

# Subordinated bonds

## Corporate hybrids: More defensive high-beta play

- Corporate hybrids offer the opportunity to invest in a subordinated bond of a solid corporation for a still attractive yield pickup. We expect a further normalization of hybrid spreads over the coming months as well as mid-to-high, single-digit total returns on selected instruments.
- A marked deterioration in sentiment remains the key risk for the asset class, though. However, the corporate hybrid segment held up remarkably well throughout the volatile periods of the recent past. We continue to see the segment as a lower risk alternative to other higher beta assets including high yield bonds or stocks.
- We list specific bond recommendations in this report and highlight our preferred hybrid issues.
- We also initiate coverage on the recently issued EDF, Veolia and Telekom Austria instruments and provide updated summaries of the structural features for all the hybrids in our coverage universe.

### We remain constructive on the asset class

The corporate hybrid segment performed exceptionally well in 2012 and returned more than 15% over the past year (see Fig. 1). The performance in 2012 clearly was exceptional though, and it would be unreasonable to expect similar returns in 2013. However, with government bonds remaining at record low levels and markets remaining cautiously optimistic with regards to the euro crisis and the US debt ceiling issues (at least for now), supportive macro factors remain in place for the asset class. Valuations also remain appealing, and with spreads to call on bonds with comparatively investor-friendly structures in the three to four hundreds (see Fig. 5), we still see tightening potential. Over the coming 12 months, we expect total returns in the mid to high single digits on selected instruments.

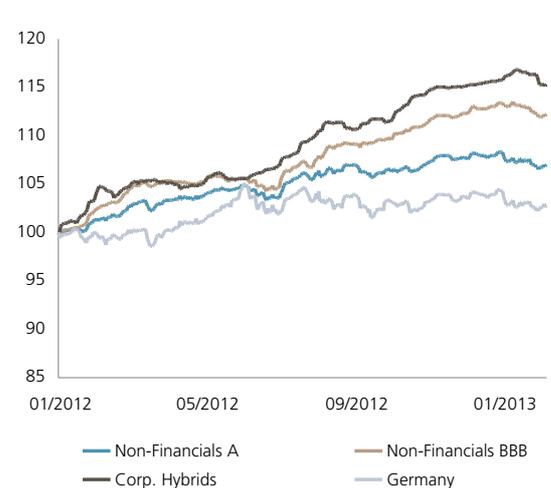
**Rochus Baumgartner**, FRM, analyst, UBS AG  
 rochus.baumgartner@ubs.com

### Related publications

- More defensive high-beta play (31.10.2012)
- Veolia recovering (09.01.2013)
- More than we bargained for (29.01.2013)
- Yield pickup with corporate hybrids (25.11.2010)

Source: UBS

**Fig.1: Total return comparison**



Source: UBS, Iboxx, as of 07.02.2013

# Subordinated bonds

## Rising tide lifts all boats

In the current environment, many high beta credit assets have performed well and continue to promise decent returns. The mentioned technical tailwinds and the constructive market sentiment should in general act as a key support for all risky assets. However, even though most higher beta segments are benefiting from similar tailwinds, their performance may still vary greatly – depending on the blocks and potholes markets will meet further down the road. The credit quality of the cyclical names figuring dominantly in European crossover indices is, for example, likely to remain under pressure as a result of the still very subdued economic outlook, and spreads may react negatively to the ongoing rating slide. Corporate bonds from peripheral countries, on the other hand, would be likely underperformers when the market's focus returns to Greece's unsustainable debt situation, the risk of a multi-notch downgrade of Spain or the threat of an unexpected outcome of elections in Italy. Bank hybrids may remain under pressure as a result of the evolving regulatory framework, while the deteriorating asset quality could also take a toll on valuations in this year (for further details on the financial sector, see also "More than we bargained for," published 29.01.2013).

## Attractive risk return relationship

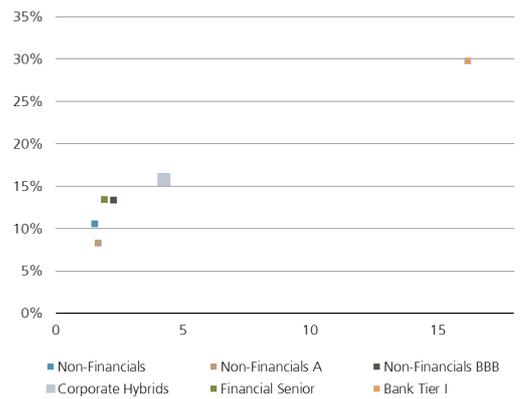
Part of the reason we like corporate hybrids is the good risk/return relationship they offer. This was underlined in 2012, when corporate hybrids posted very strong returns while their spread volatility remained around the level of senior bonds (see Fig. 2).

Take the example of the hybrid securities of GECC, which are currently offering a spread to call of around 400bps. In order to get a spread in this range with a senior bond, investors would need to make significant concessions in terms of credit quality and expose themselves to highly cyclical issuers. As shown in Fig. 3, the spread to call on GECC hybrids roughly corresponds to senior spread levels of Peugeot. The spread of the Bayer hybrid roughly matches the senior levels of Renault, whereas the Henkel hybrid is trading in line with senior bonds of Lafarge.

As depicted in Fig 4, investors appear to have become increasingly more comfortable with the asset class over the past years. The spread beta of corporate hybrids has decreased materially since 2006 and remained remarkably low during the various sovereign risk driven volatility periods in recent history. To us, this makes sense: The issuers of corporate hybrid securities usually enjoy comparatively strong credit profiles as a result of their diversification, their typically low financial leverage, their low cyclical exposure and their strong liquidity profiles. The issuers of corporate hybrids are therefore in a much better position to deal with closed capital markets, poor business conditions and acute systemic fears than smaller and less diversified players. As long as the credit quality of an issuer of a particular hybrid hasn't deteriorated to the point that a call on the first call date becomes unlikely or that mandatory interest deferral clauses become an issue (none of these factors has been an issue for the instruments

**Fig. 2: 2012 Risk return comparison**

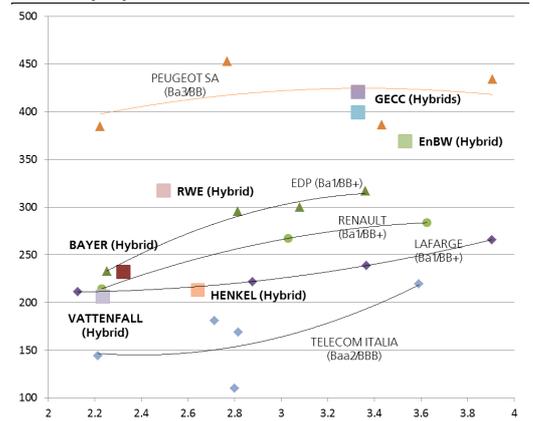
Total return (y-axis) by spread volatility (x-axis)



Source: UBS, Iboxx, as of 31.12.2012

**Fig. 3: Comparable senior spreads**

Spread to call of hybrids versus senior spreads to maturity by duration



Source: UBS, Bloomberg, as of 07 February 2013

## Subordinated bonds

in our coverage universe during the sovereign crisis), we expect these instruments to remain more defensive than most high yield bonds, stocks or bank hybrids. Yield-seeking investors skeptical about the future market developments should therefore value the comparatively more defensive characteristics of corporate hybrids.

