From: jamesmeaney@lowerchurchillproject.ca
To: stevepellerin@lowerchurchillproject.ca
Cc: jasonkean@lowerchurchillproject.ca; lanceclarke@lowerchurchillproject.ca; pharrington@lowerchurchillproject.ca
Subject: Re: URGENT ACTION NEEDED_ TOP PRIORITY
Date: Friday, February 5, 2016 2:15:23 PM
Attachments: _.png
Astaldi Financial Position Briefing for GNL Feb 2016 (FINAL).pdf

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Hi Steve

Here is the Financial Analysis deck noted below for upload to the data room that Charles/Julia have access to

Regards

Jim

Astaldi Financial Position Briefing for GNL Feb 2016 (FINAL).pdf

James Meaney
General Manager, Finance
PROJECT DELIVERY TEAM
Lower Churchill Project
t. **709 737-4860** c. **709 727-5283** f. **709 737-1901**
e. **JamesMeaney@lowerchurchillproject.ca**
w. **muskratfalls.nalcorenergy.com**

You owe it to yourself, and your family, to make it home safely every day. What have you done today so that nobody gets hurt?

Steve Pellerin---02/05/2016 09:33:10 AM---I am following up on this. The data room has been set up (confirmed) and the recent IPA has been se

From: Steve Pellerin/NLHydro

To: James Meaney/NLHydro@NLHYDRO, Jason Kean/NLHydro@NLHYDRO, Lance Clarke/NLHydro@NLHYDRO

Cc: Paul Harrington/NLHydro@NLHydro

Date: 02/05/2016 09:33 AM

Subject: Re: URGENT ACTION NEEDED_ TOP PRIORITY

I am following up on this. The data room has been set up (confirmed) and the recent IPA has been sent to be uploaded. I will follow-up directly with Charles and Julia to confirm they have been able to access. Each of you should also be getting Intralinks Notices the same time Charles and Julia do - so you will know too when they have new information made available to them. Please provide me a status of when I can expect to load the following:

Financial Analysis of Astaldi - Jim
A Short report by Leslie Cleveland - Lance
The Westney Analysis - this will likely be a deck or short report format - Lance

Thanks.

Stephen Pellerin
Special Projects & 3rd Party Coordination Manager
PROJECT DELIVERY TEAM
Lower Churchill Project
t. **(709) 570-5969** c. **(709) 725-7308** f. **(709) 754-0787**
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Paul Harrington---02/04/2016 10:41:01 AM---Steve We need to get the following set up by close of play today and some data loaded tomorrow

From: Paul Harrington/NLHydro

To: Steve Pellerin/NLHydro@NLHYDRO

Cc: Lance Clarke/NLHydro@NLHydro, Jason Kean/NLHydro@NLHydro, James Meaney/NLHydro@NLHYDRO

Date: 02/04/2016 10:41 AM

Subject: URGENT ACTION NEEDED_ TOP PRIORITY

Steve

We need to get the following set up by close of play today and some data loaded tomorrow

1 A Data Room - with READ ONLY ACCESS - available to Julia Mullaley and Charles Bown- you will need to send them both a guide as to how to access the Data Room.

2 The data Room should contain the following

The most recent IPA Report (short version) - this can be loaded up asap

Financial Analysis of Astaldi - Jim Meaney has a deck that we will check today and you can load tomorrow once we give the green light

A Short report by Leslie Cleveland - Lance will send you that for uploading

The Westney Analysis - this will likely be a deck or short report format - Lance will send you that for uploading

QRA deck cost and schedule from Westney on LTA and LIL only- this will be a deck and will be provided from Jason/Lance once they get the work done by Westney - likely late next week

First action is to send an email to Julia and Charles informing them of the Data room set up and a simple guide for them to access the data

Please keep me informed of progress and copy me on incomin/outgoing emails relating to this

.

Regards Paul

Paul Harrington
Project Director
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Muskrat Falls Project

Astaldi Financial Position Briefing

February 2016

Boundless Energy

nalcor energy
LOWER CHURCHILL PROJECT

Privileged in Contemplation of Litigation – Confidential and Commercially Sensitive

OUTLINE

1. Purpose
2. Key Findings
3. Background
4. Astaldi Project Assessment
5. November 2015 Analysis
6. Recent Updates

PURPOSE

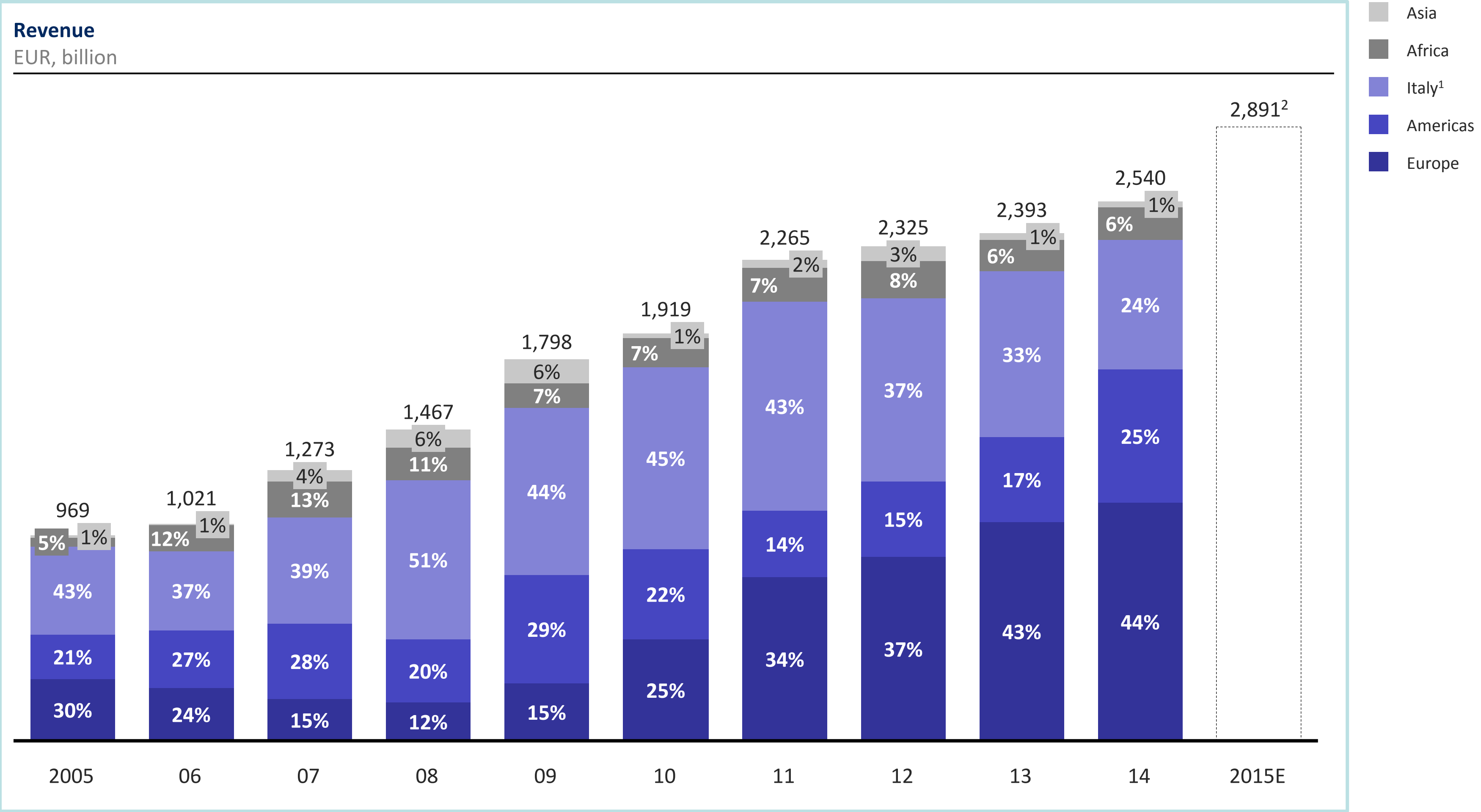
- To outline the key findings of an assessment completed in November 2015 on Astaldi's financial position over the Muskrat Falls Project timeline
- Nalcor engaged an external consultant with global reach on a confidential basis to assist in this effort
- Initial evaluation completed in November 2015 was presented to Astaldi and feedback has been provided on the situation in key Turkish projects and debt covenant discussions with their lenders – update to analysis currently underway and expected to be complete in February/March 2016

