹⁴ to par value varies significantly depending on the reference date selected, in particular for the CBs 2020.

Spot discount of Convertible Bonds				
Issue	7-Nov-16	11-May-17	1-Jun-17	13-Jun-17
Convertible Bonds 2019	(29.3%)	(17.7%)	(23.4%)	(28.6%)
Convertible Bonds 2020	(58.5%)	(78.2%)	(86.3%)	(86.2%)

¹¹⁴ The discount is the difference between the price at which the bonds are trading on the stock market and their par value, expressed as a percentage of the par value.

4.6.2.2. Senior Notes

The Senior Notes have been trading at between 35% and 60% of their issue price since June 30, 2016.



A review of quoted prices also reveals significant discounts relative to the par value although they are not as sensitive to the reference date as the CBs 2020.

Spot discount of Senior Notes				
Issue	7-Nov-16	11-May-17	1-Jun-17	13-Jun-17
Senior Notes 2020	(49.2%)	(55.0%)	(57.6%)	(58.1%)
Senior Notes 2021	(52.0%)	(53.5%)	(56.0%)	(56.1%)
Senior Notes 2022	(53.9%)	(54.8%)	(57.4%)	(56.3%)

Moody’s and Standard & Poor’s (S&P) have downgraded their ratings for the Senior Notes since 2016:

- > Moody’s gave the notes a C rating on July 16, 2017 and stopped covering them on July 7, 2017;¹¹⁵
- > S&P gave the notes a D rating on May 18, 2017.¹¹⁶

¹¹⁵ Potentially in default.
¹¹⁶ In default.

4.7. Summary

The following matrix shows our SWOTs analysis of the Group and shows the correlation with CGG's share price.

Strengths	Weaknesses
<ul style="list-style-type: none"> ▪ Comprehensive solutions offering thanks to vertical integration ▪ International operations through subsidiaries and R&D centers ▪ Ability to provide high-performance, innovative technology ▪ Leader in several segments, including Equipment with Sercel (>50% market share) ▪ Highly qualified staff (PhD level) 	<ul style="list-style-type: none"> ▪ Cyclical business upstream in the oil services industry and reliant on strategic decisions and E&P budgets of oil companies ▪ Business highly correlated with Brent prices ▪ Business subject to geopolitical risks ▪ Financial structure ▪ High debt levels
Opportunities	Threats
<ul style="list-style-type: none"> ▪ Diversification (civil engineering, aeronautics, mining, etc.) ▪ External growth transactions ▪ Outsourcing of data processing ▪ Expanding economy in several countries such as Brazil and Mexico ▪ Implementation and results of industrial transformation plan with shift in business mix towards GGR 	<ul style="list-style-type: none"> ▪ Difficulties in turning the group around ▪ Highly sensitive to economic and geopolitical conditions ▪ Trends in oil prices ▪ Increasingly tough foreign competition, particularly in China, leading to strong pressure on prices ▪ Disruptive technology ▪ Insourcing of data processing

5. MULTI-CRITERIA VALUATION OF CGG SHARES

The various stages in our multi-criteria valuation of CGG shares are described below:

- Accounting and financial data used (§ 5.1);
- Valuation methods discarded (§ 5.2);
- Valuations presented by Lazard Frères & Co LLCs in connection with the Chapter 11 proceedings (§ 5.3);
- Approaches we considered relevant for valuing the shares (§ 5.4 to § 5.6).

All of our work was based on the assumption that the Group is a going concern in its current structure. Accordingly, we did not consider any external references valuing the Group on a liquidation basis.

We analyzed the 2017-2019 cash flow forecasts embedded in the Business Plan to confirm that, subject to the Transaction¹¹⁷ being completed, CGG will be able to continue in business as a going concern.

A valuation based on liquidation of the Group either as a whole or by business segment could lead to significantly different and probably lower values.

5.1. Accounting, financial and fiscal data

5.1.1. Accounting standards

CGG prepares its consolidated financial statements according to International Financial Reporting Standards (IFRS), which are mandatory for listed companies.

The consolidated and statutory financial statements for the year ended December 31, 2016 were certified without qualification by the external auditors although they did include an emphasis of matter regarding the Group's ability to continue as a going concern issue by reference to the notes to the consolidated financial statements.¹¹⁸ The half-year financial statements as of June 30, 2017 were subject to a limited review by the external auditors,¹¹⁹ which states that "[...] the Group's liquidity as of June 30, 2017 does not allow to fully fund the Group's operations until at least June 30, 2018; [...] the ability of the Group to continue as a going concern then depends essentially on the effective and timely implementation of the proposed restructuring plan, [...]".

¹¹⁷ Without the Transaction, the Company would no longer be able to continue as a going concern as of the first half of 2018 (§ 5.1.1; source: 2017 HYFR, pp. 14-15).

¹¹⁸ Source: 2016 AR, pp. 306-307.

¹¹⁹ Source: 2017 HYFR, p. 4; pp. 14-15.

5.1.2. Number of Shares

The number of shares we used to calculate the value per CGG Share was 22,108,152, being the total number of Shares outstanding as described above (§ 2.2.1), i.e., 22,133,149, less the 24,997 treasury Shares held by CGG.

Diluted number of Shares as of June 30,	
Existing shares	22 133 149
Treasury shares	(24 997)
Diluted number of Shares	22 108 152

We did not include:

- Stock options that are out of the money, and
- Shares arising on conversion of the convertible bonds, which are out of the money and therefore recognized in debt.

5.1.3. Valuation date

CGG shares were valued on the basis of the half-year financial statements as of June 30, 2017.

The date we used for the reference Share price was May 11, 2017, the last quotation date before the Transaction was announced on May 12, 2017.

We also extended our analysis of share price trends out to September 29, 2017.

Financial inputs such as the discount rate used in the Business Plan drawn up by CGG's Management (§ 5.5.2) and peers market capitalizations (§ 5.6.1) were determined on the basis of data as of September 29, 2017.

5.1.4. Valuation of tax loss carryforwards

CGG has evergreen tax loss carryforwards, some of which have been recognized as deferred tax assets (§ 4.5.5). Our analysis, performed in consultation with the Group's Fiscal Department, shows that these tax loss carryforwards will not be used in full over the Business Plan period. We therefore estimated the theoretical value of the deferred tax assets based on the amount of the tax loss carryforwards expected to be used in the long-term and a going concern assumption.

Based on forecasts and the discount rate used for the valuation of CGG as a whole, the tax saving generated by the tax loss carryforwards, which amount to approximately \$1.3 billion (§ 4.5.5), can be valued at a maximum of \$95 million in 2048, assuming an annual utilization of the French tax loss carryforwards limited to 50% of taxable income.¹²⁰

The corresponding impact in \$ and € per Share would be \$4.3 or €3.7.¹²¹

¹²⁰ By transposition of the tax rules currently applicable in France, which allow a carryforward capped at €1 million per year, plus 50% of any taxable income above that amount (article 24 of the 2013 finance act).

¹²¹ Based on an average \$/€ exchange rate over the 3 months to September 29, 2017, i.e., 0.8514.

5.1.5. Net debt

The Group's net debt amounted to **\$2,497 million** as of June 30, 2017, mainly comprising bonds¹²² and other term loans from various banks (§ 4.6.1).

(\$m)	
Gross debt	2 812
Cash and cash equivalents	(315)
Net debt	2 497

5.1.5.1. Net debt used in intrinsic valuation

Adjusted consolidated debt used for our intrinsic valuation (§ 5.5) amounted to \$2,315 million, comprising accounting net debt adjusted for:

- IFRS adjustments (§ 2.3);
- Expected cash inflows and outflows, including cash outflows related to provisions,¹²³ excluding items of working capital;
- Non-controlling interests;
- Assets held for sale;
- Other financial assets, mainly comprising loans and advances and non-consolidated investments;
- Other non-current liabilities;
- Net present value of the tax saving arising from tax loss carryforwards (§ 5.1.4);
- Net carrying amount of equity interests held by CGG;

¹²² Senior Notes and CBs.

¹²³ Absent detailed figures as of June 30, 2017, we applied the same proportions arising from the December 31, 2016 figures to:

- deferred tax assets related to non-deductible provisions including provisions for retirement benefit obligations: \$28.9m (source: 2016 AR, Note 24, p. 291) and
- provisions for retirement benefit obligations: \$59.5m (source: 2016 AR, Note 16, p. 276).

Long-term provisions are deemed to be cashed out at the end of the Business Plan and are therefore discounted. Provisions for tax litigation are charged against available tax loss carryforwards.

\$m	
Gross debt	2 812
Cash and cash equivalents	(315)
Accounting net debt	2 497
IFRS adjustment	75
Provisions for retirement benefit obligation, net of deterred tax	33
Other provisions	73
Non-controlling interests	35
Assets held for sale, net	(17)
Other financial assets	(43)
Other non-current liabilities	18
Other DTA/DTL	(49)
Net present value of tax loss carryforwards	(95)
Equity-accounted investments	(213)
Net debt	2 315

5.1.5.2. *Net debt used in peers valuation*

Based on the information on comparable companies taken from our databases, for the purpose of our peers valuation (§ 5.6), we took the Group's accounting net debt less the present value of tax loss carryforwards, which by construction is broadly equivalent to the net debt of the comparable companies.

\$m	
Gross debt	2 812
Cash and cash equivalents	(315)
Net present value of tax loss carryforwards	(95)
Net debt	2 402

5.2. Valuation methods discarded

We discarded the discounted dividend (§ 5.2.1), adjusted net asset value (§ 5.2.2) and comparable transactions (§ 5.2.3) valuation methods.

5.2.1. Discounted dividends

We do not consider the discounted dividend model to be appropriate as CGG has not paid a dividend in recent years and does not expect to pay one throughout the 2017-2019 Business Plan period.

5.2.2. Adjusted Net Asset Value

The adjusted net asset method consists of adding any identified on- or off-balance sheet gains and losses to the company's stated net assets.

As the Group does not have any non-operating assets, in particular property, we did not use the adjusted net asset value approach, as the value of intangible assets can be determined by using an intrinsic valuation approach, such as the one described below (§ 5.5). As stated in the introduction, we worked on a going concern basis given the objectives of the Transaction.

5.2.3. Comparable transactions method

5.2.3.1. External transactions

We discarded the external comparable transactions method as there are no recent reference transactions involving targets comparable to the Group.

In addition, relevant reference inputs were not available due to the fragmented nature of publicly available information.

5.2.3.2. Internal transactions

CGG's external growth transactions have historically involved targets significantly smaller than itself and with specific business activities.

In addition, acquisitions were made up until 2014, in a period when business prospects had not yet been affected by falling oil prices.

5.2.3.3. Previous transactions

On January 13, 2016, CGG made a €350 million rights issue for cash to finance its Transformation Plan. The subscription price of the new Shares was €0.66 per Share (€0.40 par value and €0.26 share premium) on the basis of three new Shares for one existing Share.

Following the reverse stock split on July 20, 2016, whereby 32 old Shares of €0.40 were exchanged for one new Share of €12.80, the subscription price has been adjusted to €21.12¹²⁴ for comparability with current data.

The opening share price on July 20, 2016 was €22.08, i.e., the closing price on July 19 of €0.69 multiplied by 32, with a new number of Shares in issue of 22,133,149.¹²⁵

Since the 2016 rights issue, the Group has accumulated losses of \$891.4 million¹²⁶ and used all the cash raised from the issue.

¹²⁴ €0.66 * 32 = €21.12.

¹²⁵ The old number of shares - 708,260,768 - divided by 32.

¹²⁶ Consolidated net income as of December 31, 2016 (\$576.6 million) + Consolidated net income as of June 30, 2017 (\$314.8 million).

5.3. Valuation as a going concern issue of CGG in the context of Chapter 11

In the context of the Restructuring Plan associated with CGG's Chapter 11 proceedings¹²⁷ Lazard Frères & Co LLCs estimated the central enterprise value to be **\$1,900 million** with a range of **\$1.8 billion to \$2 billion**, on a going concern basis and based on Management's financial forecasts.

5.4. Share price valuation

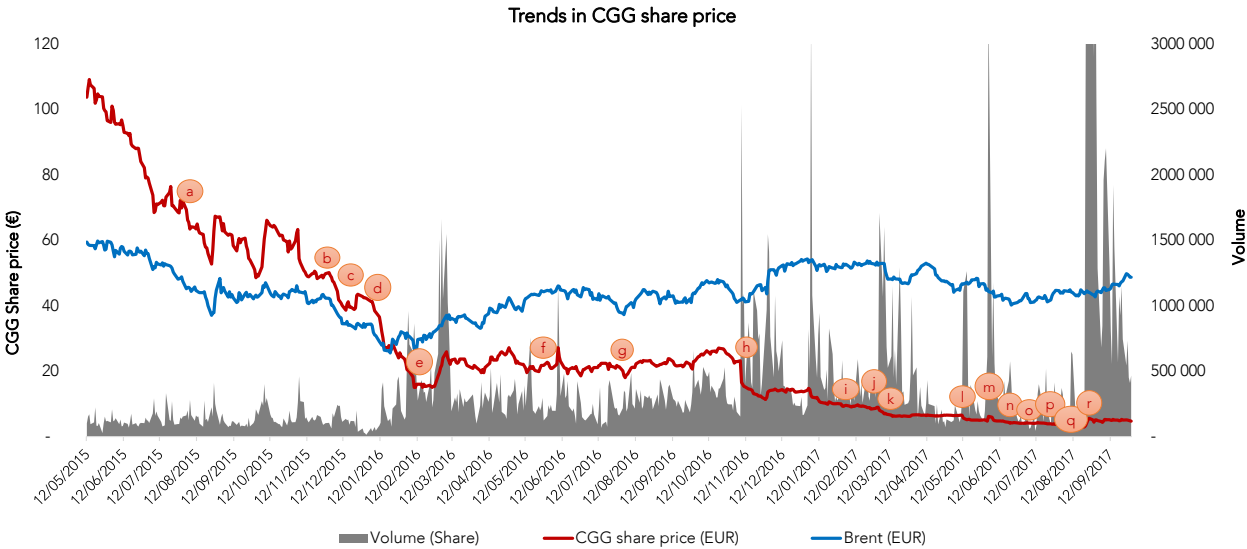
Our share price analysis is addressed below from both a historical and a target price perspective.

In addition, for information, we also valued CGG shares based on the value implied by the equity and bond markets.

5.4.1. Historical Share price analysis

Floated in France in 1981 and in the United States in 1997, CGG Shares are listed on Euronext Paris and on the New York Stock Exchange in the form of American Depositary Shares.

The table below shows trends in CGG share price compared with Brent prices over the last two years.



¹²⁷ Source: "Disclosure Statement for joint Chapter 11 Plan of reorganization of CGG holdings (US) and certain affiliates"- Exhibit D-4.

Key events during the period included:

	Date	Comments
a	31-Jul-15	Announcement of 2015 half-year results : CGG Q2 revenue at \$473m, down (17)% q-o-q in challenging market conditions
b	19-Nov-15	Launch of an Exchange Offering on the CBs
c	7-Dec-15	Implementation of a transformation plan: proposed €350m rights issue
d	18-Dec-15	Final results of exchange offering: \$126.7m or 93.8% of the bonds due 2017 were tendered
e	3-Feb-16	Success of CGG's €350m rights issue as part of its transformation plan, resulting in the issuance of 531,195,576 new shares
f	3-Jun-16	Launch of reverse stock split
g	28-Jul-16	Announcement of 2016 half-year results: market conditions remain challenging with second-quarter results driven by sustained GGR performance and positive cash generation
h	8-Nov-16	Announcement of third quarter 2016 results: persistently difficult market conditions; strict focus on costs, cash and liquidity management
i	6-Feb-17	CGG solicits consents from Senior Noteholders and Term Loan B creditors to permit the appointment of a " <i>mandataire ad hoc</i> "
j	23-Feb-17	Announcement of consent to Supplemental Indentures for the 2020, 2021 and 2022 notes permitting CGG to request the appointment of an " <i>mandataire ad hoc</i> " and of intention to discharge the indenture in respect of the 2017 notes
k	3-Mar-17	Announcement of 2016 results: weak volumes in difficult market conditions; financial restructuring process engaged
l	12-May-17	<u>Restructuring update:</u> Appointment of a " <i>mandataire ad hoc</i> " on February 27, 2017 Financial covenants suspended at end-March Presentation of Business Plan & specific Financial Restructuring proposal
m	2-Jun-17	Announcement of agreement in principle on financial restructuring plan with main creditors and DNCA
n	14-Jun-17	CGG announces the start of a legal process to implement the balance sheet restructuring and create a sustainable capital structure
o	26-June-17	Opening of placement period for New Bonds following signature of Private Placement Agreement
p	17-Jul-17	Announcement of Lock-up Agreement dated June 13, 2017 and opening of safeguard procedures in France and the US
q	28-Jul-17	Approval of draft safeguard plan by creditors' committees in France Publication of 2017 half-year results
r	22-Aug-17	Rumors of takeover by Chinese group Sinopec and movements in hedge fund investments

The main trends in CGG's share price over the review period are as follows:

- > A fall in price from June 2015 to February 2016, positively correlated with oil prices, with a low of €15.0 on February 16, 2016;
- > From March to November 2016, the share price stabilized following the €350 million rights issue in February 2016;
- > A continued fall in share price since the publication of third quarter results in November 2016, escalating since the announcement of the planned financial restructuring.

Our analysis shows that CGG's share price is correlated with Brent prices, earnings announcements and announcements related to financial restructurings.

The table below summarizes volume weighted average prices as of May 11, 2017.

Reference date	11-May-17
Spot	€6.5
20-day weighted average (1 month)	€6.5
40-day weighted average (2 month)	€6.4
60-day weighted average (3 month)	€7.1
120-day weighted average (6 month)	€10.0
250-day weighted average (12m)	€14.8
+ 250-day high	€27.2
+ 250-day low	€6.2

During the 250 days prior to May 11, 2017, the Share traded in a range of €6.2¹²⁸ to €27.0;¹²⁹ the spot price on May 11, 2017 was €6.5.

As of September 29, 2017, volume average weighted prices were as follows:

Reference date	29-Sep-17
Spot	€4.7
20-day weighted average (1 month)	€5.0
40-day weighted average (2 month)	€4.9
60-day weighted average (3 month)	€4.8
120-day weighted average (6 month)	€4.9
250-day weighted average (12m)	€8.1
+ 250-day high	€27.0
+ 250-day low	€2.9

¹²⁸ March 14 and 27, 2017.