### Investors still well compensated for hybrid-specific risks

As we have highlighted frequently in this publication series, the indentures of corporate hybrids are full of features that are unheard of in the senior investment grade world. In addition to the risks typically associated with senior bonds, the risk premiums on corporate hybrids therefore also need to compensate investors for various structural (hybrid-specific) risks. Given the still elevated spreads and the generally good shape issuers are currently in (most of the risks we highlight below correlate strongly with the declining credit quality of an issuer), we believe that risk premiums are at present generous in most cases (see Fig. 5).

However, investors should nevertheless be aware of the risks listed below and familiarize themselves with the structural features of each instrument before committing to an investment. A summary of the key structural features for all the issues in our coverage universe can be found in the back of this report.

### Subordination risk

Corporate hybrids are deeply subordinated debt instruments and the claims of hybrid debt holders usually rank only senior to equity but junior to senior debt and most other claims against an issuer. Should the issuer of a hybrid bond hence default and be liquidated, hybrid holders would as a consequence only receive any money back after all senior ranking obligations have been honored, which would normally result in very low recovery rates for them. In order to compensate for this subordination risk, spreads of deeply subordinated instruments should be, as a rule of thumb, at least 1.6x higher than those of senior instruments.

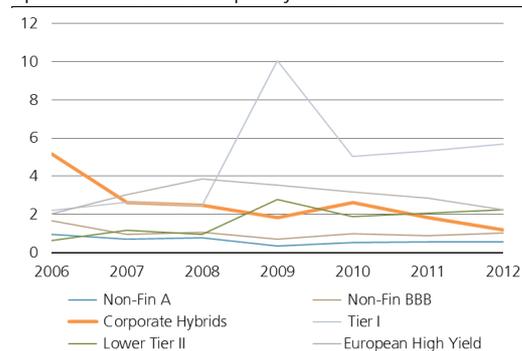
### Coupon deferral / cancellation risk

Rating agencies count a higher proportion of a hybrid debt instruments towards an issuer's equity capital if the structural features of a bond not only cushion senior debt holders in a default scenario but are designed to absorb losses and preserve an issuer's liquidity and capital position long before such an event occurs. For this reason, coupons of hybrid bonds are deferrable. Among the bonds in our coverage universe, the decision to defer/cancel a coupon is usually either

- at the discretion of the issuer (on most bonds in our coverage universe, issuers can elect not to pay a coupon as long as they haven't paid a dividend or in other forms distributed cash to shareholders or parity securities)
- or tied to a financial ratio or a minimum credit rating

**Fig. 4: Beta comparison**

Spread beta over the past years



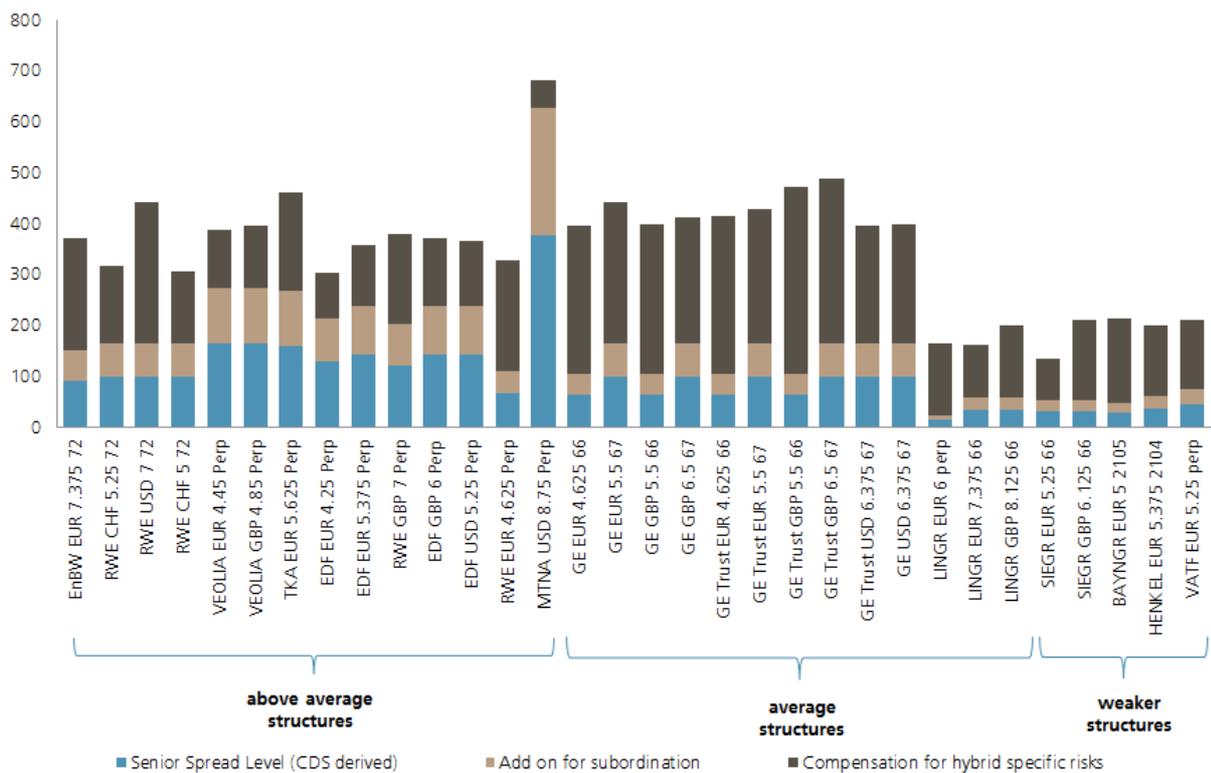
Source: UBS, Iboxx, as of 07 February 2013

# Subordinated bonds

Cancelling a coupon would send a very negative signal to capital markets and – given the discretion/choice – issuers would probably only resort to this measure in a near bankruptcy scenario. All else being equal, coupon deferral risk is therefore significantly higher with structures where the deferral decision is not made by the issuer but is directly linked to a financial ratio or a specific credit rating – particularly if the trigger “bites” already at a reasonably high level. Due to the higher structural risks of bonds with mandatory deferral language, we have listed in Fig. 5 all issues with mandatory deferral language in the “weak category.”