KEY FINDINGS

- In recent years Astaldi Spa, the parent of Astaldi Canada and a publicly listed company on the Italian stock exchange, has expanded its operations into lower margin lines of business while at the same time increased debt levels – this has put significant pressure on debt ratios and raised credit rating agency concerns in late 2015
- At the time of contract award, Astaldi's debt ratios were at more favorable levels and an appropriate performance security package was put in place (C$350 million in letters of credit and performance bonds)
- Equity analysts and investors did not react well to their Q3 2015 results released in November, resulting in a share price drop of nearly 50%
- Astaldi's results to date do not reflect any reported negative impacts of the Muskrat Falls contract, where current forecasts indicate it will cost them C$600-700 million above the initial contract price to complete – under their accounting standards (IFRS) this entire loss may have to be recognized as part of their 2015 year end results, putting further significant pressure on their share price and debt covenant ratios (year end results expected to be released in March 2016)
- The analysis conducted by Nalcor and its consultants in Fall 2015 identified projects in Turkey which constituted 3 of the 6 highest potential risk construction projects that Astaldi currently have underway – Nalcor now understands from Astaldi that these contracts have been renegotiated and their financial exposure has been somewhat reduced, however, Astaldi having to declare significant losses on the Muskrat Falls contract in their 2015 year end results could evaporate that financial relief
- A breach of Astaldi's debt covenants could freeze availability on their €500 million revolving credit facility, possibly accelerate repayment of long-term debt, and cause a serious liquidity issue for the company
- Given the preferred Muskrat Falls project execution approach is to continue with Astaldi to completion, any negotiated settlement amount needs to give consideration to the implications it will have on the company's overall financial position, as noted above, and the cash flow liquidity they will need to complete the work

BACKGROUND

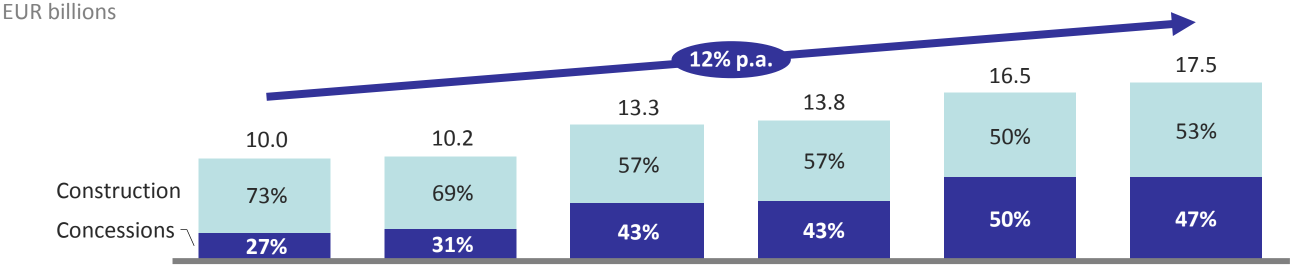
Astaldi's revenue mix has been gradually shifting away from Italy since 2008 toward ex-Italy Europe and Americas…



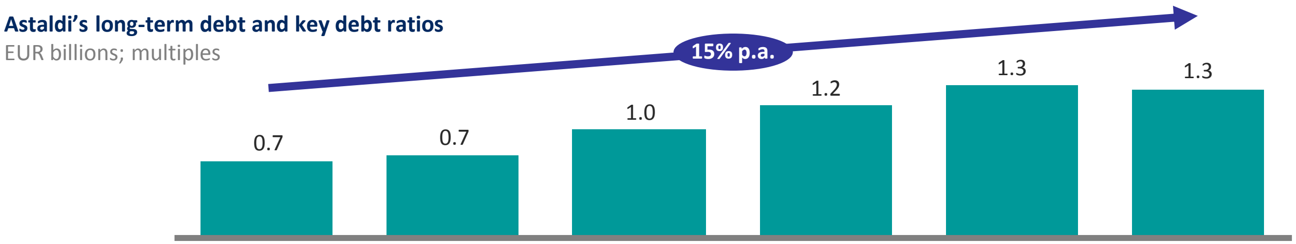
1 Includes Corporate and Other segments
2 Thomson Reuters market consensus estimates (as of November 22nd 2015)
SOURCE: Capital IQ, Thomson Reuters, Company filings

Astaldi's increasing exposure to concessions projects has driven substantial debt increases and coverage challenges

Astaldi's backlog in execution
EUR billions



Astaldi's long-term debt and key debt ratios
EUR billions; multiples



	2011	2012	2013	2014	2015 Q2	2015 Q3
Total LT Debt to Equity ratio[1]	1.42	1.40	1.69	1.96	1.91	2.3[2]
Total LT Debt to EBITDA ratio[3]	2.25	2.75	2.97	4.45	4.62	4.63
Interest Coverage ratio[4]	4.98	4.24	3.46	2.21	2.78	0.80[5,6]

In Dec 2013, Astaldi restructured its debt through 1.02 billion euro bond issuance. This long-term debt matures in 2020 and will likely bring another major liquidity challenge.

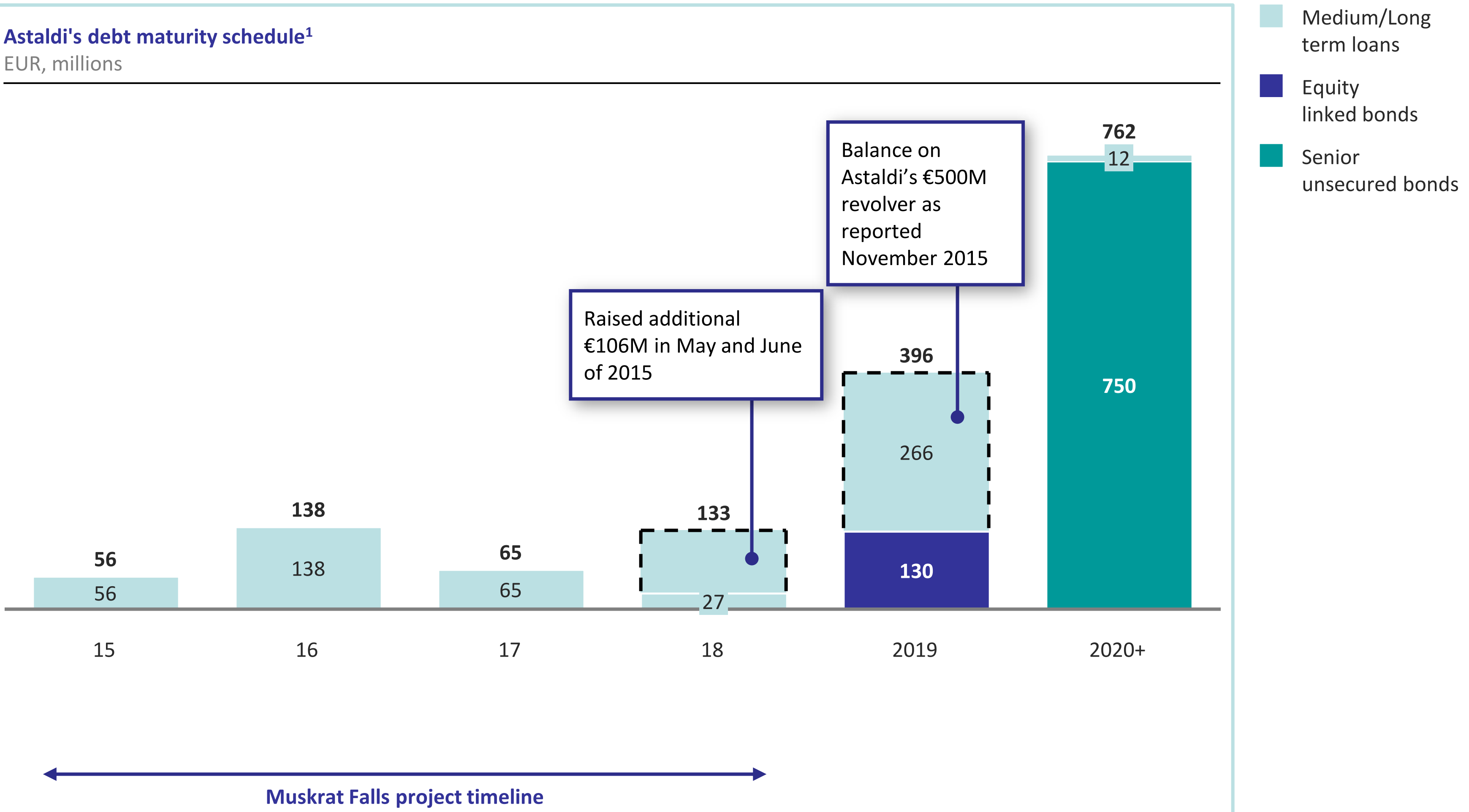
Additionally, decline of Interest Coverage ratio contributed to market fears and equity decline in 2014