¹²⁹ October 20, 2016.

In the week of August 21, 2017, volumes traded were significant, leading to sharp swings in share price following rumors of a takeover and movements in hedge fund investments.

5.4.2. Price targets

The CGG share is covered by various brokers. We analyzed their latest recommendations during the past five months.¹³⁰

Broker	Date	Recommandation	Price target
Alpha Value	28/09/17	Sell	€2.44
DNB Markets	23/08/17	Sell	€1.75
Crédit Suisse	09/08/17	Underperform	€2.40
Barclays Capital	07/08/17	Underweight	€3.50
Goldman Sachs	31/07/17	Sell/Neutral	€2.20
SpareBank	31/07/17	Sell	€3.00
Natixis	31/07/17	Reduce	€2.30
Oddo BHF	28/07/17	Reduce	N/A
Portzamparc	28/07/17	Hold	€4.30
Société Générale	03/07/17	Hold	€5.53
CM - CIC	23/06/16	Sell	€3.80
Pareto	16/06/17	Sell	€3.70
Nordea	17/05/17	Sell	€1.00
Average			€2.99
Median			€2.70

We excluded the following brokers:

- UBS, which stopped covering the share on May 19, 2017; and
- Morgan Stanley, which did not issue a recommendation given its role as CGG's adviser on the Transaction.

5.4.3. Market valuation

We also valued the Group by reference to the market value of the Shares and listed debt (CBs and Senior Notes) as of November 7, 2016¹³¹ and May 11, 2017 based on the following factors:

- CGG's average market capitalization over 1 month;
- Market value of debt instruments (spot data);
- Other debt and cash items.

This approach is shown only for indicative purposes as it is based on methodological estimates.

¹³⁰ Position as of September 29, 2017.

¹³¹ Announcement of Q3 2016 results suggesting a possible debt restructuring.

\$m	05/11/2017 (**)	11/07/2016 (**)
Market capitalization (1 month)	154	614
Convertible Bonds (***)	108	169
<i>Convertible Bonds 2019</i>	31,0	26,0
<i>Convertible Bonds 2020</i>	77,0	143,0
Senior Notes	705	708
<i>Senior Notes 2020</i>	213	234
<i>Senior Notes 2021</i>	303	280
<i>Senior Notes 2022</i>	190	193
Other financial liabilities (*) and (**)	914	1 087
Cash and cash equivalents (*) and (**)	(315)	(539)
Enterprise value	1 567	2 040

* Accounting data at 12/31/2016

** Accounting data at 06/30/2017

*** Spot /\$ rate at 11/07/2016 and 05/11/2017

The enterprise values obtained from this approach are in a range of \$1,567 million and \$2,040 million. We have taken the lower bound of **\$1,567 million** by reference to the most recent date of May 11, 2017, corresponding to the day before the Transaction announcement.

5.5. Intrinsic valuation using the Discounted Cash flow (DCF) method

The intrinsic value of the Group and CGG shares was calculated as of July 1, 2017 by discounting future cash flows after that date taken from the 2017-2019 Business Plan drawn up by Management.

5.5.1. Summary of the DCF method

The DCF method is used to estimate of the economic value of a company based on future free operating cash flows¹³² discounted at a rate equal to the rate of return required by investors.

The residual value, calculated at the end of an explicit forecast period, is an estimate of long-term sustainable free cash flows and is thus based on a going concern assumption and an estimated long-term growth rate.

The market value of equity is equal to the enterprise value of business operations plus the value of any non-operating assets, less net debt.

¹³² EBIT after tax, adjusted for non-cash expenses (amortization and depreciation) less the change in working capital and capital expenditure (capex).

5.5.2. Discount rate

The discount rate is based on the cost of capital (CoC) and is determined using the unlevered beta of the company's economic assets.

To factor in the broad range of CGG's business operations, we used different discount rates for each business segment (Acquisition, MC, SIR and Equipment) and an overall discount rate was also determined for the Group as a whole.

Our samples of comparable companies used to assess the beta of economic assets were as follows:

- Acquisition: Dawson Geophysical, Electromagnetic Geoservices, Petroleum Geo-Services and Polarcus;
- Multi-Client: Dawson Geophysical, Electromagnetic Geoservices, Petroleum Geo-Services, Pulse Seismic, Spectrum and TGS Nopec Geophysical;
- SIR: Dawson Geophysical, Petroleum Geo-Services, Polarcus, Spectrum and TGS Nopec Geophysical;
- Equipment: Aker Solutions, Dril-Quip, Geospace Technologies, National Oilwell Varco and Teledyne Technologies ;
- Group: Petroleum Geo-Services, Polarcus and TGS Nopec Geophysical.

The discount rate was calculated on the basis of the following inputs:

- A median unlevered beta¹³³ determined from a sample of comparable listed companies in each of the business segments and, more broadly, in the seismic industry. We note that several companies in the sector have a coefficient of determination r^2 close to 0; they were automatically discarded;
- A risk-free rate of **0.76%** equating to the 12-month historical average of 10-year *Obligations Assimilables du Trésor* (10-year OAT);¹³⁴
- A French market risk premium estimated at **7.44%**;¹³⁵

¹³³ 5-year beta (source: Bloomberg).

¹³⁴ Source: Bank of France.

¹³⁵ Based on an expected French market return estimated at 8.2% (source: Ledouble, August 2017), which, after deduction of the 0.76% risk-free rate, implies a risk premium of 7.44%.

- A specific premium to take into account risk factors inherent in the Group's business model, as set out in the Business Plan, associated with an industrial transformation implying a shift in the business mix towards GGR, concurrently with :
 - an improvement in all business segments, and mainly strong growth in Multi-Client and Acquisition;
 - an upturn in profitability with above historical EBITDA margins;
 - capex down relative to business volumes but in line with historical averages in 2012-2014.¹³⁶

We thus assessed the risk level with regard to the Group's ability to implement its industrial transformation implying a shift in the business mix towards GGR. In our view, this adjustment in discount rate justifies a risk premium of up to 2.5%¹³⁷ to factor in the execution risk involved in an aggressive Business Plan that simultaneously and cumulatively assumes a recovery in business in both volume and profitability, with above historical average margins at the end of the plan period.

On that basis:

- The discount rates by business segment were between **11.3%** and **12.2%**:

Data Acquisition	
Risk-free rate	0.76%
Median unlevered beta	1.08
Market return	8.20%
Risk premium	7.44%
Specific risk premium	2.50%
Cost of capital	11.3%

Multi-Client	
Risk-free rate	0.76%
Median unlevered beta	1.18
Market return	8.20%
Risk premium	7.44%
Specific risk premium	2.50%
Cost of capital	12.0%

SIR	
Risk-free rate	0.76%
Median unlevered beta	1.18
Market return	8.20%
Risk premium	7.44%
Specific risk premium	2.50%
Cost of capital	12.0%

Equipment	
Risk-free rate	0.76%
Median unlevered beta	1.21
Market return	8.20%
Risk premium	7.44%
Specific risk premium	2.50%
Cost of capital	12.2%

¹³⁶ Average capex equal to 21.8% of operating revenues.

¹³⁷ We positioned the premium for Business Plan execution risk at between 1.5% and 2.5% in our analysis of sensitivity to the inputs underlying the intrinsic valuation of CGG shares (§ 5.5.5).

- The Group and Corporate segment discount rate was estimated at 12.0%.¹³⁸

Corporate and Group	
Risk-free rate	0.76%
Median unlevered beta	1.18
Market return	8.20%
Risk premium	7.44%
Specific risk premium	2.50%
Cost of capital	12.0%

5.5.3. Perpetual growth rate

The terminal value was determined on the basis of a perpetual growth rate of 1.8% after the Business Plan period (§ 5.5.4) in line with long-term inflation forecasts.¹³⁹

5.5.4. Business plan

Management's Business Plan, as presented to the Board,¹⁴⁰ was initially drawn up in October 2016 and then updated quarterly, the last revision of the forecasts being after the 2017 half-year results. It covers the explicit period from 2017 to 2019 ("Explicit Period") and is split into operating segments — Acquisition, MC, SIR and Equipment — and Corporate. The last presentation of the Business Plan, dated [May 12, 2017](#), is provided in the Company's press release issued on the same date ("Restructuring Update").

The Business Plan was also used for IFRS impairment testing as of December 31, 2016.

Given our valuation approach, detailed by business segment and then for the Group as a whole, we took the forecasts for each business segment, adjusted for intra-group eliminations.

Based on the financial targets set out by the Company, the main assumptions underlying the Business Plan out to 2019 are summarized below:

- Operating revenues of almost \$2 billion;
- EBITDA margin of almost 42.5% (versus a target of between 37.5% and 42.5%);
- Capex at the top end of the target range of \$485 million (\$325 million in multi-client and \$160 million of industrial and R&D capex¹⁴¹).

¹³⁸ Comparable to the Corporate segment rate.

¹³⁹ Source: World Economic Outlook, July 2017, IMF. [Online]
<http://www.imf.org/en/Publications/WEO/Issues/2017/07/07/world-economic-outlook-update-july-2017>

¹⁴⁰ January 30, 2017.

¹⁴¹ Management's targets are in a range of \$275-325 million in multi-client capex, \$100-125 million in industrial capex and \$35 million in R&D capex.

Translation for information purposes only

Apart from their own specific features, the forecasts for each of the business segments are also based on common macroeconomic assumptions:

- Oil prices within a range of \$50 to \$65 BBL in 2018 and 2019;
- Upturn in E&P spending by the oil groups at end-2018.

5.5.4.1. Acquisition

The Acquisition Business Plan is based on the following assumptions:

- Operating revenue growth over the Explicit Period driven by:
 - a rise in market prices, which are currently at a record low,
 - an international strategy based on reinforcing the Group's position in certain geographic areas (Asia, Middle East) and opening up in new countries (Brazil), and
 - diversifying the offering to non-traditional clients (civil engineering, aeronautics, gas storage);
- Continued cuts in fleet costs, by stabilizing the marine fleet at five vessels and rationalizing the aircraft fleet (seven aircraft in 2018 versus 16 in 2016);
- Renewed capex, particularly in the Marine segment, of about \$40 million in 2018 and 2019 (versus \$16 million in 2017).

5.5.4.2. Multi-Client

The Multi-client Business Plan is based on the following assumptions:

- Operating revenue growth over the Explicit Period driven by an upturn in after-sales business on the back of rising oil prices, particularly in the Gulf of Mexico (StagSeis), and the attribution of new operating licenses (Brazil, Mexico);
- Improved profitability driven by operating revenue growth coupled with a fixed cost structure;
- Growth in capex driven by a higher vessel month and expansion into new geographic areas (United States).

5.5.4.3. SIR

The SIR Business Plan is based on the following assumptions:

- Operating revenue growth driven by:
 - a recovery in exploration programs in new areas driven by the expected rise in oil prices,
 - development of new technologies, and
 - ability to take on projects with a broad client base (offshore and onshore);
- Recovery postponed due to the lag between physical data acquisition and their processing, in a context of continued strong pressure on market prices;
- Capex focusing on the development of new GeoSoftware (Jason, Geovation).

5.5.4.4. Equipment

The Equipment Business Plan is based on the following assumptions:

- Strong growth in operating revenues over the Explicit Period, driven by:
 - an upturn in the market (recovery in MegaCrew business in the Middle East) coupled with the need to replace aging equipment, both marine and land (average lifecycle of seven years), and
 - Sercel's ability to provide innovative technology (508 XT) tailored to client needs (streamers, multi-sensors);
- Improved profitability with volume growth enabling better fixed cost coverage;
- Replacement capex of about €25 million a year.

In summary, we consider that the operating assumptions underlying the forecasts for all business segments as presented by Management and the execution risks related to the current market position make these forecasts look relatively aggressive.

The terminal value at the end of the Explicit Period is derived by:

- Capitalizing operating cash flow after tax considered to be recurring after a sustained growth period at the discount rate less the perpetual growth rate, and
- Discounting the terminal value thus obtained.

Given the current situation, assessing the terminal value is particularly tricky and we therefore reviewed various assumptions.

5.5.5. Preferred approaches and sensitivity analysis

- As a first step, we took a normative year in keeping with the Business Plan, with 1.8% growth and stable margins.¹⁴²

On that basis, we valued the business segments comprising the Group (Acquisition, MC, SIR, Equipment and Corporate) on a sum of the parts (SOP) basis; the valuations of each segment were aggregated to determine an enterprise value for the Group as a whole.

Our approach was based on consolidated data.

The table below shows an analysis of the sensitivity of enterprise value to cross changes in the discount rates and perpetual growth rates used to calculate the terminal value. However, we took a maximum execution risk premium of 2.5% in the discount rate calculations.

- ✓ Sensitivity of Enterprise Value on an Overall Group Basis

\$m	Business plan execution risk			
		+1.5 pp	+2 pp	+2.5 pp
Perpetual growth rate	-0.50 pp	2 063	1 948	1 844
	-0.25 pp	2 120	1 999	1 890
	0 pp	2 179	2 052	1 937
	+0.25 pp	2 241	2 107	1 987
	+0.50 pp	2 307	2 166	2 040

- ✓ Sensitivity of Enterprise Value on a SOP Basis

\$m	Business plan execution risk			
		+1.5 pp	+2 pp	+2.5 pp
Perpetual growth rate	-0.50 pp	2 199	2 074	1 961
	-0.25 pp	2 267	2 135	2 016
	0 pp	2 338	2 199	2 074
	+0.25 pp	2 413	2 267	2 135
	+0.50 pp	2 493	2 338	2 199

Taking a maximum business plan execution risk of 2.5% in the discount rate calculation, the enterprise value is at the bottom bound of the above range of **\$1,937 million to \$2,074 million**.

The enterprise value underlying this intrinsic valuation gives an EBITDA multiple in line with those of our peer group panel in 2019,¹⁴³ i.e., **\$2,176 million**.

¹⁴² EBITDA/Sales.

¹⁴³ 2019 EV/EBITDA multiple: 3.0x.

- **As a second step**, we analyzed the Group's EBITDA targets.¹⁴⁴

Our approach was based on the Group's forecasts, all business segments combined; given the sensitivity of the DCF valuation model to the EBITDA margin assumptions in a normative year, the specific execution risk premium referred to above was eliminated from the discount rate calculation, which was reduced to 9.5%¹⁴⁵ to avoid overweighting the risk of failing to achieve Management's targets.

The table below shows an analysis of the sensitivity of enterprise value to the central discount rate of 9.5% and to changes in the EBITDA margin in a normative year.

\$m		Discount rate				
		8.5%	9.0%	9.5%	10.0%	10.5%
EBITDA margin	37.5%	2 256	2 089	1 960	1 814	1 700
	38.5%	2 430	2 249	2 110	1 952	1 829
	39.5%	2 604	2 409	2 259	2 090	1 958
	40.0%	2 691	2 489	2 334	2 159	2 022

An EBITDA margin of 37.5% at the end of the Explicit Period (§ 5.5.4) gives an enterprise value of **\$1,960 million**, equivalent to a Business Plan execution risk of about 2.5 percentage points, i.e., a discount rate of 12.0%.

An EBITDA margin of 40% at the end of the Explicit Period (average of 37.5% and 42.5% (§ 5.4.4), gives an enterprise value of **\$2,334 million**, equivalent to a Business Plan execution risk of about 1 percentage point, i.e., a discount rate of 10.5%.

5.5.6. Factoring in delayed execution of the business plan

Given the strong sensitivity of the Group's operating revenues and EBITDA to oil prices and E&P spending of the major oil and gas companies, we drew up an alternative business plan.

The alternative scenario is based on the assumption that the Group will have difficulties in executing its Business Plan due to a delayed recovery in the seismic market resulting from lower than expected oil price increases, preventing the Group from achieving its projected EBITDA margin at the end of the Explicit Period.

We took this approach on a Group scale, all business segments combined. No specific risk premium was included in the discount rate, which was therefore 9.5%,¹⁴⁶ as the Business Plan execution risk is already included in the underlying assumptions.

¹⁴⁴ 2019e EBITDA margin between 37.5% and 42.5%.

¹⁴⁵ Discount rate with specific risk premium: 12.0% - specific premium: 2.5% (§ 5.5.2).

¹⁴⁶ Discount rate with specific risk premium: 12.0% - specific premium: 2.5% (§ 5.5.2).

Assuming a two-year delay in achieving the Business Plan coupled with an EBITDA margin of 37.5% at the end of the Explicit Period (2021), which is Management's minimum margin forecast, our analysis of the sensitivity of the enterprise value to the discount rate and perpetual growth rate, as shown below, gives a central value of **\$1,482 million** in a range of **\$1,361 million to \$1,621 million**.

\$m		Discount rate		
		9.0%	9.5%	10.0%
Perpetual growth rate	1.30%	1 490	1 368	1 261
	1.55%	1 553	1 423	1 309
	1.80%	1 621	1 482	1 361
	2.05%	1 694	1 545	1 416
	2.30%	1 772	1 613	1 475

5.6. Peers valuation method

We performed two valuations based on trading comparable:

- EV/EBITDA multiples drawn from a sample of comparable companies;
- Multiples drawn from a regression analysis (EV/Sales) performed on a sample of companies in the seismic industry, excluding Equipment.

We did not use the SOP method due to:

- A lack of strictly comparable companies, particularly in Equipment, and forecasts drawn from the brokers consensus;
- Corporate costs and margins on intra-group sales split in the Business Plan between the business segments, making it difficult to draw a direct comparison of forecast earnings by business segment with listed groups.

5.6.1. Peer sample

To our knowledge, there are no listed companies that are identical to CGG in terms of business activity, size, EBITDA margin, areas of operation and asset split.

However, we selected a sample of listed companies operating in the same four business segments as CGG based on business activity, margins and growth outlook.

The companies in the sample we used for EBITDA multiples (§ 5.6.2) are described in **Schedule 9** and **Schedule 10**.