When coupons can be deferred, another important aspect to consider is whether they are cumulative or non-cumulative. If coupons are cumulative, it basically means that deferred coupons could be paid at a later stage, whereas non-cumulative coupons are in effect cancelled.

**Fig. 5: Compensation for hybrid-specific risks**



Source: UBS, Bloomberg, as of 07 Februar 2013

## Subordinated bonds

---

### Extension risk

Presumably, few investors plan to hold on to a hybrid instrument until the stated final maturity or even perpetuity, and they hence trust that an issuer will repay an instrument early. However, this is of course never guaranteed and extension risk therefore refers to the risk that a particular issue is not called on a specific call date, which could also entail mark-to-market losses. It is difficult to say whether a custom to call hybrids on their first call dates will develop similar to the financial tier 1 segment, as this asset class it is still in its very early days and as not many instruments have been outstanding long enough to take a general view here. In order to get a feel for the call probability of a bond and hence for extension risk, investors should therefore look at the call incentives an issuer may have rather than just relying on the possible reputational pressure to do so. Among the issues in our coverage universe, the main call incentives from the point of view of the issuer may include:

- Economic incentives – It would be cheaper for an issuer to issue a new hybrid instrument rather than leaving the existing one outstanding. The coupon on most older corporate hybrid issues, for example, steps up by 100bps after the first call dates and an issuer may therefore often have an economic incentive to call a bond (if market conditions or the credit profile of the issuer hasn't deteriorated materially since issuance, so that issuing a new bond wouldn't be more expensive than paying the higher rate)
- Reduced/removed equity credit – Rating agencies no longer treat the same proportion of a hybrid as equity. From the point of view of the issuer, paying an elevated coupon but no longer receiving equity credit may likely constitute a strong call incentive. As we explain below, the equity credit on the new hybrid format used by issuers recently (including EDF, Veolia and Telekom Austria) is for example “designed to expire” after the first call date, which should incentivize the issuer to call these bonds.
- Replacement capital covenants starting after the first call date – For most issuers, a binding RCC covenant is likely a significant burden for its financial policies. However, if an RCC becomes only effective after the first call date, an issuer can avoid this restraint by simply calling the bond, which therefore should also represent a certain call incentive.
- Equity credit no longer needed by the issuer – Issuers with sufficient headroom under their current ratings may no longer need to pay the higher coupon of a hybrid and decide to call the instrument without risking a downgrade.

## Subordinated bonds

---

### Par call risk on some structures

Apart from the regular calls at the predefined call dates, issuers have usually reserved themselves the right to call their bonds at par, at another fixed price or on a "make-whole" basis, when a specific event occurs and when specific advantages of a hybrid instrument have disappeared for the issuer. From the investor's perspective, a make whole call should normally not pose any material risks. However, if an issuer has the right to call an instrument at a fixed price, investors could lose money whenever a bond is trading above that level.

As can be seen in our summaries in the back of this report, the following special events can typically be found in hybrid indentures:

- Gross-up event (issuer can be obliged to pay additional amounts, due to the introduction of withholding tax in a country)
- Accounting event (the hybrid can no longer be recorded as equity under IFRS or another accounting standard)
- Tax event (payments under the hybrid are no longer tax-deductible)
- Rating-agency event (complete or partial loss of equity credit with a relevant rating agency)

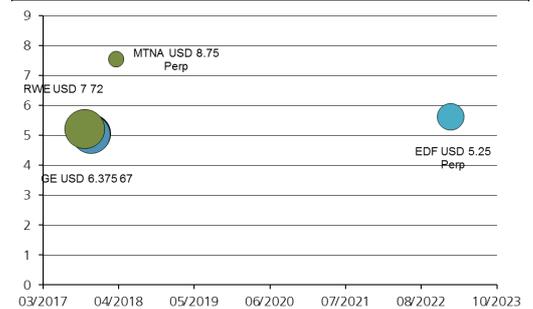
## Recommendations

The non-dilutive characteristics of hybrid debt instruments have always made them attractive for issuers which cannot easily increase their equity capital – including several government controlled utilities. Given the ongoing rating pressures in the sector as a result of the weak demand for electricity, the weakening profitability and the high capex requirements, it is therefore not surprising that several utility issuers have already tapped the hybrid market in this year and brought close to EUR 7bn of new hybrid supply to the market.

The largest supply came thereby from government owned EDF (the French government currently holds a 84% stake in the issuer) who issued benchmark size bonds in EUR, GBP and USD. On the surface, the structure of its new bonds appears to differ from the new "standard" established by several issuers last year. On three of the four new bonds, the issuer offers, for example, a (small) step up already after the first call dates, whereas the step-up dates on the EUR 2020 perpetual also do not coincide with the reset dates for the reference rate. However, from an extension risk perspective, and in order to assess the probability of a call occurring on the first call date, we would argue that these differences are not material. In Fig. 5, we placed these bonds in the same "above average bucket" as the slightly older issues from RWE and EnBW. This is mainly due to the second step up of 75bps occurring precisely 20 years after the first call dates, which – as with the older issues – we see as a key feature. As explained previously, such a step up will cause S&P to stop assigning equity credit already after the first call date, which should provide the issuer with a more or less strong call incentive. From a valuation standpoint, we like the issuer's EUR 4.25% perpetual. The spread gap to RWE and Veolia is justified, in our view, given the stronger credit quality and the greater rating stability EDF is offering. Due to the relatively long reference rate reset periods and the resulting higher exposure to rate risks, we are less attracted, however, to the issuer's other bonds, hence our neutral stance on them.

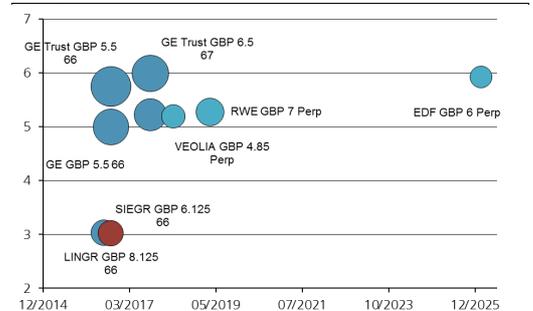
The spread on offer on Veolia's new bonds is significantly higher than with EDF. However, Veolia senior ratings are weakly positioned at the high BBB level and a downgrade of either agency would take the hybrids into the high yield category, which should widen spreads slightly more. Although this is not currently our base case (see "Veolia recovering," published on 09.01.2013), we highlight this risk and consequently assign a neutral recommendation on the hybrids.