1 Long term debt to Shareholders equity ratio
2 Long term debt is EUR 1.319B and equity EUR 575M
3 EBITDA as reported in Morningstar and Investors presentations from Astaldi (for Q2 2015 and Q3 2015 used TTM)
4 Interest coverage ratio = EBIT/Interest expense
5 Interest expense (as reported in Yahoo Finance for Q3 was EUR 69M (vs. 27M Q2) and EBIT EUR 55M (vs. 75M Q2) – Note difference vs. self-reported EBIT of EUR 45M.
6 Interest coverage ratio with TTM (Sept 30th 2015) data would be 1.83 (EBIT TTM EUR 307.89M and Interest Expense TTM EUR 168.05M)

SOURCE: Annual reports, Capital IQ, Bloomberg, Yahoo finance, Investor presentation

Astaldi has significant debt maturities over the 2015-2020 period

Astaldi's debt maturity schedule[1]
EUR, millions



1 Majority of the maturity table is based on 2014 annual report, with the additional loans taken out in H1 2015
SOURCE: 2014 Annual report, H1 2015 Results, Investor presentation

Astaldi's debt covenants are mostly tied to those associated with its revolving credit facility

	Details		Related loans
NFP/Net Equity	• **Annual** – <2.00x in FY2014 – <1.90x in FY2015 – <1.60x in FY2016 – <1.50x in FY2017 – <1.45x in FY2018	• **Semi-Annual** – <2.00x in H1 2015 – <1.80x in H1 2016 – <1.60x in H1 2017 – <1.60x in H1 2018 – <1.60x in H1 2019	• €500M revolver • Other corporate loans
	• <1.95x		• €750M senior unsecured bond
NFP/EBITDA	• **Annual** – <3.60x in FY2014 – <3.25x in FY2015 – <3.10x in FY2016 – <3.00x in FY2017 – <3.00x in FY2018	• **Semi-Annual** – <3.60x in H1 2015 – <3.40x in H1 2016 – <3.30x in H1 2017 – <3.30x in H1 2018 – <3.30x in H1 2019	• €500M revolver • Other corporate loans
	• <3.95x		• €750M senior unsecured bond
Priority leverage ratio[1]	• **Annual and semi-annual** – >50%		• €500M revolver • Other corporate loans • € 750M senior unsecured bond

- **Astaldi's FY2014 results were fully compliant** with covenants
- **Breach of covenants may result in accelerated repayment schedule** (beyond six month "cure period")
- **Covenant information for bank loans** (bilateral and syndicated) are not publicly available

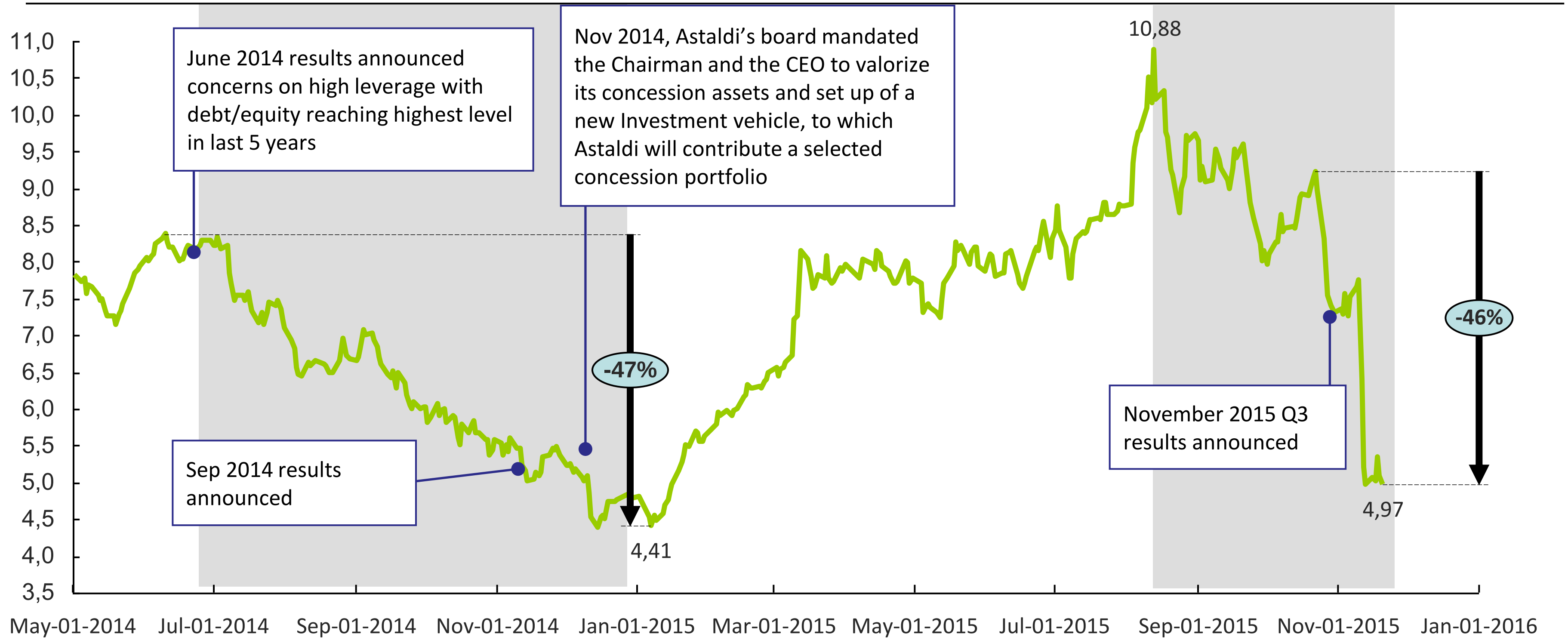
1 The ratio of Astaldi S.p.a.'s stand-alone EBITDA in respect of the Group's consolidated EBITDA

SOURCE: 2014 Annual report, Investor presentations, Offering memorandum of the € 750M senior unsecured bond

During November, Astaldi's share price dropped by almost 50% following a similar pattern to the 2014 liquidity crisis

Astaldi stock price evolution

EUR, per share



"Back in 2014, Astaldi faced a big financial crisis as people began very concerned about their ability to handle debt payments. Astaldi was having issues with some of their international projects, especially in central America."

E&C expert in Italy

"Astaldi's major competitors anticipate another major liquidity crisis for Astaldi in 2020 when their bond reaches maturity. They are waiting for that disruption so they can just buy Astaldi cheap."

E&C expert in Italy

SOURCE: Capital IQ, Press search

Credit rating agencies expressed concerns in December 2015 and revised Astaldi's outlook to "negative"

Standard & Poors

"LONDON (Standard & Poor's) Dec. 14, 2015--Standard & Poor's Ratings Services today revised its outlook on incorporated civil engineering and construction company Astaldi SpA to negative from positive. At the same time, we affirmed our 'B+' long-term corporate credit rating on the company and our 'B+' issue rating on its debt. The recovery rating on this debt remains unchanged at '4'.....

- *We expect that Italy-based civil engineering and construction company Astaldi SpA's leverage will increase at the end of 2015, compared with 2014, mainly due to larger-than-forecast investments in concessions made during the year.*
- *At the same time, the company is progressing slower than we had expected with the disposal of a portion of its concession assets, which was announced in 2014.*
- *We also believe that at end-2015 the company will have limited headroom under its financial covenants due to higher leverage.*
- *We are therefore revising our outlook on Astaldi to negative from positive, and affirming our 'B+' corporate credit ratings.*
- ***The negative outlook reflects our view that Astaldi's increasing leverage could lead to limited headroom remaining under its financial covenants when they are tested in December 2015 and June 2016…."***

Moody's

"Frankfurt am Main, December 03, 2015 -- Moody's Investors Service, ("Moody's") has today changed the outlook on Astaldi S.p.A. (Astaldi) to negative from stable. Concurrently Moody's has affirmed the B1 corporate family rating (CFR), B1-PD probability of default rating (PDR) and the B1 senior unsecured ratings.