1-month market capitalization at September 29, 2017 (€m)

CGG	France	109
PETROLEUM GEO-SERVICES	Norway	610
POLARCUS LTD	United Arab Emirates	19
SPECTRUM ASA	Norway	208
TGS NOPEC GEOPHYSICAL CO ASA	Norway	1 959

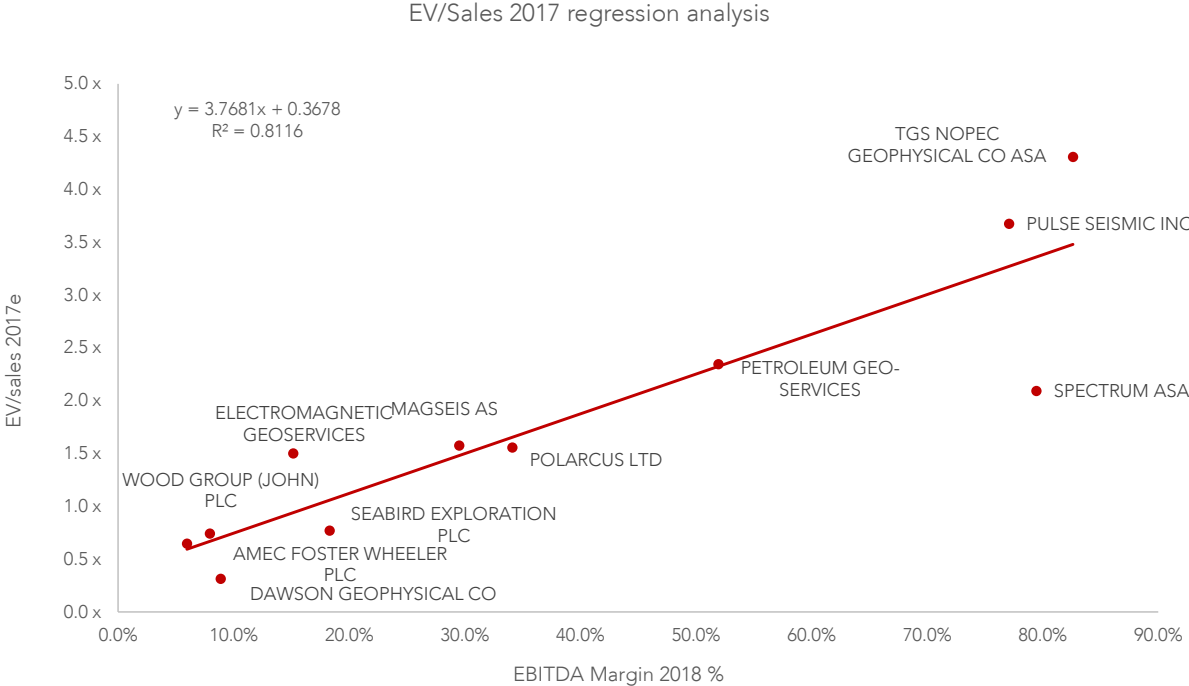
For the purposes of our regression analysis, we extended our sample to groups in the seismic industry in the broad sense, excluding:

- > Companies for which no broker consensus is available for operating revenue and forecast EBITDA margins;
- > Loss-making companies, whose margins by definition do not permit the calculation of relevant enterprise value multiples.

We began by looking at the correlation between the multiples observed for our sample companies and their growth prospects.¹⁴⁷

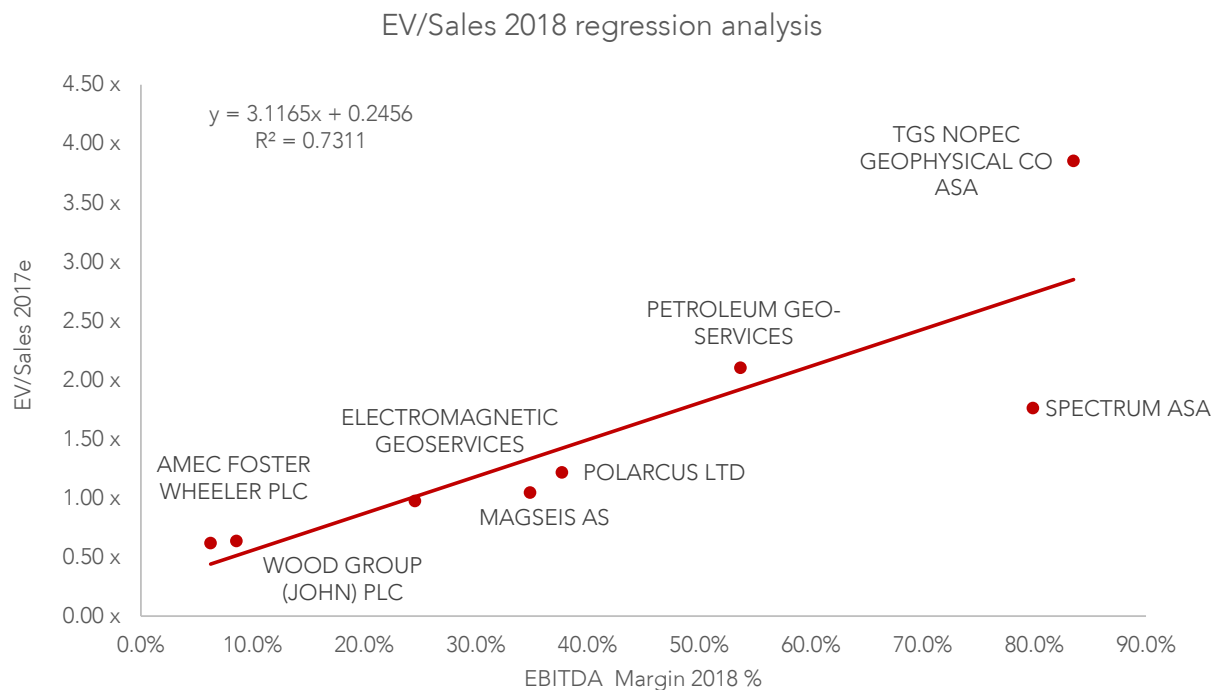
The companies in the sample we used for the regression analysis (§ 5.6.3) are described in **Schedule 9** and **Schedule 10**.

On that basis, we established a sample of 11 companies,¹⁴⁸ which present a positive correlation between 2017 and 2018 EV/Sales multiples and expected margins for the period 2018-2019.



¹⁴⁷ We thus excluded companies in the Equipment segment as we consider this segment to be too specific relative to the Group's overall business activity.

¹⁴⁸ We reduced our sample from 11 to 8 companies for the 2019 EBITDA margin analysis, as forecasts for that year were not available for all of the companies in the initial sample.



5.6.2. Method of calculating EBITDA multiples by Reference to Enterprise Value (EV)

We discarded the following multiples:

- EBIT, in particular for survey libraries, as the amortization policies of comparable companies are not homogeneous;
- Net earnings, due to differences in financial structure and tax rates among international companies.

We therefore focused on median 2018 and 2019 EV/EBITDA multiples to cancel out the impact of 2017, which was not only affected by the economic environment but also by restructurings.

The table below shows the median multiples for the sample for the period 2017 to 2019.

Company	EV/EBITDA		
	2017e	2018e	2019e
PETROLEUM GEO-SERVICES	5.1 x	4.1 x	3.4 x
POLARCUS LTD	13.8 x	3.6 x	2.6 x
SPECTRUM ASA	2.6 x	2.2 x	1.9 x
TGS NOPEC GEOPHYSICAL CO ASA	5.2 x	4.7 x	4.1 x
Median	5.2x	3.8x	3.0x

Translation for information purposes only

To determine EV/EBITDA multiples for each of the comparable companies, we referred to:

- Average market capitalization over one month,¹⁴⁹ plugging in net debt (or net cash as applicable) between market capitalization and the enterprise value used to determine the multiples;
- EBITDA estimates for the entire sample, taken from the broker consensus.¹⁵⁰

5.6.3. Presentation of regression analysis

Based on our regression analysis, we calculated:

- A constant, corresponding to the multiple applicable to a zero-profit company; the regression analysis gives constants of 0.37 and 0.25 respectively for 2017 EV/Sales and 2018 EV/Sales;
- A coefficient applicable to EBITDA margins.

The EV/Sales multiples for each of the comparable companies was determined using the same method as described above (§ 5.6.2).

5.6.4. Summary of peers valuations

Applying the median EBITDA multiples to 2018 and 2019 forecasts¹⁵¹ (§ 5.6.2), we obtain an enterprise value of between **\$2,133 million** and **\$2,506 million**.

Based on the regression analysis multiples (§ 5.6.3), we obtain an enterprise value of between **\$2,265 million** and **\$2,449 million**.

¹⁴⁹ As of September 29, 2017.

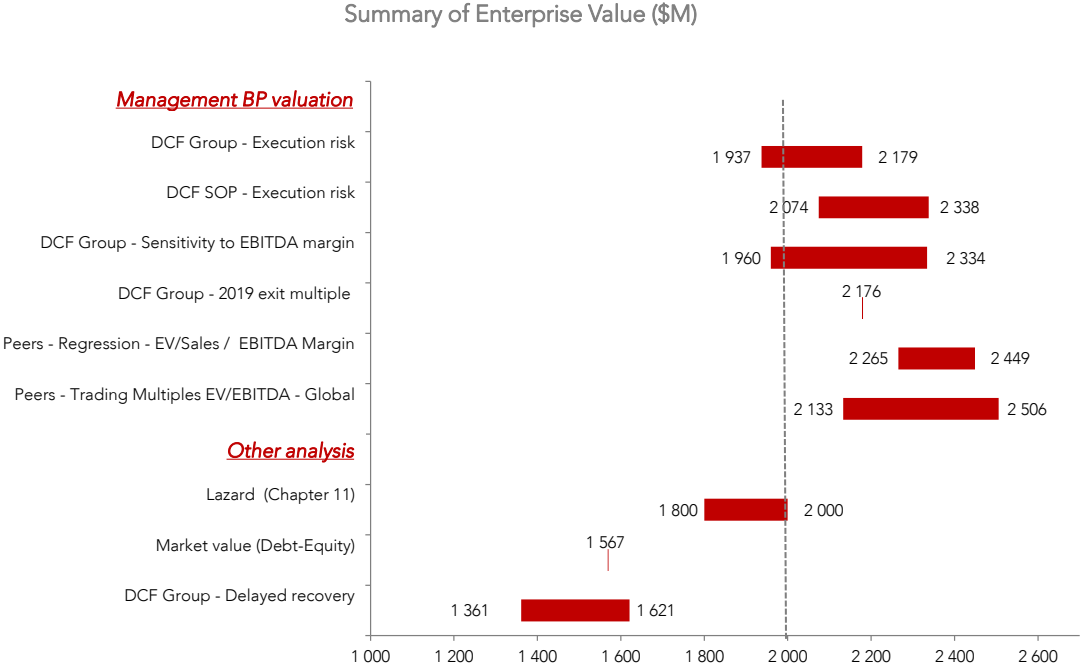
¹⁵⁰ Source: Bloomberg.

¹⁵¹ CGG's EBITDA forecasts have been adjusted for the results of equity accounted companies estimated by Management.

5.7. Summary of the multi-criteria valuation of CGG Shares before Restructuring

The table below summarizes the values obtained from our multi-criteria valuation of CGG shares:

> Enterprise Value



It should be noted that these values are based on a going concern assumption and a recovery in the Group's financial position in future years.

With an aggressive Business Plan, we prefer to take a value at the lower end of our multi-criteria range, of about **\$2,000 million**.

If there is a delay in the market recovery and Management's forecasts, the enterprise value could be lower than \$2,000 million, at between **\$1,400 million** and **\$1,600 million**. However such a scenario is difficult to assess in any detail.

As regards the value range resulting from our valuation analysis and the subordination of the Shareholders ranking them after the creditors, it appears that the Shareholders would have potentially lose their entire investment without a financial restructuring which is essential to the continuing of the Group' operations,

➤ Value of Equity before debt Restructuring

To obtain the market value of equity, we deducted net debt from the enterprise value (§ 5.1.5).

\$m	Enterprise Value		Net debt	Value of Equity		Equity / Share	
	Min	Max		Min	Max	Min	Max
Management BP valuation							
DCF Group - Execution risk	1 937	2 179	(2 315)	(377)	(136)	-\$17.1	-\$6.2
DCF SOP - Execution risk	2 074	2 338	(2 315)	(241)	23	-\$10.9	\$1.0
DCF Group - Sensitivity to EBITDA margin	1 960	2 334	(2 315)	(355)	19	-\$16.1	\$0.9
DCF Group - Exit multiple 2019		2 176	(2 315)		(138)		-\$6.3
Peers - Regression - EV/Sales / EBITDA Margin	2 265	2 449	(2 402)	(137)	47	-\$6.2	\$2.1
Peers - Trading Multiples EV/EBITDA - Global	2 133	2 506	(2 402)	(269)	104	-\$12.1	\$4.7
Market value							
Share price at 05/11/2017 (1m - 3m)	N/A	N/A	N/A	168	185	\$7.6	\$8.4
Share price at 09/29/2017 (1m - 3m)	N/A	N/A	N/A	125	130	\$5.6	\$5.9
Price target	N/A	N/A	N/A	26	144	\$1.2	\$6.5
Other analysis							
Lazard (Chapter 11)		1 900	N/A	N/A		N/A	
Market value (Debt-Equity)		1 567	N/A	N/A		N/A	
DCF Group - Delayed recovery		1 482	(2 315)		(832)		-\$37.7

The company is listed on Euronext Paris but publishes its financial statements and prepares its forecasts in US dollars. All of our valuation work was done in dollars using the average \$/€ exchange rate over the past three months, i.e., 0.8514.¹⁵²

€m	Enterprise Value		Net debt	Value of Equity		Equity / Share	
	Min	Max		Min	Max	Min	Max
Management BP valuation							
DCF Group - Execution risk	1 649	1 855	(1 971)	(321)	(116)	-€14.5	-€5.2
DCF SOP - Execution risk	1 766	1 990	(1 971)	(205)	20	-€9.3	€0.9
DCF Group - Sensitivity to EBITDA margin	1 668	1 987	(1 971)	(302)	17	-€13.7	€0.7
DCF Group - Exit multiple 2019		1 853	(1 971)		(118)		-€5.3
Peers - Regression - EV/Sales / EBITDA Margin	1 928	2 085	(2 045)	(116)	40	-€5.3	€1.8
Peers - Trading Multiples EV/EBITDA - Global	1 816	2 133	(2 045)	(229)	89	-€10.3	€4.0
Market value							
Share price at 05/11/2017 (1m - 3m)	N/A	N/A	N/A	143	157	€6.5	€7.1
Share price at 09/29/2017 (1m - 3m)	N/A	N/A	N/A	106	110	€4.8	€5.0
Price target	N/A	N/A	N/A	22	122	€1.0	€5.5
Value range						-€14.5	€7.1
Other analysis							
Lazard (Chapter 11)		1 618	N/A	N/A		N/A	
Market value (Debt-Equity)		1 334	N/A	N/A		N/A	
DCF Group - Delayed recovery		1 262	(1 971)		(709)		-€32.1

¹⁵² As of September 29, 2017.

6. FINANCIAL ANALYSIS OF THE TRANSACTION

6.1. Dilution for the Shareholders

To analyze the impact of the Transaction on the Shareholders, we looked at CGG's ownership post-Restructuring on the following basis:

- excluding exercise of the Shareholders Warrants and Rights Warrants;
- including exercise of the Shareholders Warrants and Rights Warrants.

We drew this distinction because the results of our valuation of the Group (§ 5) show that these two warrant classes will not be in the money immediately post-Transaction¹⁵³. Therefore, as they may not be exercised, the resulting dilution/accretion cannot be considered as certain.

Our valuations are slightly different from those presented in the securities notes as they are based on the number of Shares outstanding as of June 30, 2017, *i.e.*, excluding treasury stock.

6.1.1. Analysis before exercise of Shareholders Warrants and Rights Warrants

Before any potential exercise of the Shareholders Warrants and Rights Warrants, the historic Shareholders will own a percentage of the Company's post-Transaction capital of between 3.2% and 13.3% depending on whether or not they subscribe to the Rights Issue (Stage 2, § 3.2).

¹⁵³ Our intrinsic valuation gives a post-Transaction value range per Share of €2.15 to €2.62 (§ 6.2.2). As a reminder, the exercise price of the Shareholders Warrants and Rights Warrants is, respectively, €3.12 and €4.02 (§ 3).

Translation for information purposes only

Millions	% subscription Rights Issue by Shareholders				Comment
	0%	% capital	100%	% capital	
<i>Pre-Transaction Number of Shares</i>	22.1	3.2%	22.1	3.1%	At June 30, 2017
<i>Treasury shares</i>	(0.0)	(0.0%)	(0.0)	(0.0%)	At June 30, 2017
Shareholders pre-Transaction	22.1	3.2%	22.1	3.1%	
Shareholders Warrants					Stage 1
Shareholders Rights Issue	-	-	71.9	10.2%	Stage 2
Shareholders Rights Warrants					Stage 2
Shareholders	22.1	3.2%	94.0	13.3%	
Senior Noteholders Rights Issue (backstop)	26.2	3.8%	-	-	Stage 2
Senior Noteholders Rights Warrants (backstop)					Stage 2
Shares Senior Notes Issue	432.8	62.8%	445.9	63.2%	Stage 3
New Notes Warrants	110.3	16.0%	112.9	16.0%	Stage 5
Senior Noteholders	569.3	82.5%	558.8	79.2%	
DNCA Rights Warrants (backstop)					Stage 2
DNCA Rights Issue (backstop)	45.8	6.6%	-	-	Stage 2
DNCA (backstop)	45.8	6.6%	-	-	
Shares CB Issue	35.2	5.1%	35.2	5.0%	Stage 3
CB holders	35.2	5.1%	35.2	5.0%	
Coordination Warrants.	6.9	1.0%	7.1	1.0%	Stage 5
Backstop Warrants	10.3	1.5%	10.6	1.5%	Stage 5
Senior Noteholders Ad Hoc Committee	17.2	2.5%	17.6	2.5%	
Potential Post-Transaction Number of Shares	689.7	100.0%	705.7	100.0%	

As a reminder the difference on the number of shares post-Transaction is linked to the backstop mechanism of the Right issue (Stage 2 - § 3.2). In case the Shareholders do not subscribe to the Rights Issue, the Senior Noteholders would be called as backstop for an amount reducing the Senior Notes Issue proportionately.

The issued new Shares under the exercise of the new Notes Warrants, Coordination Warrants, and Backstop Warrants, are also concerned by this mechanism insofar as their number will be determined on the basis of the Diluted Number of Shares which includes the impact of the Right Issue and the Senior Notes Issue (Stage 5 - 3.5).

6.1.2. Analysis after exercise of Shareholders Warrants and Rights Warrants

Assuming that the Shareholders Warrants and Rights Warrants are exercised, the historical Shareholders could increase their percentage holding in the Company's capital to between 6.7% and 21.9% depending on whether or not they subscribe to the Rights Issue (Stage 2, § 3.2).