**Fig. 6: Relative value comparison USD**  
Yield to call and hybrid specific risks compensation (bubble size)



Source: UBS, Bloomberg, as of 07 Februar 2013

**Fig. 7: Relative value comparison GBP**  
Yield to call and hybrid specific risks compensation (bubble size)

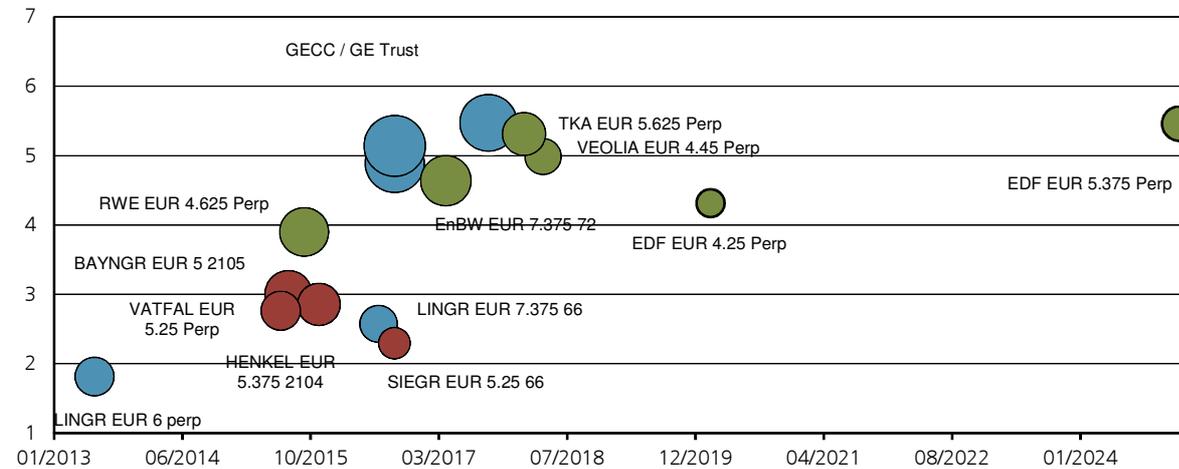


Source: UBS, Bloomberg, as of 07 Februar 2013

# Subordinated bonds

**Fig. 8: Relative value comparison EUR**

Yield to call and hybrid-specific risks compensation (bubble size)



Source: UBS, Bloomberg, as of 07 Februar 2013

The new hybrid issued by Telekom Austria is by contrast already rated BB+ by S&P. Its key structural features are very similar to the relatively investor friendly format recently used by most utility issuers. With a change of control clause, it also provides some protection against a Leveraged Buyout. From a valuation standpoint, we find the new bond reasonably attractive and see in it a good opportunity to diversify away from the utility issuers currently dominating the corporate hybrid market. Spreads on TKA are however likely to remain volatile. Even though Telekom Austria lowered its medium-term leverage guidance recently, competitive pressures at home as well as abroad will remain intense while the issuer continues to face stiff regulatory headwinds and will also remain exposed to exchange rate fluctuations. Although we expect the credit profile to stabilize over the longer run, we highlight that a further rating cut by either agency cannot be excluded at this stage.

As can be seen in Fig. 9, the case for the other instruments in our coverage universe remains largely unchanged. Although there remains some uncertainty as to the call probability of GECC's bonds, we continue to like its GBP and EUR-denominated issues, and where the valuation gap is not too large we maintain a preference for the directly issued bonds over the trust securities. In EUR, we also continue to like the bond of EnBW, which we see as slightly more comfortably positioned at the current rating level than RWE. We see this EUR bond as marginally more attractive also from a structural point of view.