- *"**The change in outlook to negative has been driven by the delayed sale of concession assets leading to leverage ratios which are outside of the range for a B1 rating for a longer than anticipated time, and the weakening liquidity profile of the company**." said Matthias Heck, Moody's lead analyst for Astaldi.*

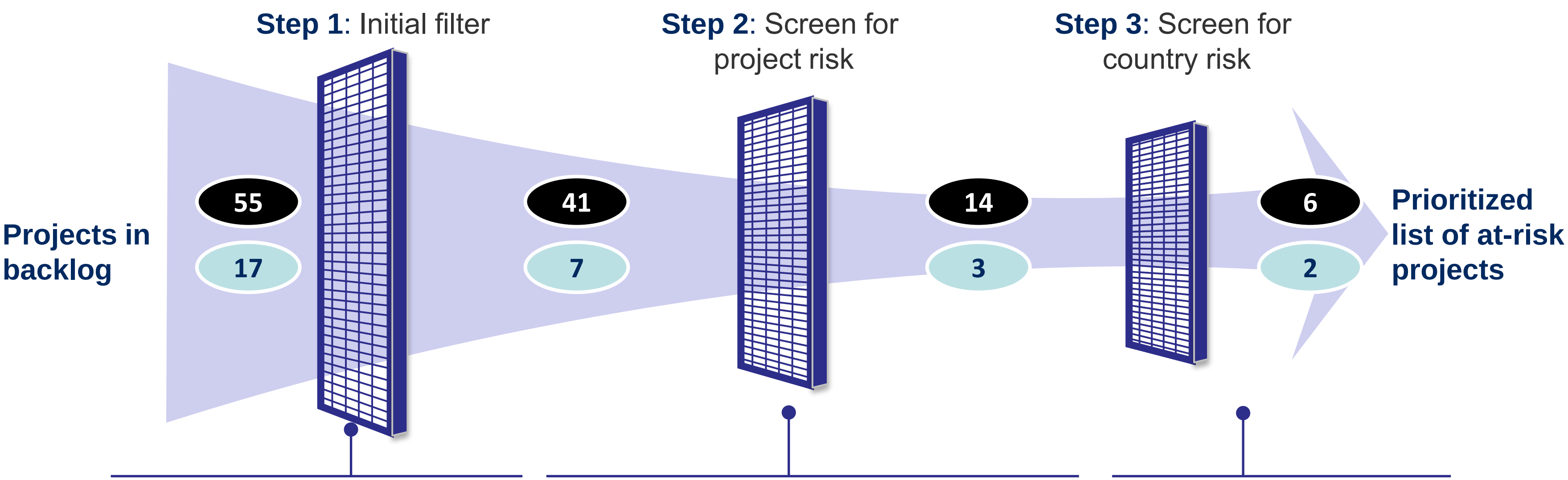
RATINGS RATIONALE

- ***The change of the outlook reflects the company's delayed asset disposal programme, which leaves execution risks in place and financial leverage at high levels, well above our ratio guidance. Moreover, it limits headroom to financial covenants of its existing EUR500 million revolving credit facility at very tight levels as per year end 2015**. The negative outlook also reflects the company's corporate governance, which we understand is in line with Italian Stock Exchange guidelines, with regards to the CEO having sold a substantial part of his shares in the second half of October…."*

ASTALDI PROJECT ASSESSMENT

Prioritized Astaldi's projects by assessing each in terms of country and project risk

X Number of construction projects   X Number of concession projects



- **(For construction projects)** Filter out projects that are already complete or projects that are on cost plus contracts
- **(For concession projects)** Filter out projects that are not yet operational

- Assess each project's risk level along the following dimensions:

a **(For construction projects)**
  - Technical complexity
  - Familiarity with project type
  - Contract value
  - Residual value
  - Time to completion
  - Additional risk factors[1]

(For concession projects)
  - Returns from government guaranteed revenues

- Assess the level of risk inherent in country where the project is located[2]

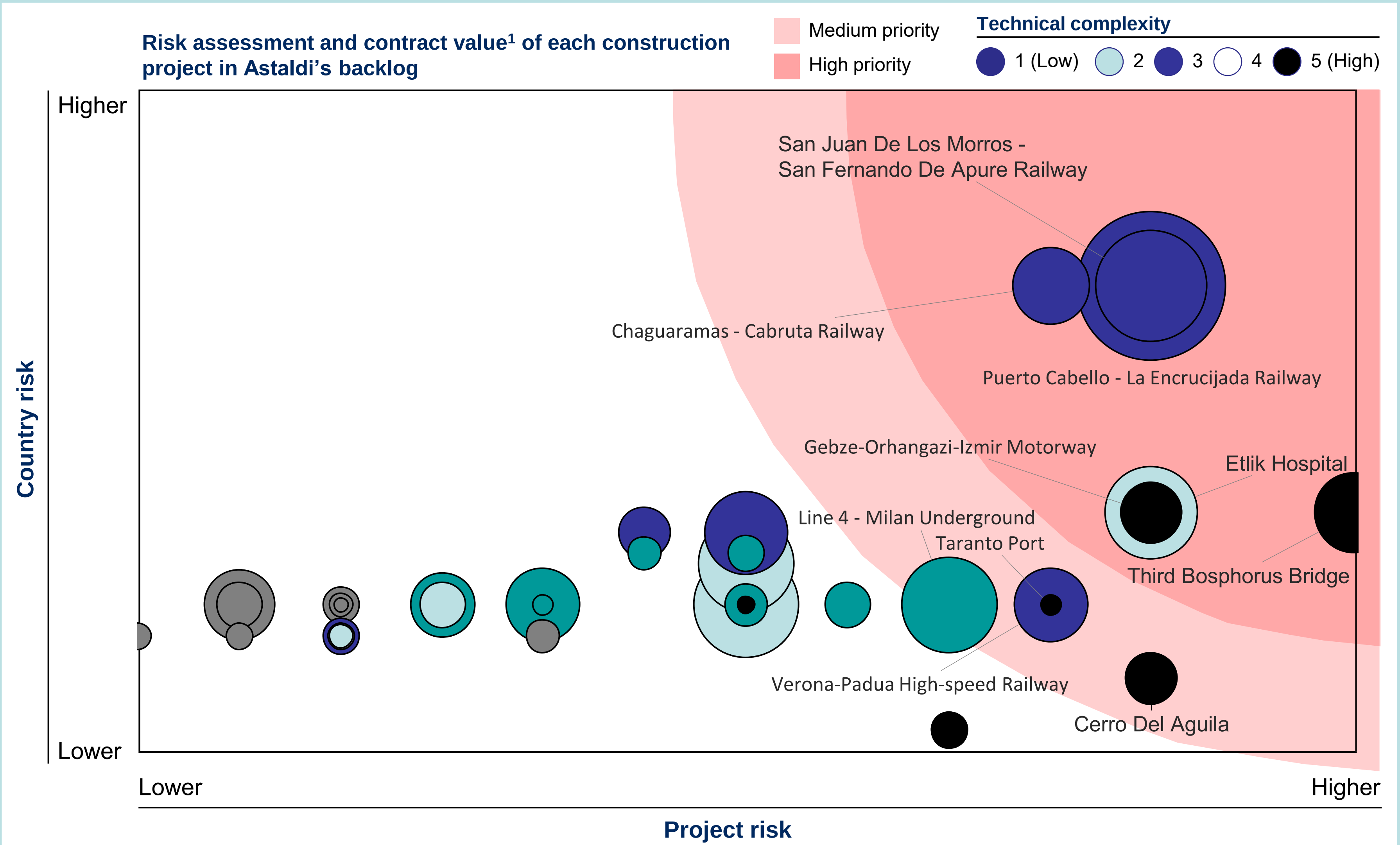
1 Includes reported history of contract disputes/work stoppage or whether the project will become a part of concession portfolio
2 Based on EIU country ratings; accounts for currency risk, sovereign debt risk, banking sector risk, political risk, and economic structure risk
SOURCE: Astaldi 2014 Annual Report, Economic Intelligence Unit, March 2015 Milan Star Conference, Team analysis

Methodology for scoring project risk of construction projects

Project risk composite score

	Description	Scoring methodology
Technical complexity score	Level of technical difficulty inherent in each project	+1: Roads, buildings, railway stations +2: Medical complex, highways, airports +3: Railway +4: Underground +5: Plants, ports, dams, mining, suspension bridges
Familiarity score	How familiar Astaldi is with the project type	+1: Roads and Motorways +2: Railways and Undergrounds +3: Hydraulic and Energy Production Plants +4: Civil and Industrial Construction +5: Ports and Airports
Contract value score	Overall scale of the project in terms of contract value	+1: <100M EUR +2: 100-250M EUR +3: 250-500M EUR +4: 500M-1B EUR +5: 1B+ EUR
Residual value score	Level of progress made to date	+1: <50M EUR +2: 50-100M EUR +3: 100-200M EUR +4: 200-500M EUR +5: 500M+ EUR
Time to completion score	Amount of time left to complete the project	+1: <1 year or 4+ years +2: 3-4 years +3: not specified/unknown +4: 1-2 years +5: 2-3 years
Additional risk factors	Other relevant risk factors	+1: concession project under construction +1: reported history of contractual disputes/work stoppage

Identified six high-risk construction projects…



Note: Size of the bubble indicates contract value; data excludes completed projects, cost plus contracts, and Muskrat Falls project

1 Share of the construction contract related to Astaldi Group's stake

SOURCE: Astaldi 2014 Annual Report, Economic Intelligence Unit, Team analysis

Compiled detailed information on Astaldi's major construction projects based on expert interviews