Millions	% subscription Rights Issue by Shareholders				Comment
	0%	% capital	100%	% capital	
<i>Pre-Transaction Number of Shares</i>	22.1	2.9%	22.1	2.8%	At June 30, 2017
<i>Treasury shares</i>	(0.0)	(0.0%)	(0.0)	(0.0%)	At June 30, 2017
Shareholders pre-Transaction	22.1	2.9%	22.1	2.8%	
Shareholders Warrants	29.5	3.8%	29.5	3.8%	Stage 1
Shareholders Rights Issue	-	-	71.9	9.2%	Stage 2
Shareholders Rights Warrants	-	-	48.0	6.1%	Stage 2
Shareholders	51.6	6.7%	171.5	21.9%	
Senior Noteholders Rights Issue (backstop)	26.2	3.4%	-	-	Stage 2
Senior Noteholders Rights Warrants (backstop)	17.4	2.3%	-	-	Stage 2
Shares Senior Notes Issue	432.8	56.4%	445.9	56.9%	Stage 3
New Notes Warrants	110.3	14.4%	112.9	14.4%	Stage 5
Senior Noteholders	586.8	76.5%	558.8	71.4%	
DNCA Rights Warrants (backstop)	30.5	4.0%	-	-	Stage 2
DNCA Rights Issue (backstop)	45.8	6.0%	-	-	Stage 2
DNCA (backstop)	76.3	9.9%	-	-	
Shares CB Issue	35.2	4.6%	35.2	4.5%	Stage 3
CB holders	35.2	4.6%	35.2	4.5%	
Coordination Warrants.	6.9	0.9%	7.1	0.9%	Stage 5
Backstop Warrants	10.3	1.3%	10.6	1.4%	Stage 5
Senior Noteholders Ad Hoc Committee	17.2	2.2%	17.6	2.3%	
Potential Post-Transaction Number of Shares	767.1	100.0%	783.2	100.0%	

6.2. Analysis of the impact of the transaction on the Stakeholders' interest

6.2.1. Our Approach

To assess the impact of the Transaction on the Shareholders and Creditors involved, we analyzed changes in the theoretical pre- and post-Transaction interest of:

- Historical Shareholders;
- Senior Noteholders;
- CB holders;
- DNCA as backstop for the Rights Issue;¹⁵⁴
- Senior Noteholders *ad hoc* Committee under the Rights Issue backstop mechanism¹⁵⁵ and the New Notes Issue¹⁵⁶ on the one hand, and the global coordination fee for the Transaction¹⁵⁷ on the other.

In our analysis, we treated DNCA as backstop for the Rights Issue and the Senior Noteholders *ad hoc* Committee as separate categories; it allows the presentation of representative results specific to each category of the Transaction without prejudicing individual choices and special situations¹⁵⁸.

Holders of Secured Debt are not included in this analysis as their debt will not be equitized under the Transaction, its only effect being a change in the terms and conditions.

We calculated the sensitivity of our analysis as summarized in the double-entry tables in this section of the Report to two factors:

- **Rows:** a five-point value range for the Group's equity ("**Equity**") pre-Transaction representing the value of the Shareholders' interest pre-Restructuring:
 - Value Point 1 (**€-302M**): value of pre-Transaction Equity drawn from our valuation by reference to an enterprise value of \$2 billion as presented in the summary of our valuation work (§ 5.7) corresponding to the lower bounds of our intrinsic valuation range;
 - Value Point 2 (**€20 M**): value of the pre-Transaction Equity drawn from the upper of our intrinsic valuation range;
 - Value Point 3 (**€ 59 M**): value of pre-Transaction Equity at which the Transaction would have a neutral impact on the Shareholders' interest if they do not subscribe to the Rights Issue: the results of this illustrative value are presented to enable the Shareholders to situate on our valuation range (§ 5.7) the level above which the Transaction would have a negative impact on their interest if the Rights Issue was subscribed only by DNCA and the Senior Noteholders under the backstop;

¹⁵⁴ Shares subscribed under the Rights Issue backstop mechanism plus the Rights Issue Backstop Fee (§ 3.2).

¹⁵⁵ Shares subscribed under the Rights Issue backstop mechanism (§ 3.2).

¹⁵⁶ New Notes Backstop Fee and Backstop Warrants (§ 3.5).

¹⁵⁷ Coordination Warrants.

¹⁵⁸ Guarantee an issue or represent a category of holders in the negotiation.

- Value Point 4 (€ 151 M): value of pre-Transaction Equity at which the Transaction would have a neutral impact on the Shareholders' interest if they subscribe fully to the Rights Issue. The purpose of this is the same as for Value Point 3;
 - Value Point 5 (€ 157M): valuation inferred by market capitalization before the restructuring update on 12 May, 2017, in order to provide a market reference despite the high value of the Share price compared with CGG's valuation.
- **Columns:** the current Shareholders' percentage subscription to the Rights Issue¹⁵⁹ based on value points of 0%, 25%, 50%, 75% and 100%. Remember that this percentage does not include DNCA's subscription under the Rights Issue backstop, as its position is analyzed separately (§ 6.2.7).

The theoretical value of post-Transaction Equity has been determined by integrating the impact of all the Restructuring steps shown below.

Pre-Transaction Equity	Equity values used (Value point 1 to 5)	§ 6.2.1
+ Rights Issue cash	Payment of exercise price by Shareholders and DNCA	Stage 2
+ Rights Issue set-off	Payment of exercise price by set off against Senior Notes	§ 3.2
- Rights Issue Backstop Fee	Fee paid by the Company to DNCA	
= Equity post-Rights Issue		
+ CB Issue	CB Equitized Amount	Stage 3
+ Senior Notes Issue	Senior Notes Equitized Amount	§ 3.3
= Equity post-equitization of Unsecured Debt		
- New Notes Commitment Fee	Fee paid by the Company on subscription	
- New Notes Backstop Fee	Commission paid by the Company to the Senior Noteholders <i>ad hoc</i> Committee	Stage 5
+ Exercise price New Notes Warrants	Payment of exercise price by Senior Noteholders	§ 3.5
+ Exercise price Backstop Warrants	Payment of exercise price by Senior Noteholders <i>ad hoc</i> Committee	
+ Exercise price Coordination Warrants	Payment of exercise price by Senior Noteholders <i>ad hoc</i> Committee	
= Equity post-New Notes Issue		
+ Exercise price Shareholder Warrants	Payment of exercise price by Shareholders	Stage 1
= Equity post-exercise Shareholder Warrants		§ 3.1
+ Exercise price Rights Warrants	Payment of exercise price by Shareholders/Creditors/DNCA	Stage 2
= Post-Transaction Equity		§ 3.2

It should be noted that:

- The repayments of \$86 million¹⁶⁰ for the Seniors Notes and \$5 million for the CBs (§ 3) as well as the New Notes Issue will have no impact on the post-Transaction value of Equity as these amounts will *de facto* reduce the Group's debt;
- The Shareholders Warrants and the Rights Warrants are not exercised in our model unless they are in the money. As the upper and lower bounds of our valuation range show a post-Transaction value per Share that would put these Warrants out of the money, their impact has not been included. Nonetheless, these Warrants are option-based assets that have a value and a more specific analysis of the Shareholders Warrants and Rights Warrants is therefore presented below (§ 7).

¹⁵⁹ Or any other backstop guarantor in the same position.

¹⁶⁰ If this amount is not "exchanged".

On this basis, we determined the theoretical post-Transaction interest of each of the Stakeholders, taking into account:

- The value of the Equity held by each of the parties to the Transaction by applying the percentage capital held post-Transaction to the post-Transaction value of Equity; this percentage includes:
 - Shares held pre-Transaction;
 - Shares subscribed under the Rights Issue, CB Issue and Senior Notes Issue; and
 - Shares obtained on exercise of in-the-money Warrants, i.e., Coordination Warrants, Backstop Warrants and New Notes Warrants;
- Transaction-related fees received in cash by the relevant parties;
- Amounts paid by the Stakeholders for their subscription to the various issues and exercise of in-the-money Warrants.

6.2.2. Reconciliation of Pre- and Post-Transaction Equity

Based on the various sensitivities by tranche of post-Transaction value of Equity and percentage subscription to the Rights Issue (§ 6.2.1), pre-Transaction Equity of between €(302) million and €20 million would become €1,484 million and €1,847 million post-Transaction, i.e., a value per Share of between €2.15 and €2.62.

Based on market capitalization of the Company pre-Transaction of €157 million, the post-Transaction value of Equity amounts to maximum of € 1,985 million, i.e., a value per Share of €2.81.

The post-Transaction value of Equity and the associated number of Shares remain stable above a 36% subscription rate to the Rights Issue by the Shareholders (Stage 2). As a reminder, this is the subscription rate below which the Senior Noteholders' backstop would be triggered¹⁶¹ (§ 3.2.1).

Post-Transaction Value of Equity

€m		Pre-Transaction Equity				
		(302)	20	59	151	157
Subscription Rights Issue	-	1,484	1,806	1,845	1,938	1,944
	25%	1,512	1,834	1,874	1,966	1,972
	50%	1,525	1,847	1,886	1,979	1,985
	75%	1,525	1,847	1,886	1,979	1,985
	100%	1,525	1,847	1,886	1,979	1,985

Post-Transaction Number of Shares

€m		Pre-Transaction Equity				
		(302)	20	59	151	157
Subscription Rights Issue	-	689.7	689.7	689.7	689.7	689.7
	25%	700.7	700.7	700.7	700.7	700.7
	50%	705.7	705.7	705.7	705.7	705.7
	75%	705.7	705.7	705.7	705.7	705.7
	100%	705.7	705.7	705.7	705.7	705.7

¹⁶¹ In the absence of cash collateral by a significant shareholder with the company's consent.

Post-Transaction Value of Equity per Share

€m		Pre-Transaction Equity				
		(302)	20	59	151	157
Subscription Rights Issue	-	2.15	2.62	2.68	2.81	2.82
	25%	2.16	2.62	2.67	2.81	2.81
	50%	2.16	2.62	2.67	2.80	2.81
	75%	2.16	2.62	2.67	2.80	2.81
	100%	2.16	2.62	2.67	2.80	2.81

For ease of interpretation for each of the parties in the Transaction¹⁶², we present the detailed analysis for the “**Illustrative Assumptions**”:

- a theoretical pre-Transaction value of Equity of (€302 million) (enterprise value of €2 billion), and
- a 50% subscription rate to the Rights Issue by the Shareholders.

The objective of the assumption consists to facilitate the reading of the below and above tables.

Regarding the situation of the Company post-Transaction, the Illustrative Assumption refers to:

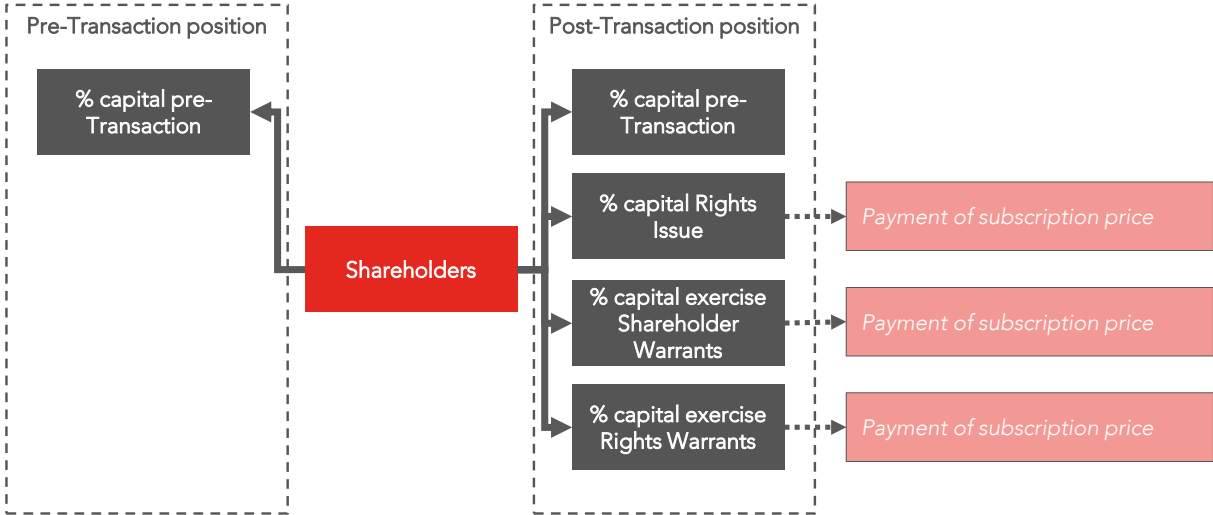
- A theoretical post-Transaction value of Equity arising from all the stages of the Restructuring of €1,525 million;
- A post-Transaction number of Shares of 705.7 million;
- A resulting post-Transaction value per Share of €2.16.

¹⁶² Shareholders (§ 6.2.3); Senior Noteholders (§ 6.2.4); CB holders (§ 6.2.5); Senior Noteholders *ad hoc* Committee (§ 6.2.6); and DNCA (§ 6.2.7).

6.2.3. Analysis of change in the Shareholders' interest

6.2.3.1. Nature of the Shareholders' interest Pre- and Post-Transaction

The Shareholders' interest comprises exclusively Shares and Warrants.



Based on the approach described above (§ 6.2.1 and § 6.2.2), the Shareholders' post-Transaction interest is as follows:

Shareholders' position post-Transaction

		Pre-Transaction Equity				
€m		(302)	20	59	151	157
Subscription Rights Issue	-	48	58	59	62	62
	25%	58	77	79	84	85
	50%	69	96	99	107	107
	75%	80	115	119	129	130
	100%	91	134	139	151	152

The Shareholders' post-Transaction interest in the Illustrative Assumption is €69 million after the impacts of the various stages of the Restructuring.

6.2.3.2. Net Impact of the transaction for the Shareholders

The net impact of the Restructuring for the Shareholders was determined by deducting the amount of pre-Transaction Equity from the Shareholders' post-Transaction interest (§ 6.2.3.1.).

Net Impact of the Transaction for the Shareholders¹⁶³
(on the value of their interest - €m)

€m		Pre-Transaction Equity				
		(302)	20	59	151	157
Subscription Rights Issue	-	350	38	-	(89)	(95)
	25%	361	57	20	(67)	(73)
	50%	372	76	40	(45)	(50)
	75%	382	95	60	(22)	(28)
	100%	393	114	80	-	(5)

Net Impact of the Transaction for the Shareholders (%)¹⁶⁴

%		Pre-Transaction Equity				
		(302)	20	59	151	157
Subscription Rights Issue	-	na	195%	-	(59%)	(60%)
	25%	na	292%	34%	(44%)	(46%)
	50%	na	388%	68%	(30%)	(32%)
	75%	na	485%	101%	(15%)	(18%)
	100%	na	582%	135%	-	(3%)

The Illustrative Assumption shows a net impact for the Shareholders of €372 million¹⁶⁵

We note that:

- Taking an equity value of €(302) million, which corresponding to the lower bounds of the intrinsic valuation prior to Restructuring (§ 5.7), the impact on the Shareholders' interest appears to be beneficial;
- This would also be the case for all valuations resulting in a pre-Transaction value of Equity below €59 million. It appears that the amounts of the pre-Transaction Value of Equity inferring a neutral impact of the Restructuring for the Shareholders, whether or not they subscribe to the Rights Issue, are above the upper range of our intrinsic valuation;
- Valuation based on share price would result in a loss for the Shareholders due to the the high value of the Share price compared with CGG's valuation.

The Shareholders' theoretical post-Transaction interest presented here **does not include the potential value of the Shareholders Warrants and Rights Warrants** for Shareholders subscribing to the Rights Issue.

The theoretical valuation of the Warrants is presented below (§ 7).

Furthermore, Shareholders not wishing to subscribe to the Rights Issue would be able to sell their Rights and therefore increase the value of their interest by the amount of the Rights sale price. We do not believe it is possible to determine such a sale price, but we present a theoretical valuation below (§ 7).

¹⁶³ Green: gain / Red: loss.

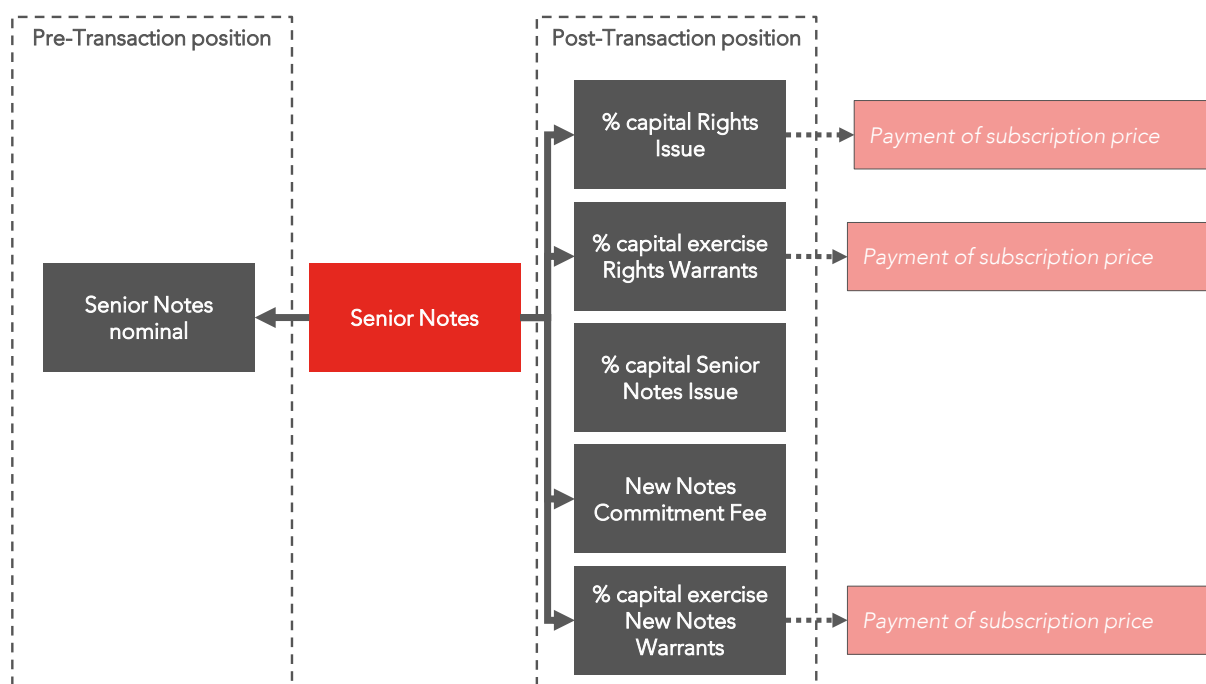
¹⁶⁴ Percentage loss for Shareholders in red; percentage relative to pre-Transaction interest.