# Subordinated bonds

Fig. 9: Bond recommendations

ISIN	Issuer	Maturity	Next call	Coupon		Ratings MDY / S&P	Ind. yield (%)		Ask price	Piece	Valuation	Notes
				Current	After next call		to call	to mat.				
<b>EUR</b>												
XS0171231060	LINDE FINANCE BV	Perpetual	03.07.2013	6.000	3M€+337.5bps	Baa2 / BBB+	1.8	3.6	101.6	1 / 1	fair	
FR0010034298	CIE GEN ETAB MICHELIN	03/12/2033	03.12.2013	6.375	3M€+295bps	Baa2 / BBB-	-6.9	2.7	111.4	1 / 1	expensive	
XS0223129445	VATTENFALL AB	Perpetual	29.06.2015	5.250	3M€+295bps	Baa2 / BBB-	2.8	3.2	105.6	1 / 1	fair	mandatory deferral triggers
XS0225369403	BAYER AG	29.07.2105	29.07.2015	5.000	3M€+280bps	Baa3 / BBB-	3.0	3.1	104.6	1 / 1	fair	mandatory deferral triggers
XS0542298012	RWE AG	Perpetual	28.09.2015	4.625	5Y€+ 265bps	Baa2 / BBB-	3.9	3.8	101.8	1 / 1	fair	
XS0234434222	HENKEL AG & CO KGAA	25.11.2104	25.11.2015	5.375	3M€+285bps	Baa1 / BBB	2.9	3.1	106.6	1 / 1	fair	mandatory deferral triggers
XS0259604329	LINDE FINANCE BV	14.07.2066	14.07.2016	7.375	3M€+412.5bps	Baa2 / BBB+	2.6	4.1	115.5	1 / 1	fair	
XS0266838746	SIEMENS FINANCIERINGSMAT	14.09.2066	14.09.2016	5.250	3M€+225bps	A2 / BBB+	2.3	2.5	110.1	1 / 1	expensive	mandatory deferral triggers
XS0267166246	GENERAL ELEC CAP CORP	15.09.2066	15.09.2016	4.625	3M€+ 160bps	A2 / AA-	4.9	2.2	99.1	50 / 1	fair	
XS0491212451	GE CAPITAL TRUST IV	15.09.2066	15.09.2016	4.625	3M€+ 160bps	A2 / AA-	5.1	2.2	98.3	50 / 1	attractive	
XS0674277933	ENBW	02.04.2072	02.04.2017	7.375	5Y€+ 540.1bps	Baa2 / BBB-	4.6	6.3	110.1	1 / 1	attractive	
XS0877720986	TELEKOM AUSTRIA AG	Perpetual	01.02.2018	5.625	5Y€+485.9bps	Baa3 / BB+	5.3	5.8	101.3	1 / 1	attractive	
XS0319639232	GENERAL ELEC CAP CORP	15.09.2067	15.09.2017	5.500	3M€+200bps	A2 / AA-	5.4	2.7	100.2	50 / 1	attractive	
XS0491211644	GE CAPITAL TRUST II	15.09.2067	15.09.2017	5.500	3M€+200bps	A2 / AA-	5.5	2.7	100.1	50 / 1	fair	
FR0011391820	VEOLIA ENVIRONNEMENT	Perpetual	16.04.2018	4.450	5Y€+360.3	(P)Baa3 / BBB-	5.0	4.8	97.6	100 / 100	fair	
FR0011401736	ELECTRICITE DE FRANCE	Perpetual	29.01.2020	4.250	7Y€+302.1bps	(P)A3 / BBB+	4.3	4.5	99.6	100 / 100	attractive	
FR0011401751	ELECTRICITE DE FRANCE	Perpetual	29.01.2025	5.375	12Y€+379.4bps	(P)A3 / BBB+	5.5	5.6	99.3	100 / 100	fair	long rate reset periods
<b>GBP</b>												
XS0259607777	LINDE FINANCE BV	14.07.2066	14.07.2016	8.125	3M£+412.5bps	Baa2 / BBB+	3.0	4.4	116.4	1 / 1	fair	
XS0266840486	SIEMENS FINANCIERINGSMAT	14.09.2066	14.09.2016	6.125	3M£+225bps	A2 / BBB+	3.0	2.8	110.4	1 / 1	expensive	mandatory deferral triggers
XS0267167566	GENERAL ELEC CAP CORP	15.09.2066	15.09.2016	5.500	3M£+161.5bps	A2 / AA-	5.0	2.5	101.6	50 / 1	attractive	
XS0491212535	GE CAPITAL TRUST V	15.09.2066	15.09.2016	5.500	3M£+161.5bps	A2 / AA-	5.7	2.6	99.2	50 / 1	illiquid	potential liquidity issues
XS0319640834	GENERAL ELEC CAP CORP	15.09.2067	15.09.2017	6.500	3M£+200bps	A2 / AA-	5.2	3.0	105.2	50 / 1	attractive	
XS0491211990	GE CAPITAL TRUST III	15.09.2067	15.09.2017	6.500	3M£+200bps	A2 / AA-	6.0	3.1	102.0	50 / 1	illiquid	potential liquidity issues
FR0011391838	VEOLIA ENVIRONNEMENT	Perpetual	16.04.2018	4.850	5Y£+362.9	(P)Baa3 / BBB-	5.2	4.7	98.5	100 / 100	fair	
XS0652913988	RWE AG	Perpetual	20.03.2019	7.000	5Y£+510bps	Baa2 / BBB-	5.3	5.9	108.8	100 / 100	attractive	
FR0011401728	ELECTRICITE DE FRANCE	Perpetual	29.01.2026	6.000	13Y£+395.8bps	/	5.9	6.0	100.6	100 / 100	fair	long rate reset periods
<b>USD</b>												
US36962G3M40	GENERAL ELEC CAP CORP	15.11.2067	15.11.2017	6.375	3M\$+228.9bps	A2 / AA-	5.1	3.0	105.5	5 / 1	attractive	
US36830GAA22	GE CAPITAL TRUST I	15.11.2067	15.11.2017	6.375	3M\$+228.9bps	A2 / AA-	5.0	3.0	105.6	5 / 1	fair	
XS0767140022	RWE AG	12.10.2072	12.10.2017	7.000	5Y\$+575.4bps	Baa2 / BBB-	5.2	6.3	107.3	2 / 2	attractive	
XS0836559178	ARCELORMITTAL	Perpetual	28.03.2018	8.750	5Y\$+794bps	Ba3 / B+	7.5	8.4	105.0	200 / 1	fair	
USF2893TAF33	ELECTRICITE DE FRANCE	Perpetual	29.01.2023	5.250	10Y\$+370.9bps	/	5.6	5.7	97.2	100 / 1	fair	
<b>CHF</b>												
CH0136594352	RWE AG	04.04.2072	04.04.2017	5.250	5YCHF+438.9bps	Baa2 / BBB-	3.5	4.9	106.6	5 / 5	fair	
CH0185843049	RWE AG	26/07/2072	26.07.2017	5.000	5YCHF+ 465.7bps	Baa2 / BBB-	3.6	5.0	105.8	5 / 5	fair	

Source: UBS, Bloomberg, as of 07 Februar 2013

## Subordinated bonds

	ArcelorMittal USD 8.75 Perp	Bayer EUR 5% Perp	EnBW EUR 7.375% 2072	EDF EUR 4.25% Perp (NC7)	EDF EUR 5.375% Perp (NC12)
<b>Issuer</b>	ArcelorMittal	Bayer AG	Energie Baden-württemberg AG	EDF - Electricité de France	EDF - Electricité de France
<b>Ownership</b>	Public	Public	Public	Gvt required to maintain at least 70% stake	Gvt required to maintain at least 70% stake
<b>Amount issued / outstanding</b>	\$650mn / \$650mn	€1.3bn / €1.3bn	€1bn / €1bn	€1.250 bn / €1.250 bn	€1.250bn / €1.250bn
<b>Issue Date</b>	September 2012	July 2005	October 2011	January 2013	January 2013
<b>Maturity</b>	Perpetual	29.07.2105	02.04.2072	Perpetual	Perpetual
<b>First Call</b>	28.03.2018	29.07.2015	02.04.2017	29.01.2020	29.01.2025
<b>Swap spread at issuance</b>		180bps	540.1bps		
<b>Senior rating</b>	Ba1 (NEG) / BB+ (NEG)	A3 (STABLE) / A- (POS)	A3 (NEG) / A- (STABLE)	Aa3 (NEG) / A+ (STABLE)	Aa3 (NEG) / A+ (STABLE)
<b>Instrument rating</b>	Ba3 / B+	Baa3 / BBB-	Baa2 / BBB-	(P)A3 / BBB+	(P)A3 / BBB+
<b>Fixed Coupon</b>	8.750%	5.000%	7.375%	4.250%	5.375%
<b>Floating Coupon</b>	Coupon reset to 5Y\$+794bps in 2018, to 5Y\$+819bps and to 5Y\$+894 in 2038	3M€+ 280bps [100bps step up]	Coupon reset to 5Y€+ 540.1bps in 2017 [no step up], to 5Y€+565.1bps in 2022 [25bps step up] and to 5Y€+640.1bps in 2037 [75bps step up]	Coupon reset to 7Y€+302.1bps in 2020 [no step up], to 7Y€+327.1bps in 2023 [25bps step up] and to 7Y€+402.1bps in 2040 [75bps step up]	Coupon reset to 12Y€+379.4bps in 2025 [25bps step up] and to 12Y€+454.4bps in 2045 [75bps step up]
<b>Replacement capital language</b>	Intention based replacement language	Tight intention language **	Intention to redeem with proceeds raised through issuance of shares or similar securities to hybrid.	Intention based language	Intention based language
<b>Optional deferral</b>	Yes	Yes	Yes	Yes	Yes
<b>Settlement after optional deferral</b>	Cash cumulative and compounding.	Cash cumulative (payable if above conditions no longer met) ***	Cash cumulative (but not compounding).	Cash cumulative and compounding.	Cash cumulative and compounding.
<b>Mandatory deferral</b>	-	Gross CF from operations/revenues < 7%	-	-	-
<b>Settlement after mandatory deferral</b>	-	Non-cumulative. Voluntary payment option if new shares issued within certain time frame. Mandatory payment if dividend is declared immediately after interest payment date and certain other criteria are met.	-	-	-
<b>Special issuer calls</b>	Gross-up (par) accounting event (101) Tax event (101) Rating agency event (101) Clean up (make-whole) Change of control (101)	Gross-up event (at par) Tax event (greater of par or make-whole). Clean-up call* (greater of par or make-whole)	Gross-up (par) tax event (101 prior to first call / par thereafter) accounting event (101 prior to first call / par thereafter) rating agency event (101 prior to first call / par thereafter) clean up call* (101 prior to first call / par thereafter)	Gross-up (par) withholding tax (par) tax event (101%) accounting event (101%) rating agency event (101%) clean up call (101%)	Gross-up (par) withholding tax (par) tax event (101%) accounting event (101%) rating agency event (101%) clean up call (101%)
<b>Comments</b>	Upon a change of control event, resulting in a downgrade to sub-investment grade, the coupon rate steps up by 500bps (if issuer does not exercise the right to redeem the notes)	* Issuer has purchased 80% or more of aggregate principal ** intends to issue within preceeding 6 months parity securities or junior securities with same terms or shares *** "generally no later than 10 years"	* Issuer has purchased 80% or more of aggregate principal		