High priority

Category	Project name	Project type	Country	Contract value[1] (M EUR)	Residual value[2] (M EUR)	Astaldi's stake (Percent)
Construction	Third Bosphorus Bridge and Northern Marmara Motorway	Roads and Motorways	Turkey	646	154	33%
	Etlik Hospital Campus - Ankara	Civil and Industrial Construction	Turkey	870	870	51%
	San Juan De Los Morros - San Fernando De Apure Railway Line	Railways and Undergrounds	Venezuela	1,260	N/A[3]	33%
	Puerto Cabello - La Encrucijada Railway Line	Railways and Undergrounds	Venezuela	2,238	1,223	33%
	Gebze-Orhangazi-Izmir Motorway Phase 1 & Phase 2-A	Roads and Motorways	Turkey	765	452	18%
	Chaguaramas - Cabruta Railway Line	Railways and Undergrounds	Venezuela	591	N/A[3]	33%
	Cerro Del Aguila Hydroelectric Project	Hydraulic and Energy Production Plants	Peru	272	106	50%
	Verona-Padua High-sspeed/High-capacity Railway Line	Railways and Undergrounds	Italy	563	563	37%
	Taranto Port	Ports and Airports	Italy	52	52	N/A
	Line 4, Milan Underground	Railways and Undergrounds	Italy	932	827	32%
Concession	Milas-Bodrum International Airport	Civil and Industrial Construction	Turkey	N/A	N/A	100%

1 Share of the construction contract related to Astaldi Group's stake
2 Residual value represents the percentage of works to be performed out of the share of the construction contract related to Astaldi Group's stake
3 Projects have been stopped and Astaldi is no longer reporting a residual value. Experts believe that the residual value is imbedded within the reported value of Puerto Cabello
SOURCE: Astaldi 2014 Annual Report, March 2015 Milan Star Conference Presentation

NOVEMBER 2015 ANALYSIS

Astaldi potentially faces major risks in key projects based on our information

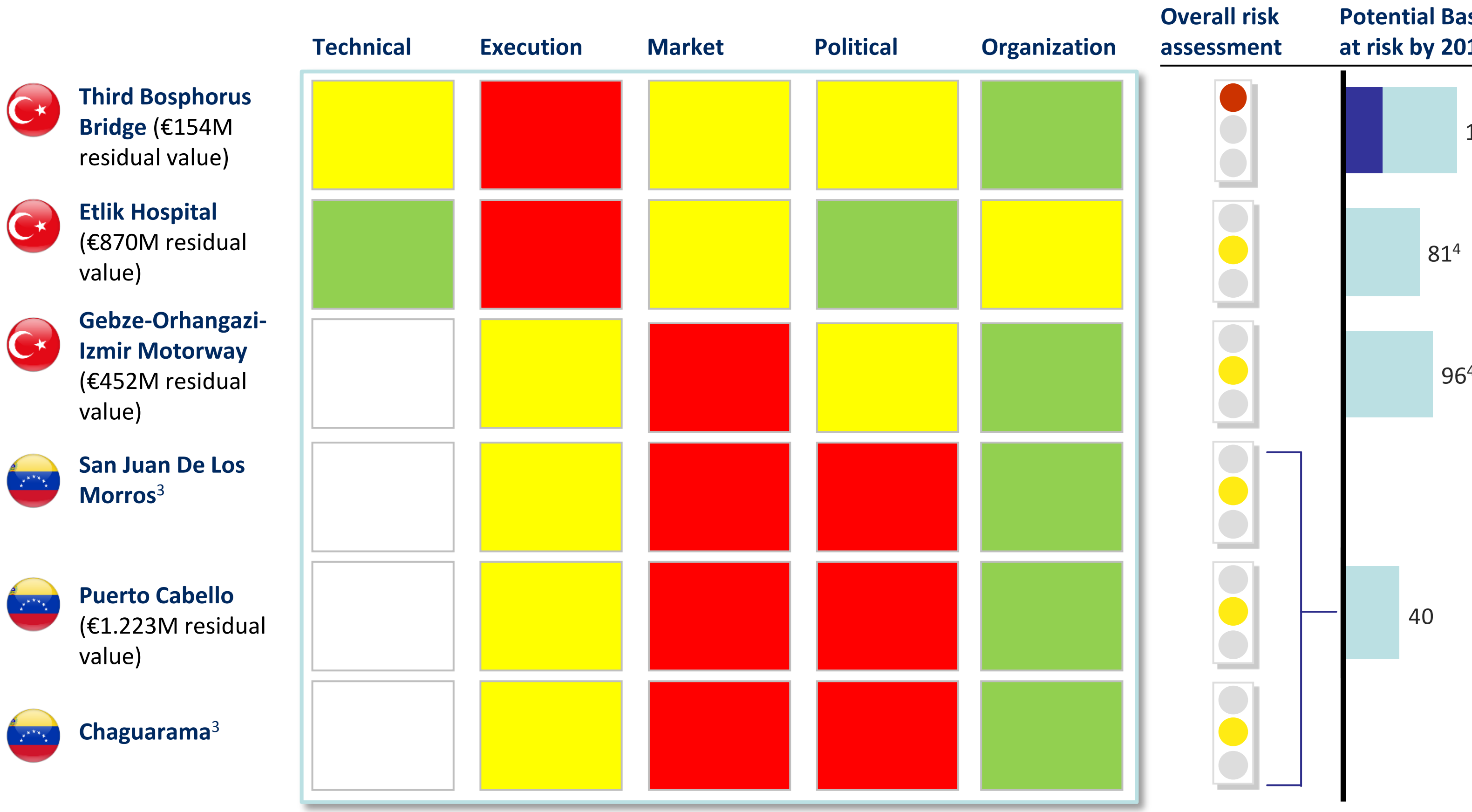
Concession

Construction[1]

Indicates low likelihood of risks resulting in any financial loss to Astaldi

Indicates medium likelihood of risks resulting in moderate financial loss to Astaldi (EUR 0-100M)

Indicates high likelihood of risks resulting in significant financial loss to Astaldi (>EUR100M)



An additional €192M EBITDA impact in Venezuela may occur in 2019-2020, outside of the Muskrat Falls timeline

1 Includes direct and indirect cost overruns and delayed construction revenue impact
2 Assumes 65% margin on concession revenues
3 Projects have been stopped and Astaldi is no longer reporting a residual value. The value is likely included within the reported residual value of Puerto Cabello
4 Numbers include EBITDA impact of delayed concession revenue, delayed construction revenue and cost overruns. Costs overruns (direct and indirect) included are 79M for Third Bosphorus, 73M for Etlik and 96M for Gebze (no construction or concession delayed revenue)