¹⁶⁵ I.e. in the Illustrative Assumption: €1,525 million (post-transaction Equity) x 8.2% (percentage of capital held by Shareholders post-Transaction in the Illustrative Assumption) – €56 million (Rights Issue subscription price) - (€302 million (pre-Transaction Equity)) = €372 million.

6.2.4. Analysis of the change in the Senior Noteholders' Interest

6.2.4.1. Nature of the Senior Noteholders' position Pre- and Post-Transaction

The change in the Seniors Noteholders' position as a result of the Restructuring can be summarized as follows:



Based on the approach described above (§ 6.2.1 and § 6.2.2), with a debt equitization amount of €1,391 million as of December 20, 2017 (§ 3.3.2), the Senior Noteholders post-Transaction interest is as follows:

Senior Noteholders' position post-Transaction

€m		Pre-Transaction Equity				
		(302)	20	59	151	157
Subscription Rights Issue	-	1,246	1,512	1,545	1,621	1,626
	25%	1,234	1,492	1,524	1,598	1,603
	50%	1,229	1,484	1,515	1,588	1,593
	75%	1,229	1,484	1,515	1,588	1,593
	100%	1,229	1,484	1,515	1,588	1,593

Based on the Illustrative Assumption (pre-Transaction Value of Equity of €(302) million and 50% subscription rate to the Rights Issue by the historical Shareholders), the Senior Noteholders' post-Transaction interest would be €1,229 million.¹⁶⁶

¹⁶⁶ The Senior Noteholders' interest remains stable above a 36% subscription rate to the Rights Issue, as their backstop would not be triggered. Their post-Transaction interest therefore no longer includes the "% subscription to the Rights Issue" and "% capital exercise Rights Warrants" components.

6.2.4.2. Net Impact of the transaction for the Senior Noteholders

The net impact for the Senior Noteholders has been determined in our analysis based on two approaches, by deducting the following amounts from the Senior Noteholders' post-Transaction interest (§ 6.2.4.1.):

- The total amount of Senior Notes equitized: €1,391 million (par);
- In a second approach and **for information purposes only**, the market value of the Senior Notes adjusted for accrued interest estimated as of December 20, 2017: €662 million (adjusted market value of Senior Notes).

€m		
Estimated market value of the Senior Notes	648	1-month average at May 11, 2017
Payment due under the Restructuring	(77)	§ 3.3.1
Accrued interest at December 20, 2017	91	
Adjusted market value of Senior Notes	662	

Based on par value

Net Impact of the Transaction for the Senior Noteholders (€m)¹⁶⁷

€m		Pre-Transaction Equity				
		(302)	20	59	151	157
Subscription Rights Issue	-	(145)	121	154	230	235
	25%	(157)	101	133	207	212
	50%	(162)	92	124	197	201
	75%	(162)	92	124	197	201
	100%	(162)	92	124	197	201

Net Impact of the Transaction for the Senior Noteholders (%)

%		Pre-Transaction Equity				
		(302)	20	59	151	157
Subscription Rights Issue	-	(10%)	9%	11%	17%	17%
	25%	(11%)	7%	10%	15%	15%
	50%	(12%)	7%	9%	14%	14%
	75%	(12%)	7%	9%	14%	14%
	100%	(12%)	7%	9%	14%	14%

The Transaction does not lead to a loss relative to the par value of the Senior Notes except when the value of pre-Transaction Equity is negative, which is the case if we take a value of €(302) million corresponding to the lower bounds of our intrinsic valuation range prior to Restructuring (§ 5.7).

As a reminder the Senior Noteholders' post-Transaction interest includes the value of the Shares received under the exercise of the New Notes Warrants; these Warrants are under the issuance of new money to the Company through the New Notes Issue.

¹⁶⁷ Based on the Illustrative Assumption, the Senior Noteholders post Transaction interests is €(162) million, i.e. a loss of 12% relative: €1,525 million (post-Transaction Equity) x 79.2% (percentage of capital held by Senior Noteholders post-Transaction in the Illustrative Assumption) – €1,392 million (Rights Issue subscription price and exercise of New Notes Warrants) + €22 million (New Notes Commitment Fee) = €(162) million.

Based on the adjusted market value of Senior Notes

Net Impact of the Transaction for the Senior Noteholders (€m)¹⁶⁸

€m		Pre-Transaction Equity				
		(302)	20	59	151	157
Subscription Rights Issue	-	585	850	883	959	964
	25%	573	831	863	937	941
	50%	567	822	853	926	931
	75%	567	822	853	926	931
	100%	567	822	853	926	931

Net Impact of the Transaction for the Senior Noteholders (%)

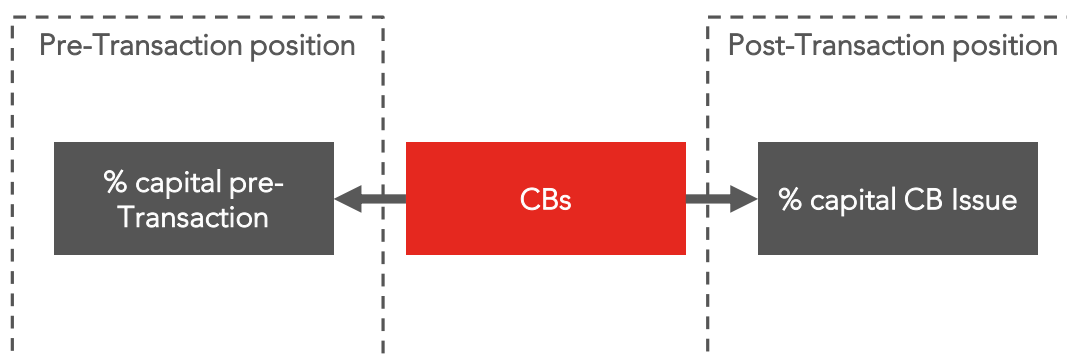
%		Pre-Transaction Equity				
		(302)	20	59	151	157
Subscription Rights Issue	-	88%	129%	133%	145%	146%
	25%	87%	126%	130%	142%	142%
	50%	86%	124%	129%	140%	141%
	75%	86%	124%	129%	140%	141%
	100%	86%	124%	129%	140%	141%

As the Senior Notes are trading at a discount to their par value, the impact on the Senior Noteholders' post-Transaction position is positive in all cases. The level of gain should be assessed with regard to the fact that, after equitization, the guarantees attached to the debt instrument are no longer applicable; by becoming Shareholders, the Senior Noteholders are deprived of their senior ranking among the creditors.

6.2.5. Analysis of the change in the CB Holders' interest

6.2.5.1. Nature of the CB holders' interest Pre- and Post-Transaction

The change in the CB holders' position as a result of the Restructuring can be summarized as follows:



¹⁶⁸ Based on the market value of the Senior Notes and in the Illustrative Assumption, the net impact of the Transaction for Senior Noteholders is €567 million, i.e. a gain of 86%:

Based on the approach described above (§ 6.2.1 and § 6.2.2), and a CB Equitized Amount of €362 million (§ 3.3.1), the CB holders' interest post-Transaction is as follows:

CB holders' position post-Transaction						
€m		Pre-Transaction Equity				
		(302)	20	59	151	157
Subscription Rights Issue	-	76	92	94	99	99
	25%	76	92	94	99	99
	50%	76	92	94	99	99
	75%	76	92	94	99	99
	100%	76	92	94	99	99

In the Illustrative Assumption, the CB holders' interest post-Transaction is €76 million compared with a CB Equitized Amount of €362 million.

6.2.5.2. Impact of the transaction on the CB Holders' interest

We assessed the change in the CB holders' interest from two angles, by deducting the following amounts from the CB holders' post-Transaction position:

- CB Equitized Amount: €362 million (par);
- In a second approach and for information purposes only, the market value of the CBs adjusted for accrued interest estimated as of December 20, 2017: €97 million (adjusted market value of CBs).

€m		
Estimated market value of the CBs	95	1-month average at May 11, 2017
Payment due under the Restructuring	(4)	§ 3.3.1
Accrued interest at December 20, 2017	6	
Adjusted market value of the CBs	97	

Based on par value

Net Impact of the Transaction for the CB Holders (€m)¹⁶⁹

€m		Pre-Transaction Equity				
		(302)	20	59	151	157
Subscription Rights Issue	-	(286)	(269)	(267)	(263)	(262)
	25%	(286)	(269)	(267)	(263)	(262)
	50%	(285)	(269)	(267)	(263)	(262)
	75%	(285)	(269)	(267)	(263)	(262)
	100%	(285)	(269)	(267)	(263)	(262)

Net Impact of the Transaction for the CB Holders (%)

%		Pre-Transaction Equity				
		(302)	20	59	151	157
Subscription Rights Issue	-	(79%)	(74%)	(74%)	(73%)	(73%)
	25%	(79%)	(74%)	(74%)	(73%)	(73%)
	50%	(79%)	(74%)	(74%)	(73%)	(73%)
	75%	(79%)	(74%)	(74%)	(73%)	(73%)
	100%	(79%)	(74%)	(74%)	(73%)	(73%)

In all cases, the CB holders will suffer a loss of more than 70% relative to the par value of their bonds. This is because the subscription price is higher than CGG's value per Share post-Transaction.

The conclusion is not the same if we refer to the market value of the CBs. Considering the top of our valuation range, it seems that the subscription price set for the Restructuring is in line with the market value of the CBs as of May 11, 2017, before the Company's initial press releases on progress in negotiations. Based on a pre-Transaction Value of Equity of (€302) million, the CBs holders incur a loss but less than the one observed on the nominal value basis.

Based on the adjusted market value of CBs

Net Impact of the Transaction for the CB Holders (€m)¹⁷⁰

€m		Pre-Transaction Equity				
		(302)	20	59	151	157
Subscription Rights Issue	-	(21)	(5)	(3)	2	2
	25%	(21)	(5)	(3)	2	2
	50%	(21)	(5)	(3)	2	2
	75%	(21)	(5)	(3)	2	2
	100%	(21)	(5)	(3)	2	2

Net Impact of the Transaction for the CB Holders (%)

%		Pre-Transaction Equity				
		(302)	20	59	151	157
Subscription Rights Issue	-	(22%)	(5%)	(3%)	2%	2%
	25%	(22%)	(5%)	(3%)	2%	2%
	50%	(21%)	(5%)	(3%)	2%	2%
	75%	(21%)	(5%)	(3%)	2%	2%
	100%	(21%)	(5%)	(3%)	2%	2%

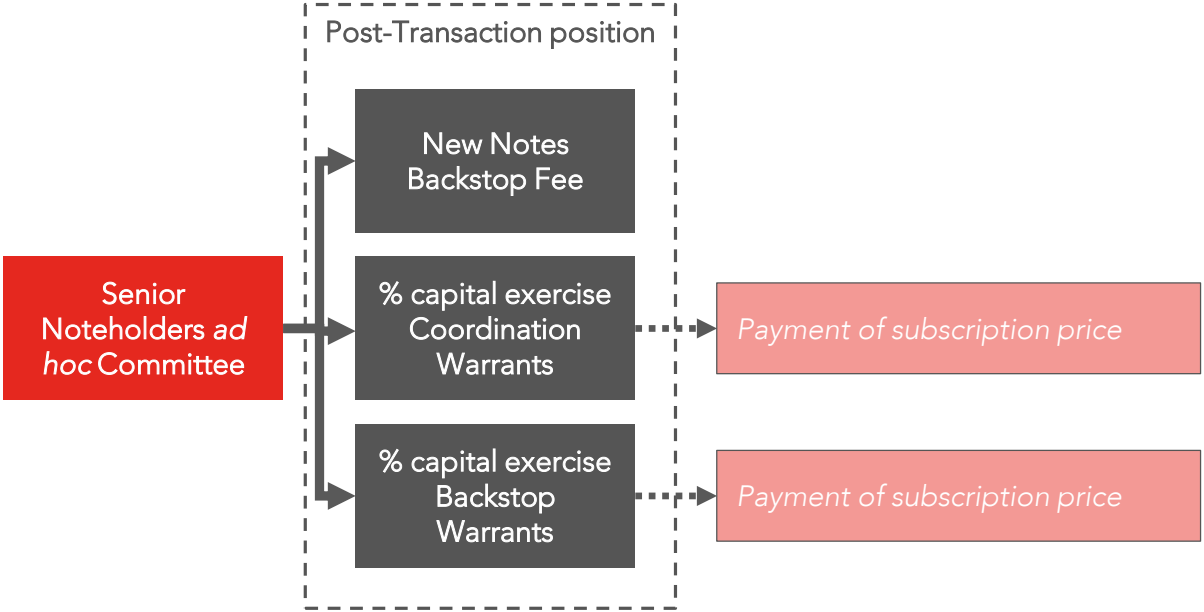
¹⁶⁹ Based on par value and in the Illustrative Assumption, the net impact of the Transaction for CB holders is (€285) million, i.e. a loss of 79%: €1,525 million (post-Transaction Equity) x 5% (percentage of capital held by CB holders post-Transaction in the Illustrative Assumption) – €362 million (CB Issue subscription price) = (€285) million.

¹⁷⁰ In the Illustrative Assumption, the CB holders' interest post-Transaction is (€21) million, i.e., a loss of 21% relative to the adjusted market value of their bonds.

6.2.6. Analysis of the change in the interest of the Senior Noteholders ad hoc Committee

In order to identify accurately the specific position of the Senior Noteholders ad hoc Committee, our analysis does not include the interest inherent in the status of Senior Noteholder.

Hence, in our analysis, the pre-Transaction interest of the Senior Noteholders ad hoc Committee is nil and the post-Transaction position comprises fees received in cash or in Warrants.



Based on the approach described above (§ 6.2.1 and § 6.2.2), the post-Transaction interest of the Senior Noteholders ad hoc Committee, which also represents the net impact of the Transaction for the Committee, is as follows:

€m		Pre-Transaction Equity				
		(302)	20	59	151	157
Subscription Rights Issue	-	47	55	56	58	58
	25%	47	55	56	59	59
	50%	48	56	57	59	59
	75%	48	56	57	59	59
	100%	48	56	57	59	59

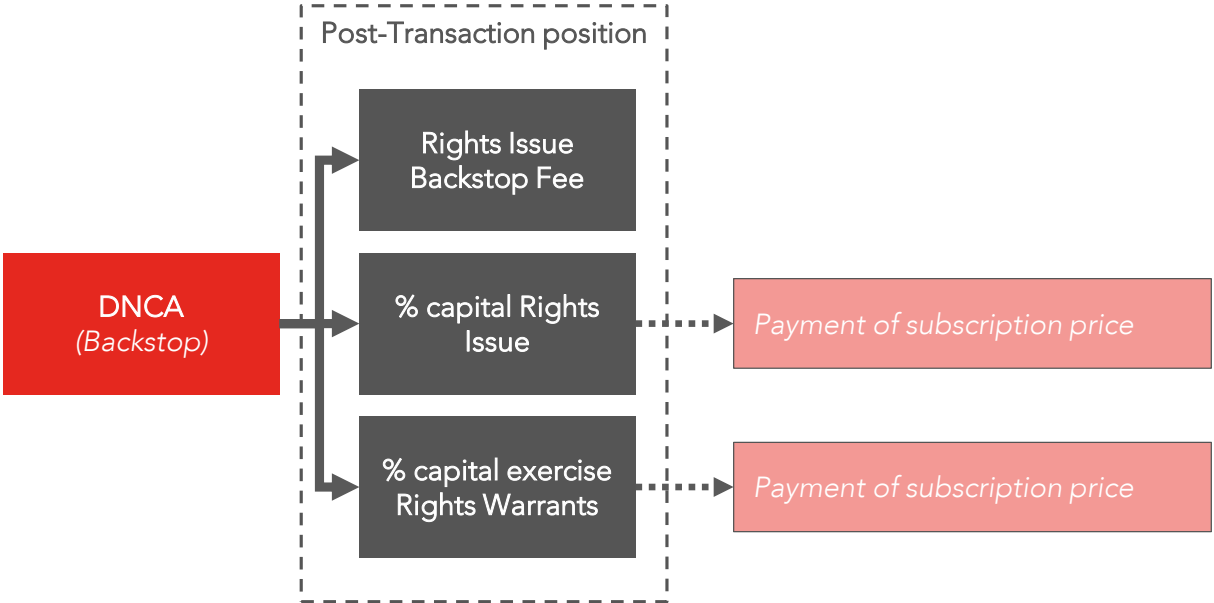
The post-Transaction interest of the Senior Noteholders ad hoc Committee is €48 million¹⁷¹ in the Illustrative Assumption, including €10 million in cash and €38 million in CGG Shares obtained by exercising the Backstop Warrants and Coordination Warrants.

¹⁷¹ €1,525 million (post-transaction Equity) x 2.5% (percentage of capital held by Senior Noteholders ad hoc Committee post-Transaction in the Illustrative Assumption) – €0,2 million (Coordination and Backstop Warrants subscription price) + €10 million (New Notes Backstop Fee Committee) = €48 million.

6.2.7. Analysis of the change in DNCA's interest as backstop

DNCA's position as backstop has been analyzed in the same way as the position of the Senior Noteholders *ad hoc* Committee (§ 6.2.6).

Its post-Transaction interest comprises Right Issue Backstop Fee received in cash and the Shares possibly obtained from the backstopping of the Right Issue (Stage 2).



DNCA's post-Transaction interest net of investments as backstop, is as follows:

€m		Pre-Transaction Equity				
		(302)	20	59	151	157
Subscription Rights Issue	-	34	56	58	64	65
	25%	35	56	58	64	65
	50%	29	45	47	52	52
	75%	18	26	27	30	30
	100%	7	7	7	7	7

DNCA's post-Transaction position is €29 million¹⁷² in the Illustrative Assumption, comprising €7 million in cash and €22 million through its subscription to the Rights Issue.

As a reminder, in case the Shareholders do not subscribe to the Rights Issue, DNCA would be called as a backstop commitment and then should pay in cash the necessary amount in order to comply with its obligation. The amount to pay could reach out approximately €71 million (§3.2).