The summaries on this page are indicative only. Investment decisions should always be based on the whole prospectus of every individual instrument.

## Subordinated bonds

	EDF GBP 6% Perp	EDF USD 5.25% Perp	GECC EUR/GBP 2066	GE Capital (Trusts) EUR/GBP 2066	GECC EUR/GBP 2067
<b>Issuer</b>	EDF - Electricité de France	EDF - Electricité de France	General Electric Capital Corp	GE Capital Trust IV & V	General Electric Capital Corp
<b>Ownership</b>	Gvt required to maintain at least 70% stake	Gvt required to maintain at least 70% stake	100% GE	100% owned by GECC	100% GE
<b>Amount issued / outstanding</b>	£1.250bn / £1.250bn	\$3bn / \$3bn	€950mn / € 223mn £400mn / £293mn	€728mn / €728mn £107mn / £107mn	€1.5bn / €880mn £600mn / £513mn
<b>Issue Date</b>	January 2013	January 2013	September 2006	March 2010	September 2007
<b>Maturity</b>	Perpetual	Perpetual	15.09.2066	15.09.2066**	15.09.2067
<b>First Call</b>	29.01.2026	29.01.2023	15.09.2016	15.09.2016	15.09.2017
<b>Swap spread at issuance</b>			€: 62bps		€: 100bps
<b>Senior rating</b>	Aa3 (NEG) / A+ (STABLE)	Aa3 (NEG) / A+ (STABLE)	A1 (STABLE) / AA+ (STABLE)		A1 (STABLE) / AA+ (STABLE)
<b>Instrument rating</b>	(P)A3 / BBB+	(P)A3 / BBB+	A2 / AA-	A2 / AA-	A2 / AA-
<b>Fixed Coupon</b>	6.000%	5.250%	€: 4.625% £: 5.5%	€: 4.625%*** £: 5.5%***	€: 5.5% £: 6.5%
<b>Floating Coupon</b>	Coupon reset to 13Y£+395.8bps in 2026 and to 13Y£+470.8bps in 2046	Coupon reset to 10Y\$+370.9bps [25bps step up] in 2023 and to 10Y\$+445.9bps in 2043 [75bps step up]	3M€+ 160bps [100bps step up] 3M£+ 161.5bps [100bps step up]	3M€+ 160bps [100bps step up]*** 3M£+ 161.5bps [100bps step up]***	3M€+ 200bps [100bps step up] 3M£+ 200bps [100bps step up]
<b>Replacement capital language</b>	Intention based language	Intention based language	Commitment to only redeem hybrids before 2037 if equity or other junior capital is raised.	Commitment to only redeem hybrids before 2037 if equity or other junior capital is raised.	Commitment to only redeem hybrids before 2037 if equity or other junior capital is raised.
<b>Optional deferral</b>	Yes	Yes	Yes	Yes	Yes
<b>Settlement after optional deferral</b>	Cash cumulative and compounding.	Cash cumulative and compounding.	Cash cumulative and compounding. Maximum extension period of 10 years.	Essentially same conditions as with underlying GECC debentures (see left). However, certain covenants are only enforceable by the Property Trustee	Cash cumulative and compounding. Maximum extension period of 10 years.
<b>Mandatory deferral</b>	-	-	-	-	-
<b>Settlement after mandatory deferral</b>	-	-	-	-	-
<b>Special issuer calls</b>	Gross-up (par) withholding tax (par) tax event (101%) accounting event (101%) rating agency event (101%) clean up call (101%)	Gross-up (par) withholding tax (par) tax event (101%) accounting event (101%) rating agency event (101%) clean up call (101%)	At discretion of issuer before first call date (make-whole)* Tax event (at make-whole)	At discretion of issuer of underlying debentures (see left) before first call date (make-whole).* Tax event with issuer of underlying debentures (at make-whole).	At discretion of issuer before first call date (make-whole)* Tax event (at make-whole)
<b>Comments</b>			*Potentially subject to regulatory approval. There is also an agreement with trust not to call securities before 5th anniversary of trust securities.	*Potentially subject to regulatory approval. There is also an agreement with trust not to call securities before 5th anniversary of trust securities. ** Trust securities have no stated maturities but must be redeemed upon the maturity or early redemption of the underlying GECC debentures (see left). *** Trust will pay distributions only to the extent of payments received on the underlying GECC debentures (see left).	*Potentially subject to regulatory approval. There is also an agreement with trust not to call securities before 5th anniversary of trust securities.

The summaries on this page are indicative only. Investment decisions should always be based on the whole prospectus of every individual instrument.