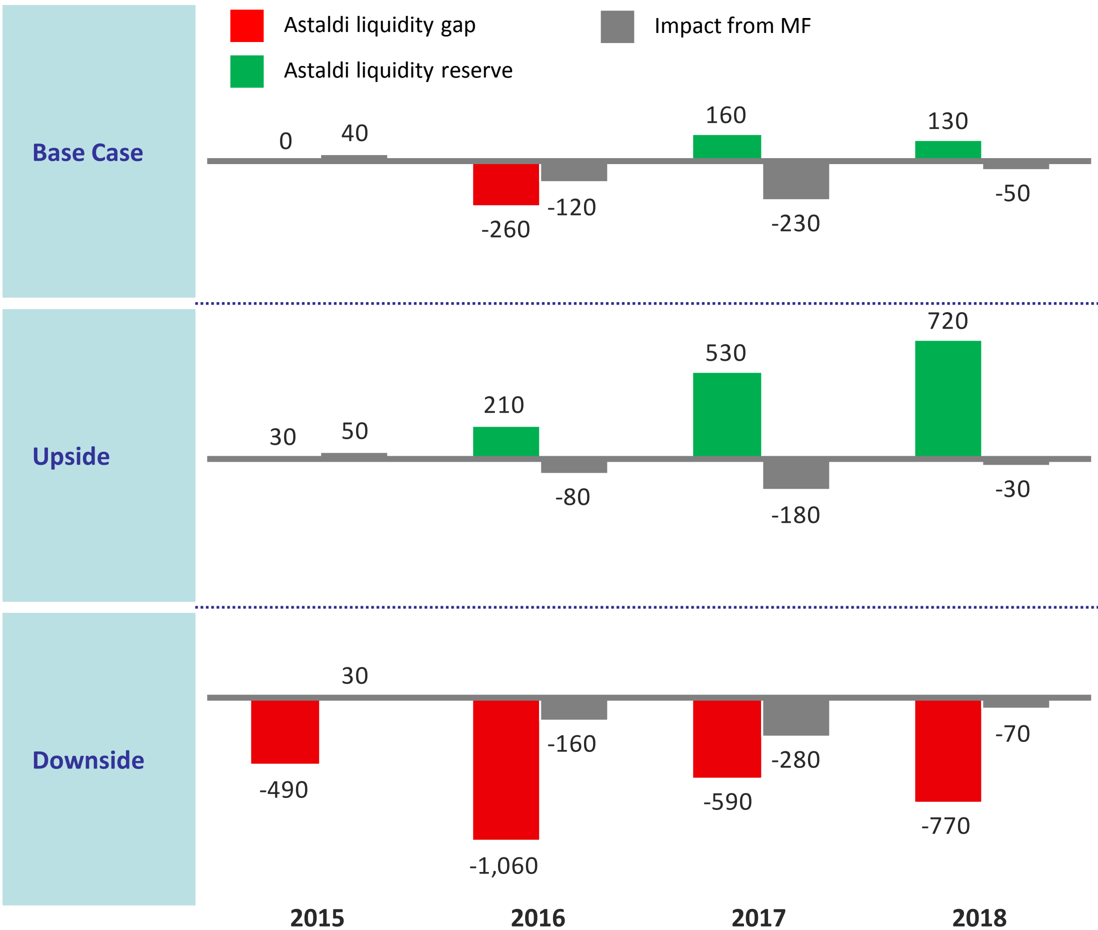
SOURCE: Astaldi annual report

Astaldi could face ~€380M in potential liquidity shortfall in 2016

Unmitigated scenarios

Astaldi's liquidity position[1] vs. anticipated CF impact from Muskrat Falls

EUR Millions



Comments

- **Astaldi will have immediate liquidity need of ~€380M in 2016** if they were to absorb the full cash flow impact from Muskrat Falls
- Astaldi may **issue new equity shares** to address part of the liquidity gap, but not all
- Additional measures include concession disposal and asset liquidation

- Under the upside scenario, Astaldi seems to have **enough liquidity on hand to address the anticipated cash flow impact** from Muskrat Falls project

- Under the downside scenario, **Astaldi will face significant liquidity challenge in 2015 and 2016** when the company is expected to struggle with the adverse performance of major projects, unsuccessful concession disposal and anticipated shortfall in Muskrat Falls
- It will **require new share issuance** (~50M shares) **and significant liquidation** of their assets to help Astaldi stay afloat

1 Anticipated available liquidity from cash balance and open revolver line (i.e., readily accessible liquidity)

SOURCE: Team analysis

Astaldi Financial Analysis – Key Assumptions (Base Case)

	Drivers	Astaldi '13-'18 business plan/baseline	Analyst consensus	Nalcor Assumption	Comments
Core Operations	▪ Revenue growth	▪ ~10% CAGR	▪ 7-9% CAGR	▪ ~9% CAGR	
	▪ EBITDA Margin	▪ ~10%	▪ 8-10%	▪ ~10%	
				EBITDA impact[1]	
Third Bosphurus		▪ Start operations October 2015	▪ (-)	▪ **~€121M** (start operations Q2 2016)	▪ See details on pages that follow
Etlik Hospital		▪ Overall completion by 2019	▪ (-)	▪ **~ €81M** (6 months delay in construction vs. 2019 date)	▪ See details on pages that follow
Gebze motorway phase 1 and 2A		▪ Start operations Q3 2016 – Overall completion by 2019	▪ N/A	▪ **~ €96M** (Start of Phase 1 ops. end of Q2 2016 - overall project >6 months delay)	▪ See details on pages that follow
Venezuela		▪ Total recovery of EUR253M in receivables	▪ N/A	▪ **~ €40M** write off of Bolivar exposure (cash and receivables)	▪ See details on pages that follow
Debt	▪ Re-financing of existing debt	▪ "Extend debt maturities through re-financing"	▪ Extend maturities ▪ Little/no repayment	▪ Partial repayment only for some loans (~€100M)	▪ Concession disposal proceeds of ~ €225M (€ 70M in 2015, €135M in 2016 and €20M in 2017) assists with debt repayment
Other	▪ Capex	▪ N/A	▪ ~6% Capex/rev ('15-'17)	▪ ~6% Capex/rev	
	▪ Working capital	▪ "Focus on reduction"	▪ Steady WC/Rev at ~28%	▪ Slight increase in WC by '18	

1 Versus estimated baseline. Includes direct and indirect cost overruns, deferred/lost revenue in concessions. Numbers are Cumulative EBITDA impact from 2015 to 2018. Downside case assumes extended delays in Turkish projects, while Upside case assumes minimal delays or contracts renegotiated such that project owners cover additional costs.

Assumptions on calculation for Base Case EBITDA impacts (1/2)

	Details	EBITDA Impact up to 2018: TBB[1]	Gebze	Etlik
1 Cost overruns – Indirect/Fixed Costs	• **To calculate Indirect/Fixed costs we broke down the estimates in 2 main concepts Overhead and Equipment.** Specifically we estimated against internal benchmarks and tested with local expert interviews: – **Overhead** : # of management staff for a project of similar size and complexity, # of work days per week and a # cost per day/employee, then we applied the delay period to the calculation – **Equipment** : range # of average heavy equipment on site for project of similar size and complexity, # rent days per week, EUR average rent per heavy equipment and # days of delay	-28	-21	-12
1 Cost overruns – Direct costs	• **To calculate Direct costs we broke down the estimates into 3 main concepts - directly purchased materials, directly hired Labor and subcontractor claims.** Specifically we estimated against internal benchmarks and tested with local expert interviews: – **Materials** : % of overall residual value that is materials costs , EUR amount of materials that would have been purchased after contract period, % inflation of materials purchased beyond initial contract time – **Labor** : range # of workers on site paid on hourly rate, daily labor rate, potential inflation (increased rates due to extension beyond original completion date) and days of delay – **Subcontractor claims:** based on historical subcontractor claims data from industry we assumed a range of potential subcontractor claims on contract pending value (2.5% to 10%)	-51	-75	-61
2 Delayed construction revenue	• **To calculate delayed construction revenues** we distributed pending value of the contract on historical value earned contract curves to establish a baseline (i.e., Third Bosphorus Bridge ending in October 2015). Then we established a different distribution for the delay scenario and calculated the difference versus the original curve (i.e., less expected revenue in the quarter). EBITDA impact then is the different on the baseline multiplied for an assumed average margin (between 5-10%)	0[2]	0[3]	-8
3 Delayed concession revenue	• **To calculate delayed concessions revenue** we estimated the overall concession value and distributed over the period of the concession (8 years in TBB , 22 years in Gebze). If the project gets delayed versus initial projection (i.e., TBB from October 2015 to Q2 2016) there is a difference in collected revenue per quarter versus the baseline. EBITDA impact is that difference multiplied by assumed margin (65%) • Note that if there is a delay and the concession period does not get extended difference in collected revenue by quarter is actually lost revenue (does not get recovered at the end of the concession)	-42	0	0
	SUBTOTAL	-121	-96	-81

1 Impact in 2015 and 2016 cancel each other; 2 Impact 2015-2016 cancel each other with 2017-2018; 3 Impact is not 0 because project goes beyond 2018

Assumptions on calculation for Base Case EBITDA impacts (2/2)

Project	Item	2015	2016	2017	2018	Total
Third Bosphorus Bridge (€154M residual value)	Concession revenue	-	(42.12)	-	-	
	Construction revenue	(4.88)	4.88	-	-	
	Total cost of delay	(9.19)	(18.37)	-	-	
	Direct cost overruns	(5.16)	(46.44)	-	-	
	Subtotal	**(19.23)**	**(102.06)**			Total: (121)
Gebze-Orhangazi-Izmir Motorway (€452M residual value)	Concession revenue	-	-	-	-	
	Construction revenue	(6)	(2)	6	2	
	Total cost of delay	(5)	(5)	(5)	(5)	
	Direct cost overruns	-	(16)	(28)	(31)	
	Subtotal	**(11.01)**	**(23.39)**	**(27.24)**	**(34.82)**	Total: (96)
Etlik Hospital (€870M residual value)	Concession revenue	-	-	-	-	
	Construction revenue	-	(1.88)	(2.48)	(3.47)	
	Total cost of delay	(2.88)	(2.88)	(2.88)	(2.88)	
	Direct cost overruns	-	(9.29)	(15.68)	(36.38)	
	Subtotal	**(2.88)**	**(14.06)**	**(21.05)**	**(42.74)**	Total: (81)
Venezuela projects	Receivables and cash adjustment				(40)	Total: (40)
	TOTAL	**(33.12)**	**(139.51)**	**(48.29)**	**(117.56)**	

1 Assumptions on calculations for Base Case Cost Overruns (Turkish projects,1/2)

Indirect/Fixed costs

	Third Bosphorus Bridge	Gebze-Orhangazi-Izmir Motorway Phase 1 and 2A	Etlik Hospital

Overhead

Rationale: Every delay vs. initial declared date will result in extension of the management staff in charge of Astaldi project (e.g., Senior Project Manager, Project manager, Assistants, Engineering department, accounting department, design staff ..)