¹⁷² €1,525 million (post-transaction Equity) x 5.1% (percentage of capital held by DNCA as backstop of the Rights Issue) – €56 million (Warrants subscription price) + €7 million (Warrants Backstop Fee Committee) = €29 million.

6.3. Impact of refinancing the Secured Debt

We reviewed the Group's ability to service:

- Interest payments;
- The debt described in Stages 4 and 5 (§ 3); and
- PIK interest over the medium term.

The main components of debt remaining after the Transaction are:

- Bonds¹⁷³ resulting from the exchange of Secured Debt for a total aggregate amount of approximately \$800 million as of June 30, 2017 excluding interest (Stage 4);
- The New Notes totaling \$375 million, i.e., approximately €319 million, with a coupon of Libor/Euribor (1% floor) + 4% cash annually + 8.5% PIK annually and a tenor of 6 years. As the nominal amount of the issue has a cash counterpart, it has no effect on the Group's beginning-of-period debt (Stage 5).

Based on Management's Business Plan, it appears that at least a partial debt refinancing cannot be ruled out to meet the amounts falling due as negotiated in the Transaction.

A delay in achieving the Business Plan could bring forward the need for such refinancing.

¹⁷³ Assuming the absence of defaulting holder within the French Revolving Facility lenders (§ 3.4).

6.4. Analysis of discounts/premiums Inherent in the various Share Issues

We compared the subscription prices for the Rights Issue¹⁷⁴, CB Issue and Senior Notes Issue with the Company's theoretical post-Transaction value per Share to assess the discount/premium inherent in each one.

We took three values for our analysis (§ 5.7):

- Intrinsic value assuming a delay in recovery (pre-Transaction Equity of €(709) million);
- Median value resulting from our multi-criteria valuation (pre-Transaction Equity of €(302) million);
- Value based on market capitalization: €157 million.

€m			
Pre-Transaction Equity (§ 5.7)	(709)	(302)	157
Resulting pre-Transaction Equity per share	-	-	7.12 €
Post-Transaction Equity (§ 6.2.2)	1 119	1 525	1 985
Resulting post-Transaction Equity per share (§ 6.2.2)	€1.58	€2.16	€2.81
Subscription price Shareholders (§ 3.2)	1.56 €	1.56 €	1.56 €
Discount/(Premium) Rights Issue	2%	28%	45%
Subscription price CB Issue (§ 3.3)	10.26 €	10.26 €	10.26 €
Discount/(Premium) CB Reserved Issue	(547%)	(375%)	(265%)
Subscription price Senior Notes Issue (§ 3.3)	3.12 €	3.12 €	3.12 €
Discount/(Premium) Senior Notes Reserved Issue	(97%)	(44%)	(11%)

The subscription prices for the Reserved Share Issues show:

- A significant premium for the CB holders; and
- A premium for the Senior Noteholders.

The discount offered to Shareholders under the Rights Issue is:

- 2% assuming a delay in achieving the Business Plan;
- In a range of 28% to 45%¹⁷⁵ in all other cases, which is much more favorable than the premiums for the CB and Senior Notes Issues.

¹⁷⁴ As a reminder, the Rights Warrants being out of money, have not been valued.

¹⁷⁵ For information purposes only, this level of discount is also consistent with that seen in other restructuring transactions by listed companies in 2016 and 2017. The discount to the Theoretical Ex-Rights Price (TERP) ranged from 16% to 40% in the 5 public transactions completed in 2016 and 2017.

Translation for information purposes only

For information, we determined the premium/discount compared with the Senior Notes Issue price by including the subscription of the New Notes Warrants allotted pursuant to the New Notes Issue. We took this approach inasmuch as the Shares subscribed under those two issues are obtained by the same Creditor class, i.e., the Senior Noteholders. This adjusted subscription price results in a premium or discount depending on the pre-Transaction Equity level.

Millions and €m			
Pre-Transaction Equity (§ 5.7)	(709)	(302)	157
Resulting pre-Transaction Equity per share	-	-	7.12 €
Post-Transaction Equity (§ 6.2.2)	1 119	1 525	1 985
Post-Transaction Equity per Share	€1.58	€2.16	€2.81
<i>Subscription price Senior Notes Reserved Issue</i>	3.12 €	3.12 €	3.12 €
<i>Number of Shares Senior Notes Reserved Issue</i>	446	446	446
<i>Subscription price New Notes Warrants</i>	0.01 €	0.01 €	0.01 €
<i>Number of Shares New Notes Warrants</i>	113	113	113
<i>Subscription price Senior Notes adjusted</i>	2.49	2.49	2.49
Discount/(Premium) Senior Notes adjusted	(57%)	(15%)	11%

The results presented above are based on the Shareholders subscribing in full to the Rights Issue. However, to the extent that the post-Transaction value of Equity per Share is not particularly sensitive to the subscription rate, and given the large number of Shares post-Transaction, the percentage discounts are not affected by the subscription rate assumption.¹⁷⁶

We have not presented the discounts arising on exercise of the Coordination and Backstop Warrants, as these warrants represent fee payments.

¹⁷⁶ The impact is no more than 2 percentage point.

7. ANALYSIS AND VALUATION OF THE SHAREHOLDERS WARRANTS, RIGHTS WARRANTS AND RIGHTS

7.1. Valuation of out-of-the-money Warrants post-Transaction

Several classes of Warrants will be issued as part of the Transaction:

- In-the-money Warrants post-Transaction: New Notes Warrants, Backstop Warrants and Coordination Warrants;
- Out-of-the-money Warrants: Shareholders Warrants and Rights Warrants.

In-the-money Warrants were included in our analysis of the change in the position of each of the Stakeholders (§ 6.2). These Warrants have an exercise price of €0.01 and a 6-month exercise period, so we can assume that they will be exercised as soon as they are allotted.

By contrast, the Shareholders Warrants and Rights Warrants were not included in our analysis, but they nonetheless have a value for their holders, which cannot be ignored.

We determined the theoretical value of these two Warrant classes using the Black & Scholes method, based on the following characteristics:

Assumptions			
	Shareholder Warrants	Rights Warrants	Comment
Exercise price	€3.12	€4.02	
Maturity	4 years	5 years	
Risk-free rate	Estimated 4-year OAT	5-year OAT	At September 29, 2017
Volatility	Range	Range	
Dividend payment	No	No	
Underlying	Range	Range	Post-Transaction Values

We analyzed the volatility assumptions to be used in the valuation model, as this input has a significant impact on the theoretical value of the Warrants.

In the recent past, the volatility of CGG shares has moved within a relatively high range. Before publication of the press release announcing the Restructuring on May 12, 2017, volatility of CGG shares was 50.3% on an annualized basis from January 1, 2017 to May 11, 2017. It then rose significantly due to the Restructuring, rumors of a takeover during August 2017 and movements in hedge fund investments.

Annualized daily volatility of CGG shares	
Focus 2017	
Volatility January 1 - September 29	82.7%
Volatility January 1 - May 11	50.3%
Volatility May 12 - September 29	103.7%
Volatility August 21 - September 29	142.5%

A historical analysis of peer group volatility¹⁷⁷ also shows a rise in volatility:

Annualized daily volatility				
Company	2013	2014	2015	2016
CGG	38%	73%	54%	78%
Polarcus	45%	57%	133%	113%
Petroleum Geo-Services	29%	40%	50%	86%
TGS Nopec Geophysical Co Asa	30%	38%	35%	45%
Spectrum	46%	41%	42%	49%
Average comparables	38%	44%	65%	73%
Median comparables	38%	40%	46%	68%
<i>Min comparables</i>	29%	38%	35%	45%
<i>Max comparables</i>	46%	57%	133%	113%

Based on these observations, the historical analysis of CGG and peer group volatility does not enable us to make a rational volatility assumption.

Furthermore, we do not believe we can assess the impact of the Transaction on CGG volatility, and in particular the impact of the significant increase in the number of Shares comprising the Company's capital.¹⁷⁸

We therefore based our valuation of the Warrants on a volatility range of 30% to 80%, consistent with the historical values observed for the Company and in line with the peer group range.

We also calculated the sensitivity of the value of the Warrants to the post-Transaction value of the underlying based on the value ranges used in our analysis of the discounts inherent in the various new Shares issues (§ 6.4). Thus the values used in our valuation are the values per Share after the impact of the various stages of the Restructuring.

The theoretical value of the Shareholders Warrants and Rights Warrants therefore fall within a very wide range, which limits the relevance of this valuation approach.

¹⁷⁷ Based on our peer sample (§ 5.6.1).

¹⁷⁸ From 22 million to approximately 700 million Shares.

Valuation of a Shareholders Warrant (€)

Volatility (σ)	Underlying stock €		
	1.58	2.16	2.81
30.0%	0.11	0.33	0.73
40.0%	0.25	0.56	1.03
50.0%	0.41	0.79	1.31
60.0%	0.58	1.01	1.58
70.0%	0.74	1.22	1.83
80.0%	0.90	1.43	2.07

Valuation of a Rights Warrant (€)

Volatility (σ)	Underlying stock €		
	1.58	2.16	2.81
30.0%	0.04	0.12	0.27
40.0%	0.11	0.24	0.43
50.0%	0.19	0.36	0.60
60.0%	0.28	0.49	0.76
70.0%	0.38	0.61	0.91
80.0%	0.47	0.73	1.05

Aggregate Value of the Shareholders Warrants (€m)

Volatility (σ)	Underlying stock €		
	1.58	2.16	2.81
30.0%	2.4	7.3	16.2
40.0%	5.5	12.3	22.7
50.0%	9.0	17.4	29.0
60.0%	12.7	22.3	35.0
70.0%	16.4	27.1	40.6
80.0%	20.0	31.6	45.9

Aggregate Value of the Rights Warrants (€m)

Volatility (σ)	Underlying stock €		
	1.58	2.16	2.81
30.0%	2.8	8.5	19.3
40.0%	7.7	16.9	31.2
50.0%	13.8	26.1	43.1
60.0%	20.5	35.3	54.6
70.0%	27.2	44.1	65.3
80.0%	33.8	52.4	75.3

7.2. Threshold for triggering the exercise of out-of-the-money Warrants Post-Transaction

In addition to the theoretical valuation of these Warrants, subject to the limitations described above, we determined the growth in post-Transaction Equity required for the Shareholders Warrants and Rights Warrants to be in the money.

En M€	0% subscription Rights Issue by Shareholders		100% subscription Rights Issue by Shareholders	
Pre-Transaction Equity (§ 6.2.1)	(302)	157	59	-
Equity post-New Bond Issue	1,484	1,944	1,525	1,847
Increase in Equity permitting exercise of Shareholder Warrants	668	208	677	355
% rise in Equity inferred	na	11%	na	19%
Increase in Equity permitting exercise of Rights Warrants	1,315	855	1,339	1,017
% rise in Equity inferred	na	44%	na	55%

Thus the growth in post-Transaction Equity required for the Warrants to be exercised during their exercise period, based on the share price as of May 11, 2017, and whether or not Shareholders have subscribed to the Rights Issue is:

- In a range of 11% - 19% within four years for the Shareholders Warrants;
- In a range of 44% - 55% within five years for the Rights Warrants.

7.3. Analysis of the preferential subscription rights

The Rights Issue (Stage 2, § 3.2) is a new Share issue with preferential subscription rights in favor of current CGG Shareholders.

Therefore, Shareholders who do not wish to subscribe to the share issue can sell the Rights allotted to them.

The sale price of these Rights depends largely on subscriber appetite for the offering. For example, the greater the number of Shareholders not wishing to subscribe, the lower the Rights price is likely to be, as there would potentially be a larger number of Rights for sale.

Accordingly, we do not believe it feasible to put a market value on the Rights. They nonetheless have a market value, being fully part of the interest of the current Shareholders, as:

- > If they subscribe to the Rights Issue, they will not have to buy Rights;
- > They can sell their Rights for consideration if they do not wish to subscribe to the offering.

For information, the table below presents the theoretical value of the Rights:

€		Comment
Number of Shares issued (m)	71.9	a
Issue price - Rights Issue	€1.56	b
Number of existing Shares (m)	22.1	c
Share price at September 29, 2017	€4.70	d
Theoretical Ex-Rights Price (TERP)	€2.30	= (a*b+c*d)/a+c
Theoretical value of the Rights	€2.40	= 4.7 - 2.3

8. CONCLUSION

Following our work on valuing CGG shares and reviewing the financial terms and conditions of the Transaction, based on the assumption that the CGG Group continues as a going concern in its current structure, we believe the salient points for the Shareholders are as follows:

- The Transaction, which will equitize more than €1.8 billion of debt, meets an immediate need to reduce the Group's indebtedness, which is essential if it is to continue as a going concern.
- The Group's continuation as a going concern is contingent on:
 - A recovery in business and an improvement in margins, in accordance with Management's Business Plan forecasts; and
 - At least a partial refinancing in the future to meet payments falling due with respect to the non-equitized Secured Debt and the unsubordinated second lien New Notes to be issued.
- As regards the value range resulting from our valuation and the subordination of Shareholders ranking them after the Creditors, it appears that the Shareholders would have potentially lose their entire investment without a financial restructuring which is essential to the continuity of the Group's operations.
- The subscription prices of €3.12 and €10.26 for the Reserved Capital Increases for the Creditors, respectively the Senior Noteholders and the CB holders, show a premium over our multi-criteria valuation of CGG.
- The \$375 million issue of high-yield New Notes governed by the laws of New York State will be accompanied by the allotment of three classes of Warrants with an exercise price of €0.01, exercise of which will increase the dilution of CGG Shareholders. All of the impacts of these New Notes are included in our analysis of the Shareholders' position.
- Based on the CGG valuation range, our analysis of the Shareholders' interest, pre- and post-Restructuring, shows that:
 - The Shareholders will not lose value based on the valuations of CGG that include a Business Plan execution risk, which lead to negative pre-Restructuring equity values;
 - A valuation based on share price as of May 11, 2017 could result in a loss of up to 60% for the Shareholders due to the high share price relative to CGG's intrinsic value.
- The Rights Issue, at a subscription price of €1.56, shows a discount to the multi-criteria valuation of CGG based on Management's Business Plan; the discount disappears if we assume a delay in achieving the Business Plan forecasts. Shareholders not wishing to subscribe to the offering will be able to sell their Rights.

Translation for information purposes only

- Shareholders will receive Warrants that, albeit out of the money at present and therefore excluded from our analysis, have a long exercise period.

In view of the current situation and the intrinsic value of the Group, we are of the opinion that the Transaction taken as a whole is fair to CGG Shareholders.

[In case of discrepancy between the French and the English versions, *the French version shall prevail as this translation into English is provided for information purposes only*]

[Ledouble does not accept any responsibility or liability for the accuracy, content, completeness, legality, or reliability of the information contained in this Translation into English]

SCHEDULES

- Detailed schedule of work Schedule 1
- Main stages of the appraisal Schedule 2
- List of persons met and/or contacted by Ledouble Schedule 3
- Main sources of information used Schedule 4
- Composition of the Ledouble team Schedule 5
- List of financial appraisals carried out by Ledouble Schedule 6
- Timeline and proceedings of the negotiations Schedule 7
- Guarantees relating to borrowings Schedule 8
- Presentation of listed peers Schedule 9
- Performance of listed peers Schedule 10

SCHEDULE 1: DETAILED SCHEDULE OF WORK

- Preliminary work and familiarization
 - Press review
 - Document searches
 - Analysis of the Transaction and its legal framework
 - Analysis of the Shares' historical stockmarket performance
- Valuation work
 - Review of the Group's historical earnings, financial position and key events since 2013
 - Searches for sector and financial information in our databases
 - Creation of a peer-group sample
 - Search for comparable transactions
 - Detailed analysis of the Business Plan and comparison with the previous Business Plan established in 2015
 - Document requests
 - Multi-criteria valuation of the Share
- Valuation of the various categories of Warrants issued as part of the Transaction
 - Analysis of the Warrants' characteristics
 - Modeling
- Modeling of the situation of Shareholders and Creditors in the successive stages of the Transaction
- Analysis of the Transaction and its impact on the Shareholders' and Creditors' position and their ownership of the Company's capital.
- Meetings with the main participants in the Transaction:
 - Management and Advisors
 - representatives and advisors of the Shareholders and Creditors
 - the court-ordered administrator
 - representatives of the AMF

- Review of the Stakeholders' proposals¹⁷⁹
- Review of arrangements adopted in relation to previous financial restructurings by listed companies
- Administration
 - Meetings and telephone calls
 - Engagement letter
 - Proposed confirmation letter for Management
 - Preparation of the Report
 - Administration and supervision of the Assignment

¹⁷⁹ Including those presented in CGG's press release of [May 12, 2017](#) ("Restructuring update").