## Subordinated bonds

	GE Capital (Trusts) EUR/GBP 2067	GECC USD 6.375% 2067	GE Capital (Trust) USD 6.375% 2067	Henkel EUR 5.375% 2104	Linde EUR 6% Perp
<b>Issuer</b>	GE Capital Trust II & III	General Electric Capital Corp	GE Capital Trust I	Henkel AG & Co KGaA	Linde Finance BV
<b>Ownership</b>	100% owned by GECC	100% GE	100% owned by GECC	Public, family shareholder	Public
<b>Amount issued / outstanding</b>	€620mn / €620mn £87mn / £87mn	\$2.5bn / \$1.7bn	\$813mn / \$813mn	€1.3bn / €1.3bn	€400mn / €400mn
<b>Issue Date</b>	March 2010	November 2007	March 2010	November 2005	July 2003
<b>Maturity</b>	15.09.2067*	15.11.2067	15.11.2067	25.11.2104	Perpetual
<b>First Call</b>	15.09.2017	15.11.2017	15.11.2017	25.11.2015	03.07.2013
<b>Swap spread at issuance</b>		128.9		€: 185bps	€: 237.5bps
<b>Senior rating</b>		A1 (STABLE) / AA+ (STABLE)		A2 (STABLE) / A (STABLE)	A3 (STABLE) / A (STABLE)
<b>Instrument rating</b>	A2 / AA-	A2 / AA-	A2 / AA-	Baa1 / BBB	Baa2 / BBB+
<b>Fixed Coupon</b>	€: 5.5%*** £: 6.5%***	6.375%	6.375%	5.375%	6.000%
<b>Floating Coupon</b>	3M€+ 200bps [100bps step up]*** 3M€+ 200bps [100bps step up]***	3M\$+ 228.9bps [100bps step up]	3M\$+ 228.9bps [100bps step up]	3M€+ 285bps [100bps step up]	3M€+ 337.5bps [100bps step up]
<b>Replacement capital language</b>	Commitment to only redeem hybrids before 2037 if equity or other junior capital is raised.	Commitment to only redeem hybrids before 2037 if equity or other junior capital is raised.	Commitment to only redeem hybrids before 2037 if equity or other junior capital is raised.	Intention to redeem bonds with issuance of common shares, preferred shares or similar hybrid securities (ranking pari passu).	Intention to redeem with proceeds raised through issuance of shares or similar securities to hybrid.
<b>Optional deferral</b>	Yes	Yes	Yes	Yes	Yes
<b>Settlement after optional deferral</b>	Essentially same conditions as with underlying GECC debentures (see left). However, certain covenants are only enforceable by the Property Trustee	Cash cumulative and compounding. Maximum extension period of 10 years.	Essentially same conditions as with underlying GECC debentures (see left). However, certain covenants are only enforceable by the Property Trustee	Cash cumulative	Cumulative but not compounding
<b>Mandatory deferral</b>	-	-	-	Adj. operating cashflow / adj. net balance sheet debt < 15%	None
<b>Settlement after mandatory deferral</b>	-	-	-	Issuer can elect to make coupon payment through ACSM or the allotment of further bonds (PIK). * If chosen method fails, deferred interest obligation is cancelled.	
<b>Special issuer calls</b>	At discretion of issuer of underlying debentures (see left) before first call date (make-whole).* Tax event with issuer of underlying debentures (at make-whole).	At discretion of issuer before first call date (make-whole)* Tax event (at make-whole)	At discretion of issuer of underlying debentures (see left) before first call date (make-whole).* Tax event with issuer of underlying debentures (at make-whole).	Gross-up event (at par) Tax event (greater of make-whole or par) Clean-up call (80%, greater of make-whole or par)	Gross-up event (par) tax event (greater of par / make-whole)
<b>Comments</b>	*Potentially subject to regulatory approval. There is also an agreement with trust not to call securities before 5th anniversary of trust securities. ** Trust securities have no stated maturities but must be redeemed upon the maturity or early redemption of the underlying GECC debentures (see left). *** Trust will pay distributions only to the extent of payments received on the underlying GECC debentures (see left).	*Potentially subject to regulatory approval. There is also an agreement with trust not to call securities before 5th anniversary of trust securities.	*Potentially subject to regulatory approval. There is also an agreement with trust not to call securities before 5th anniversary of trust securities. ** Trust securities have no stated maturities but must be redeemed upon the maturity or early redemption of the underlying GECC debentures (see left). *** Trust will pay distributions only to the extent of payments received on the underlying GECC debentures (see left).	* Must be attempted within 12 months following a resolution to pay a dividend (or other distributions to junior / parity securities) or otherwise after a lapse of 5 years (whatever occurs earlier).	N/A

The summaries on this page are indicative only. Investment decisions should always be based on the whole prospectus of every individual instrument.