	Third Bosphorus Bridge	Gebze-Orhangazi-Izmir Motorway Phase 1 and 2A	Etlik Hospital
a. # of management staff:	~200	~200	~120
b. # of work days per week:	~ 6	~ 6	~ 6
c. Average cost per day/staff:	~300	~170	~140
d. # weeks delay:	~30	~28	~24
1. Subtotal overhead	(a*b*c*d) ~11	(a*c*d) ~9	(a*b*c*d) ~5

Equipment

Rationale: Every delay vs. initial declared date will result in extension of directly rented materials (e.g., aerial work platforms, air compressors, compactors, forklifts, mobile cranes, mini-excavators …)

	Third Bosphorus Bridge	Gebze-Orhangazi-Izmir Motorway Phase 1 and 2A	Etlik Hospital
e. # Equipment on site:	~80	~90	~70
f. # of work days per week:	~5	~6	~6
g. Avg. cost per day/equipment:	~500	~500	~250
h. # weeks delay:	~30	~28	~24
2. Subtotal equipment (e*f*g*h)	~6	~8	~3

Liquidated damages

Rationale: Every contract likely includes daily penalties to be applied to Astaldi in case of delay vs. initial declared date

	Third Bosphorus Bridge	Gebze-Orhangazi-Izmir Motorway Phase 1 and 2A	Etlik Hospital
• Liquidated damages xr day	(0.05M)	(0.05M)	(0.04M)
• # days of delay	(7 days x week) (210)	(7 days per week) (200)	(7 days per week) (170)
Subtotal Liquidated damages	~11	~10	~7

	Third Bosphorus Bridge	Gebze-Orhangazi-Izmir Motorway Phase 1 and 2A	Etlik Hospital
Subtotal indirect/Fixed costs overall (1+2)	~28	~27	~15
Subtotal 2015-2018	~28	~21	~12

1 Assumptions on calculations for Base Case Cost Overruns (Turkish projects,2/2)

Direct costs

Materials

Rationale: Every delay vs. initial declared date could result in inflation vs. initial supplies contracts given volatility of Turkish lira – assumed materials purchased or installed beyond initial completion date will experience inflation

	Third Bosphorus Bridge	Gebze-Orhangazi-Izmir Motorway Phase 1 and 2A	Etlik Hospital
a. Residual contract value	~154	~452	~870
b. % of residual on materials:	~30%	~30%	~30%
c. # weeks delay:	~30	~28	~24
d. Amount contracted/installed after initial contract period[1] :	~65M	~60	~100
e. Assumed inflation:	~15%	~15%	~18%
3. Subtotal materials (d*e)	~10	~9	~18

Subcontractor claims (other)

Rationale: Given technical complexity, size, country risk and certain subcontractors sophistication projects are expected to experience overruns as results of subcontractor claims

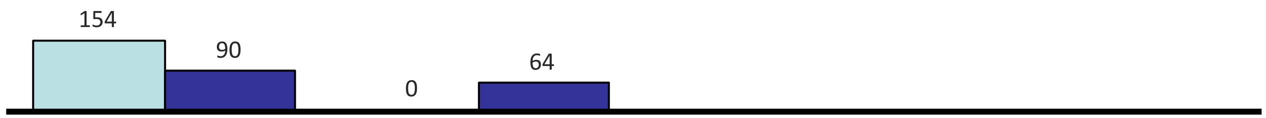
	Third Bosphorus Bridge	Gebze-Orhangazi-Izmir Motorway Phase 1 and 2A	Etlik Hospital
f. Range of observed overruns:	(2.5%-10%)	(2.5%-10%)	(2.5%-10%)
g. Base case:	~6.5%	~9%	~7.5%
h. Total contract value:	~646	~765	~870
4. Subtotal claims (g*h)	~41	~70	~66
Subtotal Direct costs (3+4)	~51	~79	84
Subtotal 2015-2018	~51	~75	~61

1 Formula used is (Residual contract value/time to completion in days)*(expected delay in days)

② Assumptions on delayed construction revenue (Turkish projects)

Assumed baseline in Astaldi Business Plan 2013-18
Construction revenue stream (Base Case)

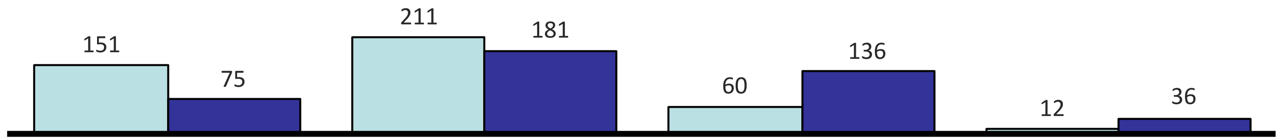
Third Bosphorus Bridge



	2015	2016	2017	2018
Delta vs. business plan	-64.2	64.2	-	-
EBITDA impact	-5	5	-	-

Details
- Baseline assumes project ending October 2015 (initial estimates)
- Scenario assumes ending Q2 2016 (June 2016)
- EBITDA impact assumes delta vs. business plan * average margin 7.5%

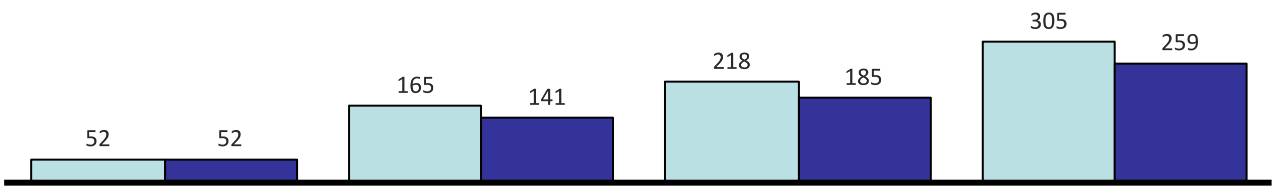
Gebze-Orhangazi-Izmir Motorway Phase 1 and 2A



	2015	2016	2017	2018
Delta vs. business plan	-75.3	-30.1	75.3	24.1
EBITDA impact	- 6	- 2	6	2

- Baseline assumes bulk of the project production in 2016-17 (less <5% afterwards)
- Scenario assumes shift into 2017-18
- EBITDA impact assumes delta vs. business plan * average margin 7.5%

Etlik Hospital



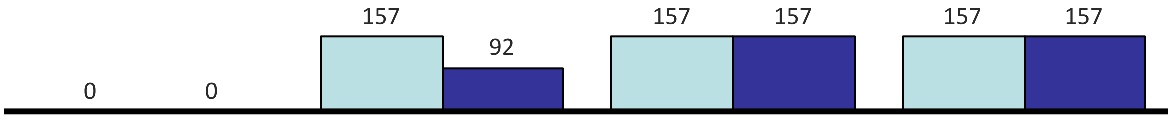
	2015	2016	2017	2018
Delta vs. business plan	-	-24.8	-32.6	-45.7
EBITDA impact	-	-1.9	-2.5	-3.5

- Project completion beyond 2018
- Scenario assumes delay building up in 2017 and 2018
- EBITDA impact assumes delta vs. business plan * average margin 7.5%

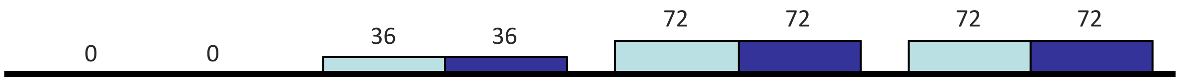
3 Assumptions on delayed concession revenue (Turkish projects)

Assumed baseline in Astaldi Business Plan 2013-18 | Construction revenue stream (Base Case)

Third Bosphorus Bridge (concession period >9 years)



Gebze-Orhangazi-Izmir Motorway Phase 1 & 2A (concession period 22 years)



Etlik Hospital

Concession revenue for Etlik assumed to start beyond the Muskrat falls project timeline – not considered for the calculations

Project		2015	2016	2017	2018
Third Bosphorus Bridge	Delta vs. business plan	0	64.8	0	0
	EBITDA impact	0	-42.1	0	0
Gebze-Orhangazi-Izmir Motorway	Delta vs. business plan	0	0	0	0
	EBITDA impact	0	0	0	0
Etlik Hospital	Delta vs. business plan	-	-	-	-
	EBITDA impact	-	-	-	-

Details

Third Bosphorus Bridge:
- Baseline project construction finish in October 2015/ revenue collection early January15
- Scenario assumes start operations Q2 2016
- Overall revenue ~1.5Bn based on public sources – monthly collection (total value/concession period ~ 3500 days)
- EBITDA impact assumes delta vs. business plan * average margin 65%

Gebze-Orhangazi-Izmir Motorway:
- Baseline assumes project construction finish in October 2015 and start revenue collection early January 2015
- Scenario assumes same hypothesis as baseline (no impact
- Overall revenue in concession ~1.6Bn based on public sources – monthly collection (total value/concession period ~ 800 days