SCHEDULE 2: MAIN STAGES OF THE APPRAISAL

> May - June 2017

- Contacts and meetings with Management and Advisors
- Telephone conversation with the AMF
- Appointment of the independent appraiser by the Board of Directors
- Drafting of the engagement letter and addendum to the engagement letter
- Examination of financial documentation relating to the Transaction
- Use of public information about CGG and the Transaction
- Searches for sector and financial information in our databases
- Document requests
- Familiarization with and use of documents accessible in the data room
- Use of the Group's accounting and financial information
- Examination of the Business Plan
- Creation of a listed peer-group sample
- Search for comparable transactions

> July 2017

- Contacts and meetings with Management, Business Line Heads and Advisors
- Analysis of legal documentation relating to the Transaction
- Analysis of the Group's debt
- Searches for sector and financial information in our databases
- Document requests
- Use of information resulting from document requests
- More detailed examination of the Business Plan
- Multi-criteria valuation of the Shares
- Analysis of the Transaction and its impact for the Shareholders and Creditors
- Preparation of the draft Report

> August 2017

- Contacts and meetings with Management and Advisors
- Document requests
- Use of information resulting from document requests
- Analysis of the Group's first-half 2017 financial statements
- Searches for sector information
- Multi-criteria valuation of the Shares
- Analysis of the Transaction and its impact for the Shareholders and Creditors
- Examination of draft Securities Notes relating to the Rights Issue and the Reserved Share Issues, including the issues of Warrants (excluding Rights Warrants)
- Preparation of the draft Report

> September 2017

- Contacts and meetings with Management and Advisors
- Phone conversation with the AMF
- Meeting with the court-ordered administrator
- Meeting with Bpifrance Participations' financial advisors
- Telephone contact with DNCA
- Meeting with the representatives of Senior Noteholders
- Meeting with the representatives of CB holders
- Presentation of our work to the Board of Directors on September 20, 2017
- Completion of the multi-criteria valuation of the Share
- Completion of the analysis of the Transaction and its impact for the Shareholders and Creditors
- Completion of the draft Report

> October 2017

- Contacts and meetings with Management and Advisors
- Examination of the version as of October 6, 2017 of the Securities Note relating to the Reserved Share Issues, including the issues of warrants (excluding Rights Warrants) and the draft Securities Note relating to the Rights Issue
- Resolution of unresolved issues
- Contacts with AMF
- Delivery of the Report with a view to its inclusion in the securities notes

SCHEDULE 3: LIST OF PERSONS MET AND/OR CONTACTED BY LEDOUBLE

> Company

Rémi Dorval	Chairman of the Board of Directors
Jean-Georges Malcor	CEO Director
Stéphane-Paul Frydman	Group CFO
Beatrice Place-Faget	Group Corporate Secretary Group Chief Legal Officer
Emilie Puchol	Legal counsel
Olivier Dantin	Group financial controller
Thibault Paillard	Group head of accounting
Christophe Vasseur	Senior Vice President Tax
Pascal Rouiller	Group Chief Operating Officer
Sophie Zurquiyah	Group Chief Operating Officer
Catherine Leveau	Investor relations

> Advisors

Weil Gotshal & Manges

Agathe Soilleux	Partner
Yannick Piette	Partner

Lazard

François Kayat	Managing Partner
Aurélien Gore Coty	Director
Juliette Sourisse	Analyst

Linklaters

Aymar de Mauléon	Partner
Luis Roth	Partner
Lauren Hanley	<i>Managing Associate</i>

Carole Nerguararian Associate

> Other contacts

Court-ordered administrator

Hélène Bourbouloux FHB, Managing Partner

Célia Jiquel FHB, Project manager

Representatives of DNCA

Jean-Charles Mériaux DNCA Finances, Head of Asset Management

Representatives of BPI Participations

Sébastien Moynot BPI Participations

Pascal Hervé Barber Hauler, Partner

François-Xavier Geslin Gleacher Shacklock, Director

Justin K. Holland Gleacher Shacklock, Managing Director Restructuring

Representative of the CB holders

Jean Gatty JG Capital Management, Chairman

> Advisors

Alain Minc AM Conseil

Senior Noteholders ad hoc Committee

Jean-François Cizain Messier Maris & Associés, Partner

> Advisors

Lionel Spizzichino Willkie Farr & Gallagher, Legal practitioner

Gabriel Flandin Willkie Farr & Gallagher, Legal practitioner

Representatives of the AMF

Florence Priouret Issuer department

Pierre Villadary Issuer department

Sandrine Favre Issuer department

Translation for information purposes only

Laurence Rodolfi

Issuer department

Financial analyst

Baptiste Lebacqz

Natixis

CB holder

Stéphane Reznikow

SCHEDULE 4: MAIN SOURCES OF INFORMATION USED

- Documentation relating to the Transaction
 - Order appointing the *ad hoc* representative (February 27, 2017)
 - Application for a safeguard procedure (May 9, 2017)
 - Press release regarding progress in negotiations between the Stakeholders (May 12, 2017)
 - Press release announcing an agreement in principle with the main creditors (June 2, 2017)
 - *Lock-up Agreement* (June 13, 2017)
 - Restructuring Support Agreement (June 13, 2017)
 - Private Placement Agreement (June 26, 2017)
 - Press release announcing the start of a safeguard procedure (June 14, 2017)
 - Court order regarding the start of the safeguard procedure (June 14, 2017)
 - Draft safeguard plan
 - Press release announcing the private placement of New Notes (June 27, 2017)
 - Presentation of the financial Restructuring Plan to investors (June 27, 2017)
 - Press release announcing the adoption of the draft safeguard plan by the creditor committees (July 28, 2017)
 - Terms and conditions relating to the Coordination Warrants, Backstop Warrants and New Notes Warrants
 - Draft contract to extend the maturity of the Secured Debt
 - Waivers Letters (December 2016 – March 2017)
 - Announcement of the Restructuring Plan filed with the US court as part of the Chapter 11 procedure
 - Statement of objection to the CGG SA safeguard plan adopted by the Combined Noteholders Meeting on July 28, 2017 (August 4, 2017)
 - Draft information memoranda relating to the issue of New Shares and Warrants by CGG SA
 - Draft information memoranda relating to the issue of other instruments issued as part of the Transaction
 - Drafts of the report by the Board of Directors to the Combined Shareholders Meeting of October 31, 2017
 - Drafts of the notice of meeting and invitation to attend the Combined Shareholders Meeting of October 31, 2017

- Legal documentation
 - Diagram showing the structure of guarantees provided by the Group (May 5, 2017 and June 30, 2017)
 - “*Extrait Kbis*” corporate identification document (July 24, 2017)
 - Bylaws
 - Ownership of shares and voting rights (December 31, 2016 and June 30, 2017)
 - Statement of liens and pledges
 - Main disputes (December 31, 2016)
 - Minutes of Board meetings (2015-2017)
 - Minutes of Shareholder Meetings (2015-2016)
 - Minutes of Accounts and Audit Committee meetings (2015-2017)
 - Loan agreements and supplementary agreements relating to the Secured Debt (French and US Revolving Facilities, intercreditor agreement, Term Loan B)
 - Agreements relating to the issues of Senior Notes due 2017, 2020, 2021 and 2022

- Securities Note relating to the share issue approved by the AMF (January 12, 2016)
- Securities Note relating to the Public Exchange Offer for the CBs 2019 (May 28, 2015)

➤ Accounting and financial documentation

Historical information

- Annual financial reports 2012-2016
- First-half financial report 2017
- Consolidated packages relating to CGG SA's direct equity interests
- Breakdown of revenue by customer (2013-2016)
- History of tax losses as of December 31, 2016
- Balance sheets and income statements of equity-accounted companies as of December 31, 2016
- Comparison between budgets and outturns (2015 and 2016)
- Management's answers to questions raised regarding the 2016 full-year and 2017 first-half consolidated financial statements

Financial information

- List of the 9 CGUs as of December 31, 2016 and the cash flows relating thereto
- 2015 Business Plan in force as of the time of the January 2016 share issue
- Estimates by an independent appraiser of discount rates by business area, dated December 23, 2016
- Detailed maturity schedule of borrowings as of June 30, 2017
- Bond debt monitoring report
- Report by an independent appraiser entitled "Opinion on the MAH Proposal and on the last Compromise proposal" (May 2017)
- Work done by the Group's banking advisors (Lazard, Morgan Stanley)
- Work done by PwC relating to valuation and analysis of the Business Plan

Forward-looking information

- Management's 2017-2019 Business Plan
- Management's answers to questions raised regarding the Group's Business Plan and by business area
- Macroeconomic assumptions underlying the Business Plan
- Projected capital expenditure by type and segment (2017-2019)
- Detailed WCR forecasts by business area and at Group level as of June 30, 2017 and over the Explicit Period (2017-2019)
- Detailed 2017 budget

Other information

- Most recent brokers' notes regarding CGG
- Analysis of comparable transactions by listed companies

➤ Databases

- Bloomberg
- S&P Capital IQ
- MergerMarket

➤ Bibliographical references:

Information websites

- CGG information website [Online]: <http://www.cgg.com/fr/Home>
- AMF website [Online]: <http://www.amf-france.org>
- Banque de France information website [Online]: <https://www.banque-france.fr>

Studies

- World Bank (2017) "Commodity Markets Outlook", April. [Online], [World Bank – Commodity Markets Outlook – April 2017](#).
- Fargues (2011). "La conversion de créances en capital", May, [Online], http://mja-assas.fr/wp-content/uploads/La-conversion-de-cr%C3%A9ances-en-capital_Marion-FARGUES_2011.pdf
- Fearnley Securities (2017). "Seismic quarterly - 1Q17 previews – Recovery taking longer, MC names in favour", April.
- IMF (2017). "World Economic Outlook Database", July. [Online], <http://www.imf.org/en/Publications/WEO/Issues/2017/07/07/world-economic-outlook-update-july-2017>
- Vermeille (2017). "Restructuration de dette obligataire, Recapitalisation de la dernière chance et interventionnisme étatique", Droit et Croissance, June, [Online], <http://droitetcroissance.fr/wp-content/uploads/2015/01/F-SV-v4-2-juin-2017-def.pdf>

SCHEDULE 5: COMPOSITION OF THE LEDOUBLE TEAM

Ledouble is a consultancy specializing in financial appraisals. It has carried out numerous independent appraisals, particularly in relation to public offers. The main independent appraisal and financial analysis assignments it carried out in this field between 2013 and 2017 are listed in **Schedule 6**.

Ledouble is a founding member of the French professional association of independent appraisers (*Association Professionnelle des Experts Indépendants* or APEI), which is a professional association authorized by the AMF under article 263-1 of its General Regulation, and of the French society of valuers (*Société Française des Évaluateurs* or SFEV), and it follows the code of conduct set out on its website: <http://www.ledouble.fr>.

Agnès Piniot, Partner, Chairman of Ledouble

- Expert witness to the Paris Appeal Court
- Chartered accountant and statutory auditor
- Masters in accounting and financial science and techniques, Université Paris IX – Dauphine
- Treasurer of the national association of forensic accountants
- Member of APEI
- Member of SFEV
- Member of the “Valuation, asset contribution and merger appraisals” committee of France’s national association of statutory auditors (CNCC)
- Member of the French national association of Finance and Management Control Directors (DFCG)

Olivier Cretté, Partner

- Chartered accountant and statutory auditor
- Doctorate in management science from EM Lyon
- Member of APEI’s managing committee
- Member of SFEV
- Member of the valuation committee of the French national association of Finance and Management Control Directors (DFCG)
- Member of the professional standards committee) of the French national association of statutory auditors (CNCC)
- Associate lecturer at the Conservatoire National des Arts et Métiers (CNAM), senior lecturer at the Institut d’Administration des Entreprises (IAE) de Paris, Université Paris IX – Dauphine and SciencesPo

Stéphanie Guillaumin, Partner

- Graduate of Toulouse Business School Grande École (banking and financial markets)
- Master I degree in Money and Finance from Université Paris Ouest Nanterre La Défense
- CIIA (Certified International Investment Analyst) and member of SFAF (Société Française des Analystes Financiers)
- Member of APEI
- Member of SFEV
- Member of the French national association of Finance and Management Control Directors (DFCG)

Marc de la Bédoyère, Head of Assignment

- EM Lyon Business School – Masters in Financial Engineering
- Masters in management sciences (finance) from Paris Panthéon-Sorbonne university
- Member of SFEV

Riccardo Etzi, Senior analyst

- Graduate of ESCP Europe, specialization in Corporate Finance
- University de Turin – Bachelors degree in Administration, Finance and Control

Youness Aboutaher, Analyst

- Sciences Po Paris – Masters in Finance and Strategy
- University of Quebec in Montreal (UQAM) – Bachelors degree in Economics and Finance

Marjory Bruchon, Analyst

- Passed Chartered Financial Analyst (CFA) Level III
- IAE Grenoble – Masters in business and markets finance

--

Dominique LEDOUBLE, in charge of the independent review

Dominique Ledouble has not taken part directly in the work carried out as part of the independent appraisal: he has acted as Ledouble's internal quality controller in accordance with article 2 of AMF instruction 2006-08.

- Chartered accountant and statutory auditor
- Doctorate in law from HEC
- Chairman of the French federation of valuation experts (Fédération Française des Experts en Évaluation or FFEE)
- Founder and honorary chairman of APEI

SCHEDULE 6: LIST OF FINANCIAL APPRAISALS CARRIED OUT BY LEDOUBLE (2013 - 2017)

Year	Company	Presenting financial institution
2017	Eurosic	Deutsche Bank
2017	Etam Développement	Natixis and Rothschild
2016	Radiall	Oddo Corporate Finance
2016	Octo Technology	Société Générale
2016	Maurel et Prom	Crédit Agricole
2016	Tronics Microsystems	Kepler Cheuvreux
2016	Medtech	BNP Paribas
2016	Cegid	Natixis
2016	Technofan	Banque Degroof Petercam France
2016	Cegereal	JP Morgan
2015	Leguide.com	Natixis
2015	Norbert Dentressangle	Morgan Stanley
2015	Latécoère	*
2015	Linedata Services	Banque Degroof, HSBC, Natixis
2015	Euro Disney SCA	BNP Paribas
2014	Euro Disney SCA	*
2014	Siic de Paris	Natixis
2014	Bull	Rothschild
2013	Global Graphics	**
2013	Sam	Société Générale
2013	Etam	Natixis
2013	Tesfran	Oddo Corporate Finance
2013	Monceau Fleurs	Omega Capital Market
2013	Sical	Arkeon Finance
2013	Auto Escape	Portzamparc
2013	Klémurs	Morgan Stanley
2013	Foncière Sépric	Crédit Agricole CIB
2013	Elixens	Banque Palatine

*: Reserved share issue - article 261-2 of the AMF's general regulation

** : Transfer of registered office to the UK.

SCHEDULE 7: TIMELINE AND PROCEEDINGS OF THE NEGOTIATIONS

Schedule 7.1: Timeline

The main stages of negotiations relating to the Restructuring Plan are set out below:

- **February 6, 2017:** consultation with Senior Noteholders and lenders with respect to Term Loan B with a view to amending the conditions for declaring a default event (potentially triggered by the appointment of an *ad hoc* representative).
- **February 20, 2017:** agreement from most holders of Senior Notes due 2020, 2021 and 2022 and lenders with respect to Term Loan B regarding the redefinition of default events, along with an extension to the consultation with holders of Senior Notes due 2017.
- **February 23, 2017:** signature of supplemental indentures¹⁸⁰ with respect to the Senior Notes due 2020, 2021 and 2022. After the breakdown of negotiations, the Senior Notes due 2017 were redeemed on February 24, 2017, with the redemption consisting of nominal value (\$8,319,000) and interest due, thereby ending CGG's obligations with respect to their holders.
- **February 27, 2017:** appointment of an *ad hoc* representative¹⁸¹ to initiate the financial restructuring process, intended to enable the Group to reduce significantly its indebtedness and associated costs, so that cash flow from operating activities would be sufficient to honor the company's debt repayment schedule.
- **March 3, 2017:** initiation of the debt restructuring process with the start of talks between CGG and the Stakeholders:
 - members of the Secured Lenders Coordination Committee representing the majority of the principal amount of the Secured Debt¹⁸²;
 - members of the *ad hoc* Committee representing 52.4% of the aggregate principal amount of the Senior Notes (the "Senior Noteholders *ad hoc* Committee");
 - the representative of the CB holders;
 - DNCA, long-standing shareholder and creditor of the Group;
 - Bpifrance Participations and AMS Energie, shareholders.
- **May 12, 2017:** press release setting out progress with talks between the Stakeholders, which failed to produce an agreement on the terms of the Transaction.

¹⁸⁰ Trust agreement.

¹⁸¹ Represented by Maître Hélène Bourbouloux.

¹⁸² Made up of the French Revolving Facility, US Revolving Facility and Term Loan B.

- **June 2, 2017:** formation of a "Lock-up Agreement"¹⁸³ regarding the financial Restructuring Plan approved by the Stakeholders, with the exception of the representatives of the CB holders, Bpifrance Participations and AMS Energie,¹⁸⁴ and the Group's Board of Directors. The agreement was potentially subject to adjustment, particularly in view of the talks due to take place on the definitive terms subject to approval of the General Meeting of shareholders and the General Meeting of creditors before it could be implemented.
- **June 14, 2017:** after forming legally binding agreements reflecting the aforementioned lock-up agreement, signed on June 13, 2017, the Group initiated its pre-authorized Restructuring Plan by commencing a safeguard procedure in France as ordered by the Paris Commercial Court. Permission to commence a Chapter 11 procedure,¹⁸⁵ involving 14 direct and indirect subsidiaries of CGG¹⁸⁶ was also sought and granted.
- **June 26, 2017:** start of the placement period relating to the issue of New Notes following the signature of the Private Placement Agreement on June 26, 2017. Senior Noteholders undertook to subscribe an amount equal to approximately 86% of the nominal value of their claims in the issue of New Notes and also to provide a backstop for securities not subscribed during the placement period.
- **July 13, 2017:** the application for the safeguard proceedings to be recognized in the United States via a Chapter 15 filing, made before the U.S. Bankruptcy Court of the Southern District of New York on June 14, 2017, was granted.
- **July 28, 2017:** unanimous approval of the proposed safeguard plan by the committees of banks and financial institutions in France. The single General Meeting of noteholders also voted in favor of the proposed plan, with a majority of 93.5% of votes cast.

The Stakeholders to the negotiations, as presented on March 3, 2017, did not all take part in the whole process leading to the agreement that was finally adopted: shareholders and directors Bpifrance and AMS Energie withdrew from the process on May 12, 2017.

¹⁸³ The terms and conditions of the "lock-up" agreement are relatively standard and include an obligation for creditors to vote in favour of the safeguard plan and Chapter 11 plan (subject to receiving appropriate communication), to waive certain rights, to sign the documentation required to allow the restructuring and not to sell their interests in the debt unless the buyer signs the lock-up agreement or is already a signatory thereto (and is therefore already bound by its stipulations). Source: 2017 HYFR, p 19.

¹⁸⁴ These shareholders did not take part in the negotiation of the lock-up agreement.

¹⁸⁵ Procedure covered by the Federal Bankruptcy Code. The Chapter 11 procedure is intended to allow the company to restructure.

¹⁸⁶ US subsidiaries of the Group that are debtors or guarantors with respect to the Group's debt obligations: CGG Holding BV, CGG Marine BV, CGG Holding I (UK) Ltd, CGG Holding II (UK) Ltd, CGG Holding (US) Inc., CGG Services (US) Inc., Alitheia Resources Inc., Viking Maritime Inc., CGG Land (US) Inc., Sercel Inc., Sercel-GRC Corp, CGG Marine Resources Norge AS, CGG Canada Services Ltd and Sercel Canada Ltd.

Schedule 7.2: Summary of the main elements of the Stakeholders' proposals¹⁸⁷

The table below summarizes the principles put forward by the Stakeholders during the negotiations. However, the alignment of the terms proposed by the Stakeholders may show significant divergences regarding financial criteria (exercise price, amount of fees, backstop arrangements etc.).