Etlik Hospital:
- Non – applicable

Astaldi Venezuela Cash & Receivables: Potential Revaluation Analysis

Model assumptions and cash flow impact versus Astaldi business plan

	Amount (€M)	% of receivable in local currency	Amount with Bol exposure (€M)	Contract exchange rate (Bol/Euro)	Bolivars equivalent	Expected exchange rate (Bol/Euro)	Revised value based on expected exchange rate (€M)	Devaluation	EBITDA adjust-ments[1,2]
Receivables	253	16%	40	7.04	282	150	1.88	95%	21.0
Cash	20	100%	20	7.04	141	150	0.94	95%	19.1

Base Case EBITDA impact of receivables and cash adjustment (delta vs. Astaldi business plan)

	2015	2016	2017	2018
Receivables	-	-	-	(21.0)
Cash	-	-	-	(19.1)

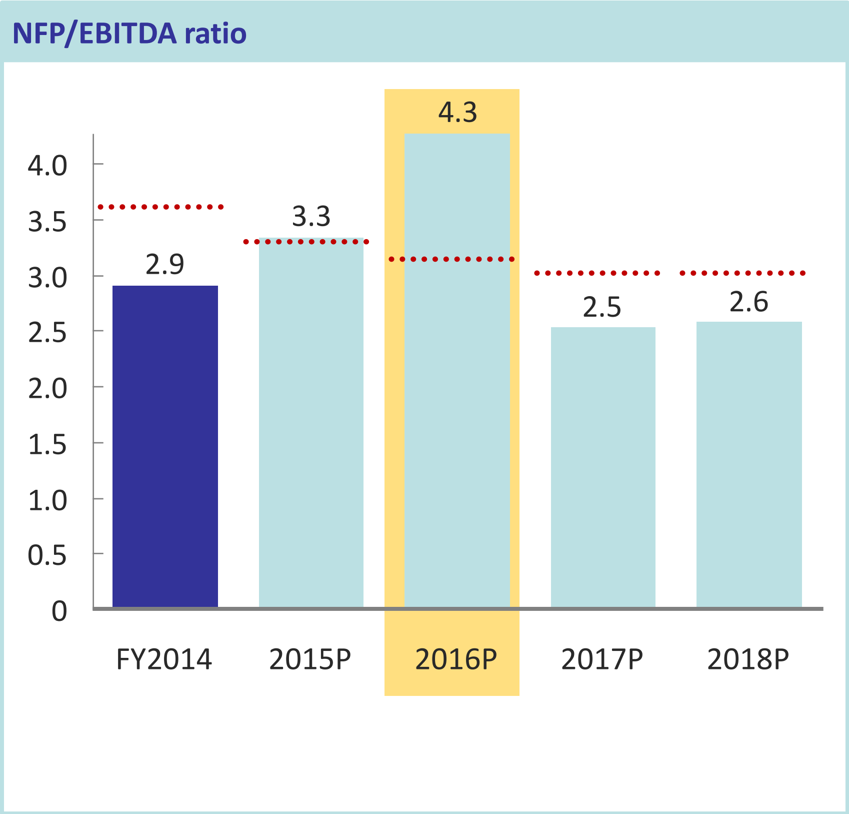
- Venezuela recently announced the **introduction of a new currency system that will devalue the Bolivar / Euro exchange rate**
- New system will allow for **legal trading of foreign currency based on supply and demand** that will substitute for current complicated system that is set based on type of good and service (e.g., food, medicine, etc.)
- Experts anticipate that the new Bol/Euro **exchange rate will be to between 120 Bol/Euro – 190 Bol/Euro**

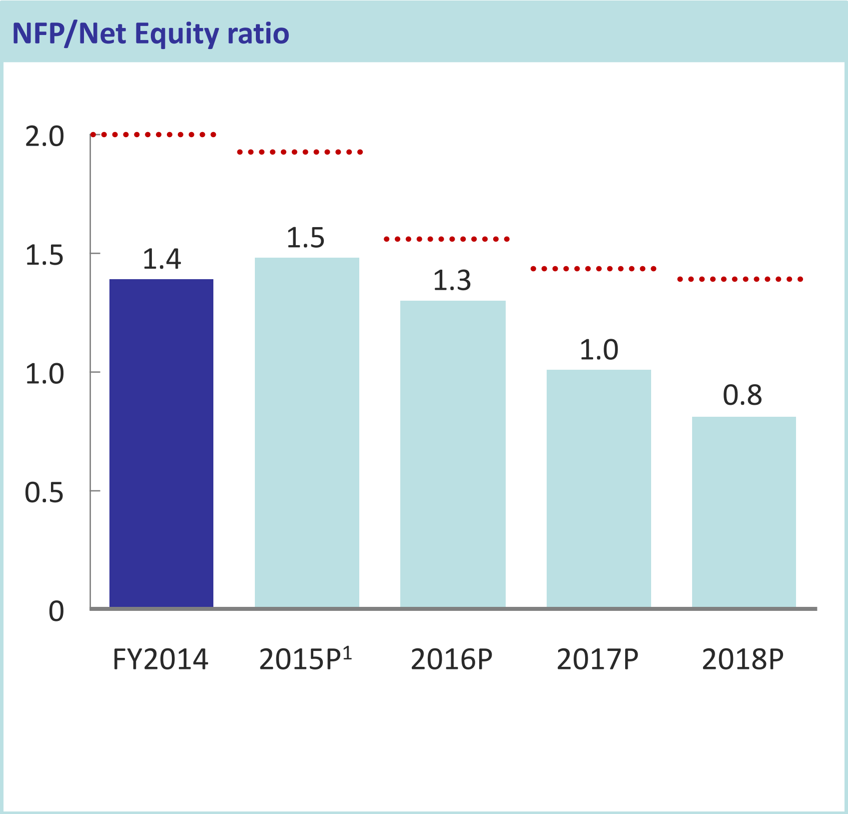
1 Assumes a 10% EBITDA margin
2 Due to the type of work under contract (e.g., construction of railway lines, tunnels, viaducts, train stations), it is estimated that 50% of the costs are incurred in Euro and 50% are incurred in Bolivars

Impact from major projects could result in breach of covenants in 2016

Actual | Projected | Covenant

Year in which covenant breach is expected





SOURCE: Team analysis

Potential sources for Astaldi to bridge a liquidity gap in 2016

Ease of access	Source of liquidity	Description	Major limitations	Available liquidity € Million
High	Cash balance	• Drawing down from Astaldi's cash balance on the balance sheet	• Cannot use it when covenants are breached, because this increases net debt	• ~€465M as of Q3 2015
	Open revolver line	• Borrowing more funds from the revolver line (up to €500M)	• Cannot use it when covenants are breached, because this increases net debt	• ~€266M as of q3 2015
	Additional financing from creditors	• Taking out more loans from creditors	• Creditors will be unlikely to extend loans if/when Astaldi is experiencing liquidity issue	• N/A
	A New share issuance	• Issuing new shares to inject capital, diluting ownership of existing shareholders	• New share issuance will be met by resistance from major shareholders • Difficult to execute in large quantity without triggering negative market reaction and damage to stock price	• €80-170M
	B Disposal of concession assets	• Valorizing concession assets through creation of Investment Fund OR disposing individual asset	• Disposal of concession takes time and the success will depend on the attractiveness of the underlying asset • Assets may not get their full market value if sold to generate liquidity	• €360-700M (pre-tax)
	C Potential support from Nalcor	• Providing support to Astaldi (beyond current contract terms)	• Various stakeholders and commercial restrictions	• To be determined
Low	D Asset liquidation ("fire sale")	• Selling off Astaldi's physical (e.g., PP&E) and financial (e.g., A/R) assets at a heavy discount	• This measure is typically the last resort reserved for companies in bankruptcy or near bankruptcy situations	• €600-900M (pre-tax)

SOURCE: Astaldi 2014 Annual Report; Expert interviews; Team analysis

RECENT UPDATES

Summary of Updates

	New information
Turkish operations	• As a result of **contract re-negotiations**, Astaldi suggests that delays in their Turkish contracts would have no impact at all in their baseline EBITDA
Cash balance	• Astaldi **would need to inject EUR50M in their Turkish operations** (50% already considered in balance sheet) • Astaldi expects to maintain a EUR200M cash balance end of year
Covenants	• Astaldi **is re-negotiating their covenants** to the following new levels for 2015: – NFP/EBITDA: Increase to 3.60x – NFP/NE: Increase to 2.30x
Asset disposal	• Astaldi **is assuming value from asset disposal to be EUR 175M** (vs. EUR 135M initial estimates)

- **Updates to November 2015 analysis currently underway to consider (i) revised assumptions noted above, and (ii) various scenarios of cash injections from Nalcor under a negotiated settlement – expected to be complete in February/March 2016**