Criteria	Agreement in principle	OCEANEs proposal	Senior Notes proposal	Shareholders proposal
Warrants attributed to existing Shareholders	✓	✗	✓	✓
Conversion by way of set-off of claims:				
- OCEANEs				
- total conversion	✓	✓	✓	
- partial conversion				✓
- Senior Notes				
- total conversion	✓	✓	✓	✓
- partial conversion				
New money issued through:				
- capital increase (M\$)	125	350	75	100 ⁽²⁾
- bond issuance (M\$)	375	✗	350 ⁽¹⁾	350
Free allocation of warrants for the:				
- capital increase	✓	✗	✓	✓
- bond issuance	✓	✗	✓	✓
Commission(s) payment				
- in cash	✓	✗	✓	✓
- through Warrants	✓	✗	✓	✓

(1) The amount of \$ 350m is splitted between \$ 325m and a new bond issue equivalent in euro to \$ 25m.

(2) \$ 100m raised through new shares or new convertible bonds. The financial instrument was not definitively stated at this stage of the discus

¹⁸⁷ Press release of [May 12, 2017](#) ("Restructuring update").

SCHEDULE 8: GUARANTEES RELATING TO BORROWINGS

Companies	Guarantor				Pledged Shares				Assets	
	US RCF	French RCF	TLB	HYB	US RCF	French RCF	TLB	HYB	Presence of equipment	Streamers and other pledged assets
Alitheia Ressources Inc	✓	✓	✓	✓	✓	✓	✓	x	x	✓
CGG Data Services AG	x	x	x	x	✓	✓	✓	x	✓	x
CGG Canada Services Ltd	x	x	x	✓	x	x	x	x	x	x
CGG Holding (US) Inc.	n.a.	✓	n.a.	✓	✓	✓	✓	x	x	✓
CGG Holding BV	✓	✓	✓	✓	x	x	x	x	x	x
CGG Holding I (UK) Ltd	✓	✓	✓	✓	✓	✓	✓	x	x	x
CGG Holding II (UK) Ltd	✓	✓	✓	✓	✓	✓	✓	x	x	x
CGG Holding III (UK) Ltd	x	x	x	x	57.35%	57.35%	57.35%	x	x	x
CGG Land (US) Inc	✓	✓	✓	✓	✓	✓	✓	x	✓	✓
CGG Marine BV	✓	✓	✓	✓	✓	✓	✓	x	✓	✓
CGG Marine (US) Inc	x	x	x	x	✓	✓	✓	x	x	x
CGG Marine Resources Norges AS	✓	✓	✓	✓	x	x	x	x	x	x
CGG Services (Canada) Inc	x	x	x	x	✓	✓	✓	x	✓	x
CGG Services (UK) Limited	x	x	x	x	✓	✓	✓	x	✓	x
CGG Services (US) Inc	✓	✓	✓	✓	✓	✓	✓	x	✓	✓
CGG Services SAS	x	x	x	x	✓	✓	✓	x	✓	x
Sercel Australia Pty Ltd	x	x	x	✓	x	x	x	x	x	x
Sercel Canada Ltd	x	x	x	✓	x	x	x	x	x	x
Sercel GRC Corp	✓	✓	✓	✓	✓	✓	✓	x	✓	✓
Sercel Inc	✓	✓	✓	✓	81.00%	81.00%	81.00%	x	✓	✓
Sercel Holding SAS	x	x	x	x	✓	✓	✓	x	x	x
Sercel SAS	x	x	x	x	✓	✓	✓	x	✓	x
Viking Maritime Inc	✓	✓	✓	✓	✓	✓	✓	x	x	✓
CGG services Norway AS	x	x	x	x	x	x	x	x	✓	x

SCHEDULE 9: PRESENTATION OF LISTED PEERS¹⁸⁸

9.1 Petroleum Geo-Services

Presentation

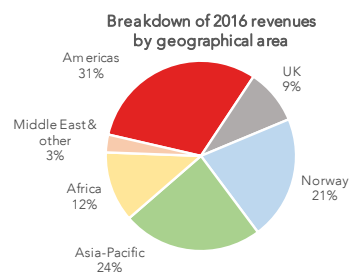
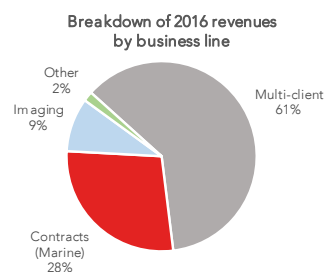
- Petroleum Geo-Services is a Norwegian company specializing in marine geophysics for the oil and gas industry. PGS provides a wide range of seismic services including data acquisition, processing and interpretation, and field evaluation.
- PGS has a fleet of eight vessels and employs almost 1,800 people.
- Petroleum Geo-Services's shares are listed on the Oslo Stock Exchange.

Ownership structure

Main shareholders

Dnb Asa	13.7%
Ferd As Invest	10.6%
<u>Other shareholders (< 5% of the capital)</u>	<u>75.8%</u>

Breakdown of revenues



9.2 Polarcus

Presentation

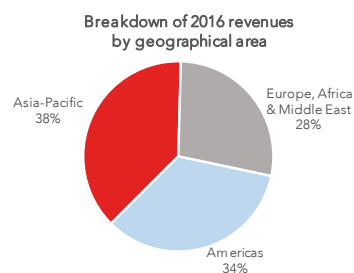
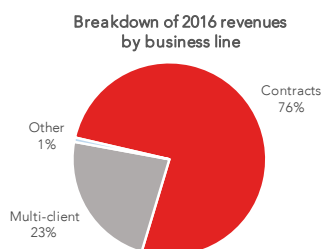
- Polarcus is an UAE-based company specializing in marine geophysics for the oil and gas industry. Polarcus provides seismic and multi-client data acquisition services.
- It has a fleet of seven 3D vessels and employs more than 400 people.
- Polarcus' shares are listed on the Oslo Stock Exchange.

Ownership structure

Main shareholders

Zickerman Carl-Peter	5.8%
<u>Other shareholders (< 5% of the capital)</u>	<u>94.2%</u>

Breakdown of revenues



¹⁸⁸Source: Bloomberg and registration documents.

9.3 Spectrum

Presentation

- Spectrum is a Norwegian company specializing in multi-client and 2D and 3D imaging services.
- It has a 2D seismic database covering 3.3 million kilometers worldwide. The company also has 165,000 km² of 3D data in the North Sea, Australia, Brazil, the Gulf of Mexico and the Eastern Mediterranean.
- Spectrum employs around 200 people.
- Spectrum's shares are listed on the Oslo Stock Exchange.

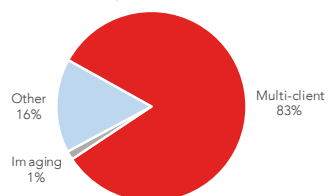
Ownership structure

Main shareholders

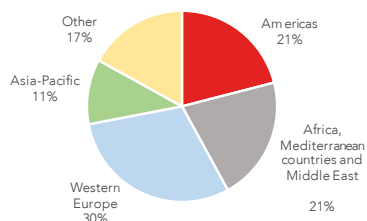
Altor Invest 1 As	14.7%
Altor Invest 2 As	14.7%
Seb	7.8%
Holberg Fondsforvalt	6.4%
Telinet Energi As	5.5%
Nordea Bank Ab	5.0%
Other shareholders (< 5% of the capital)	46.0%

Breakdown of revenues

Breakdown of 2016 revenues by business line



Breakdown of 2016 revenues by geographical area



9.4 TGS-NOPEC Geophysical

Presentation

- TGS is a Norwegian company specializing in multi-client services (onshore and offshore) and imaging services, and designs software that provides high-definition subsurface imaging. Its clients are oil and gas exploration and production companies.
- TGS has a 2D seismic database covering 2.8 million kilometers and has 563,467 km² of 3D data worldwide.
- TGS employs around 600 people.
- TGS' shares are listed on the Oslo Stock Exchange.

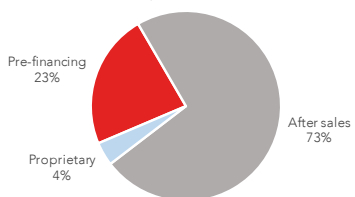
Ownership structure

Main shareholders

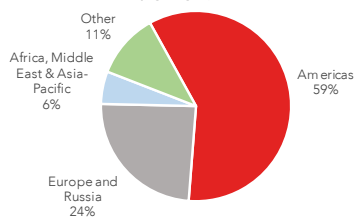
Folketrygdfondet	10.3%
Bny Mellon	8.7%
Other shareholders (< 5% of the capital)	81.0%

Breakdown of revenues

Breakdown of 2016 revenues by business line



Breakdown of 2016 revenues by geographical area



9.5 Dawson Geophysical

Presentation

- Dawson Geophysical is an American company that provides onshore seismic data acquisition and processing services.
- The company acquires and processes 2D data for the oil and gas industry.
- Dawson Geophysical's shares are listed on NASDAQ Stock Market LLC.

Ownership structure

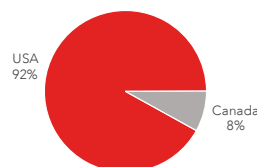
Main shareholders

Beddow Capital Manag	9.7%
Renaissance Technolo	7.4%
Dimensional Fund Adv	6.9%
Grace & White Incorp	5.3%
Other shareholders (< 5% of the capital)	70.8%

Breakdown of revenues

Business-line data not available

Breakdown of 2016 revenues by geographical area



9.6 Electromagnetic Geoservices

Presentation

- Electromagnetic Geoservices is a Norwegian company that provides electromagnetic services to oil and gas companies.
- Its technology allows it to provide services including offshore hydrocarbon detection, reconnaissance scanning in frontier areas, field identification and the recording and migration of 3D electromagnetic (3D CSEM) and magnetotelluric (MT) data.
- Electromagnetic Geoservices's shares are listed on the Oslo Stock Exchange.

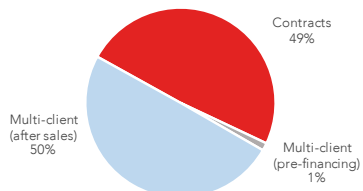
Ownership structure

Main shareholders

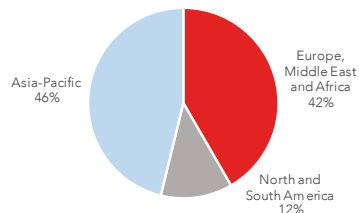
Siem Investments Inc	23.9%
Perestroika As	22.5%
Morgan Stanley	13.8%
Mscoc Equity Firm Acc	6.0%
Other shareholders (< 5% of the capital)	33.8%

Breakdown of revenues

Breakdown of 2016 revenues by business line



Breakdown of 2016 revenues by geographical area



9.7 John Wood Group

Presentation

- John Wood Group specializes in engineering and maintenance services related to systems and equipment used in the oil and gas and electricity industries.
- The company designs and produces submersible pumping, wellhead and pressure control systems.
- John Wood Group's shares are listed on the London Stock Exchange (FTSE 250 index).

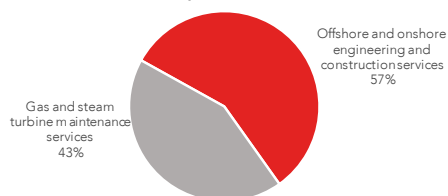
Ownership structure

Main shareholders

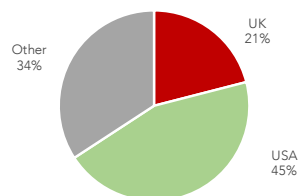
Blackrock	16.5%
Ameriprise Fin Grp	9.0%
Deutsche Bank Ag	7.9%
Kiltearn Partners LI	6.0%
Apg Asset Management	5.6%
Other shareholders (< 5% of the capital)	55.2%

Breakdown of revenues

Breakdown of 2016 revenues by business line



Breakdown of 2016 revenues by geographical area



9.8 Magseis

Presentation

- Magseis specializes in geophysical and marine seismic studies for oil and gas companies.
- The company develops its own marine automated seismic system (MASS) technology, which consists of subsea cables and sensor capsules and allows the automated downloading of marine data.
- Its technology allows the acquisition of high-quality data at water depths of 0-3,000 meters.
- Magseis's shares are listed on the Oslo Stock Exchange.

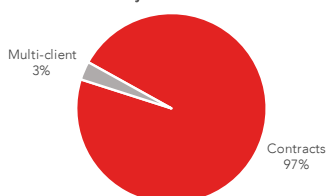
Ownership structure

Main shareholders

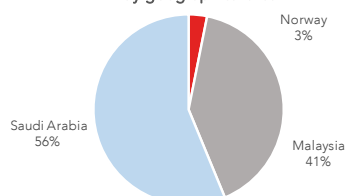
Anfar Invest As	9.9%
Westcon Group As	9.3%
Geo Innova As	7.5%
Clipper As	5.9%
Other shareholders (< 5% of the capital)	67.4%

Breakdown of revenues

Breakdown of 2016 revenues by business line



Breakdown of 2016 revenues by geographical area



9.9 Pulse Seismic

Presentation

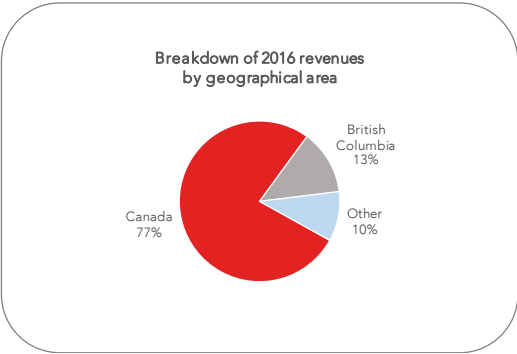
- Pulse Seismic is a Canadian company that sells and distributes under license 2D and 3D seismic data for the oil and gas sector.
- The company has Canada's second largest library of seismic data.
- Pulse Seismic's shares are listed on the Toronto Stock Exchange.

Ownership structure

Main shareholders	
Edgepoint Investment	16.2%
Ravenswood Investmen	14.9%
Invesco Ltd	10.6%
Burgundy Asset Manag	10.1%
<u>Other shareholders (< 5% of the capital)</u>	<u>48.3%</u>

Breakdown of revenues

Business-line data not available



9.10 Seabird Exploration

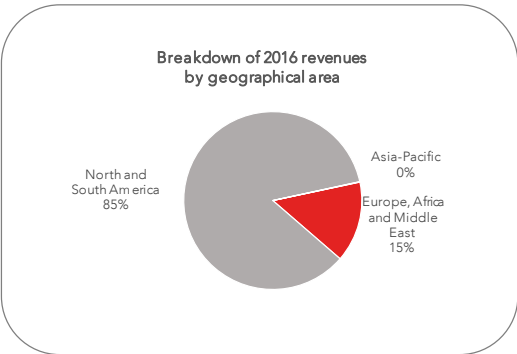
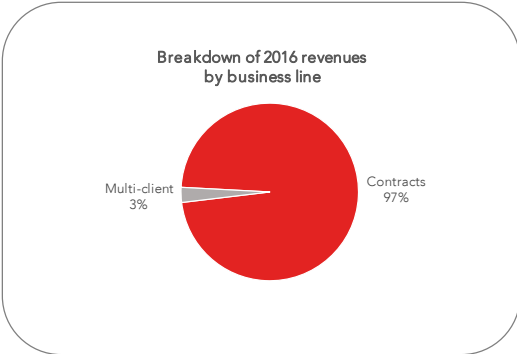
Presentation

- Seabird Exploration provides 2D, 3D and 4D marine seismic data, along with products and services mainly for the hydrocarbons industry.
- The company has special expertise in shallow-water 3D towed streamers, high-resolution acquisition, 2D data and broadband acquisition technology.
- Seabird Exploration has a fleet of 6 vessels.
- Seabird's shares are listed on the Oslo Stock Exchange.

Ownership structure

Main shareholders	
Perestroika As	5.0%
<u>Other shareholders (< 5% of the capital)</u>	<u>95.0%</u>

Breakdown of revenues



SCHEDULE 10: PERFORMANCE OF LISTED PEERS

Company	Schedule 9 Reference	Revenue growth %			EBITDA Margin %			EBIT Margin %		
		2017e	2018e	2019e	2017e	2018e	2019e	2017e	2018e	2019e
PETROLEUM GEO-SERVICES	9.1	8.5%	11.4%	15.7%	46.3%	51.9%	53.7%	(13.8%)	2.6%	9.8%
POLARCUS LTD	9.2	(24.2%)	28.0%	24.7%	11.3%	34.1%	37.7%	(32.1%)	4.9%	14.8%
SPECTRUM ASA	9.3	50.5%	18.7%	14.2%	80.5%	79.4%	79.9%	12.8%	22.8%	28.8%
TGS NOPEC GEOPHYSICAL CO ASA	9.4	6.7%	11.8%	12.3%	82.1%	82.6%	83.5%	18.6%	25.0%	29.7%
Median		7.6%	15.2%	14.9%	63.4%	65.7%	66.8%	(0.5%)	13.8%	21.8%
Mean		10.4%	17.5%	16.7%	55.0%	62.0%	63.7%	(3.6%)	13.8%	20.8%
DAWSON GEOPHYSICAL CO	9.5	17.0%	41.0%	n/a	(4.2%)	8.9%	n/a	(24.0%)	(6.2%)	n/a
ELECTROMAGNETIC GEOSERVICES	9.6	(14.1%)	53.7%	11.9%	1.1%	15.1%	24.5%	(47.3%)	(19.4%)	(3.5%)
WOOD GROUP (JOHN) PLC	9.7	16.0%	16.6%	4.7%	7.6%	7.9%	8.6%	4.5%	5.5%	6.5%
MAGSEIS AS	9.8	30.7%	50.3%	12.1%	35.4%	29.5%	34.9%	15.8%	11.7%	20.0%
PULSE SEISMIC INC	9.9	192.9%	(42.9%)	n/a	73.8%	77.1%	n/a	n/a	n/a	n/a
SEABIRD EXPLORATION PLC	9.10	(42.1%)	40.3%	n/a	(10.9%)	18.3%	n/a	(45.8%)	(8.5%)	n/a
Median regression sample		12.2%	23.4%	12.3%	23.3%	31.8%	37.7%	(13.8%)	4.9%	14.8%
Mean regression sample		24.2%	22.9%	13.6%	32.3%	40.5%	46.1%	(12.4%)	4.3%	15.1%

Bloomberg