## Subordinated bonds

	Linde EUR/GBP 2066	RWE EUR 4.625% Perp	RWE CHF 5.25% 2072	RWE GBP 7% Perp	RWE USD 7% 2072
<b>Issuer</b>	Linde Finance BV	RWE AG	RWE AG	RWE AG	RWE AG
<b>Ownership</b>	Public	Public	Public	Public	Public
<b>Amount issued / outstanding</b>	€700mn / €700mn £250mn / £250mn	€1.75bn / €1.75bn	CHF 250mn / CHF 250mn	GBP 750mn / GBP 750mn	USD 1bn / USD 1bn
<b>Issue Date</b>	July 2006	September 2010	October 2011	March 2012	April 2012
<b>Maturity</b>	14.07.2066	Perpetual	04.04.2072	Perpetual	12.10.2072
<b>First Call</b>	14.07.2016	28.09.2015	04.04.2017	20.03.2019	12.10.2017
<b>Swap spread at issuance</b>	€: 312.5bps	€: 265bps (5Y mid swap)	CHF: 438.9	GBP: 510	575.4 bps
<b>Senior rating</b>	A3 (STABLE) / A (STABLE)	A3 (NEG) / BBB+ (STABLE)	A3 (NEG) / BBB+ (STABLE)	A3 (NEG) / BBB+ (STABLE)	A3 (NEG) / BBB+ (STABLE)
<b>Instrument rating</b>	Baa2 / BBB+	Baa2 / BBB-	Baa2 / BBB-	Baa2 / BBB-	Baa2 / BBB-
<b>Fixed Coupon</b>	€: 7.375% £: 8.125%	4.625%	5.250%	7.000%	7.000%
<b>Floating Coupon</b>	3M€+ 412.5bps [100bps step up] 3M£+ 412.5bps [100bps step up]	Coupon reset to 5Y€+265bps in 2015 [no step up], floating coupon from 2020: 12M€+365bps [100bps step-up]	Coupon reset to 5YCHF + 438.9bps in 2017, to 5YCHF +463.9bps in 2022 and to 5YCHF + 538.9bps in 2037	Coupon reset to 5Y£+510bps in 2019, to 5Y£ +535bps in 2024 and to 5Y£ + 610bps in 2039)	Coupon reset to 5Y\$ + 575.4bps in 2017, to 5Y\$ +600.4bps in 2022 and to 5YCHF + 675.4bps in 2037
<b>Replacement capital language</b>	Intention to redeem with proceeds raised through issuance of shares or similar securities to hybrid.*	Intention based replacement language until year 5, mandatory replacement capital covenant thereafter	Intention based replacement language	Intention based replacement language	Intention based replacement language
<b>Optional deferral</b>	Yes	Yes	Yes	Yes	Yes
<b>Settlement after optional deferral</b>	Cumulative but not compounding.	Cash cumulative (but not compounding)	Cash cumulative (but not compounding)	Cash cumulative (but not compounding).	Cash cumulative (but not compounding).
<b>Mandatory deferral</b>	None	None	None	None	None
<b>Settlement after mandatory deferral</b>					
<b>Special issuer calls</b>	Gross-up event (at par) capital/rating event (greater of par / make-whole) tax event (greater of par / make-whole) accounting event (greater of par / make-whole) clean up event (at par) conversion event (greater of par / special make-whole) change of control*** (par call or step-up)	Accounting event (greater of par / make-whole) tax event (greater of par / make-whole) change of control event (greater of par / make-whole) rating agency event (101%) gross-up event (par) clean-up event	Gross-up event (par) accounting event (greater of par / make-whole) tax event (greater of par / make-whole) rating agency event (101%) clean-up event (par) change of control event	Gross-up event (par) accounting event (greater of par / make-whole)* tax event (greater of par / make-whole)* rating agency event (101%) clean-up event (greater of par / make-whole)* change of control (greater of par / make-whole)*	Gross-up event (par) accounting event (greater of par / make-whole)* tax event (greater of par / make-whole)* rating agency event (101%) clean-up event (greater of par / make-whole)* change of control (greater of par / make-whole)*
<b>Comments</b>	* except in conversion event ***Any person(s) acquire more than 50% and such acquisition results in downgrade to HY.	Upon a change of control event, resulting in a downgrade to sub-investment grade, the coupon rate steps up by 500bps (if issuer does not exercise the right to redeem the notes)	Upon a change of control event, resulting in a downgrade to sub-investment grade, the coupon rate steps up by 500bps (if issuer does not exercise the right to redeem the notes)	* if event occurs before first modified reset date Upon a change of control event, resulting in a downgrade to sub-investment grade, the coupon rate steps up by 500bps (if issuer does not exercise the right to redeem the notes)	* if event occurs before first modified reset date Upon a change of control event, resulting in a downgrade to sub-investment grade, the coupon rate steps up by 500bps (if issuer does not exercise the right to redeem the notes)

The summaries on this page are indicative only. Investment decisions should always be based on the whole prospectus of every individual instrument.

## Subordinated bonds

	RWE CHF 5.00% 2072	Siemens EUR/GBP 2066	Telekom Austria EUR 5.625% Perp	Veolia EUR 4.45% Perp	Veolia GBP 4.85% Perp
<b>Issuer</b>	RWE AG	Siemens Financieringsmaatschappij	Telekom Austria	Veolia Environnement	Veolia Environnement
<b>Ownership</b>	Public	Public	Public	Public	Public
<b>Amount issued / outstanding</b>	CHF 150mn / CHF 150mn	€900mn / €900mn £750mn / £750mn	€600mn/€600mn	€1bn / €1bn	£400mn/£400mn
<b>Issue Date</b>	July 2012	September 2006	February 2013	January 2013	January 2013
<b>Maturity</b>	26.07.2072	14.09.2066	Perpetual	Perpetual	Perpetual
<b>First Call</b>	26.07.2017	14.09.2016	01.02.2018	16.04.2018	16.04.2018
<b>Swap spread at issuance</b>	465.7 bps	€/£: 125bps		360.3	362.9
<b>Senior rating</b>	A3 (NEG) / BBB+ (STABLE)	Aa3 (STABLE) / A+ (STABLE)	Baa1 (NEG) / BBB (STABLE)	Baa1 (STABLE) / BBB+ (NEG)	Baa1 (STABLE) / BBB+ (NEG)
<b>Instrument rating</b>	Baa2 / BBB-	A2 / BBB+	Baa3 / BB+	(P)Baa3 / BBB-	(P)Baa3 / BBB-
<b>Fixed Coupon</b>	5.000%	€: 5.25% £: 6.25%	5.625%	4.450%	4.850%
<b>Floating Coupon</b>	Coupon reset to 5YCHF + 465.7bps in 2017, to 5YCHF +490.7bps in 2022 and to 5YCHF + 565.7bps in 2037	3M€+ 225bps [100bps step-up] 3M£+ 225bps [100bps step-up]	Reset to 5Y€+485.9bps in 2018 [no step-up], to 5Y€+510.9bps in 2023 [25bps step-up] and to 5Y€+585.9 in 2038 [further 75bps step-up]	Coupon reset to 5Y€ + 360.3bps in 2018, to 5Y€ +385.3bps in 2023 and to 5Y€ + 460.3bps in 2038	Coupon reset to 5Y£ + 362.9bps in 2018, to 5Y£ +387.9bps in 2023 and to 5Y£ + 462.9bps in 2038
<b>Replacement capital language</b>	Intention based replacement language	Intention to redeem with proceeds raised through issuance of shares or similar securities to hybrid.		intention based replacement language	intention based replacement language
<b>Optional deferral</b>	Yes	Yes	Yes	Yes	Yes
<b>Settlement after optional deferral</b>	Cash cumulative (but not compounding).	Cash cumulative (but not compounding).	Cumulative (but not compounding)	Cash cumulative and compounding	Cash cumulative and compounding
<b>Mandatory deferral</b>	None	([operating] Cashflow + interest)/interest < 3.0	None	None	None
<b>Settlement after mandatory deferral</b>		Outstanding payments can only be settled by means of - ACSM*. This must occur one year after distributions to shareholders are resumed, the redemption date of the bonds or at the fifth anniversary of arrears (whatever occurs earlier).			
<b>Special issuer calls</b>	Gross-up event (par) accounting event (greater of par / make-whole)* tax event (greater of par / make-whole)* rating agency event (101%) clean-up event (greater of par / make-whole)* change of control (greater of par / make-whole)*	Gross-up (at par) tax event (higher of par / make-whole) rating event (higher of par / make-whole) Call at greater of par or "special" make-whole if existing convertible is converted. Clean-up call (75%, at higher of par or make-whole)	Gross-up (par) accounting (101 prior first call / par thereafter) tax event (101 prior first call / par thereafter) rating agency (101 prior first call / par thereafter) clean up event 90% (par) change of control (par)	Gross-up / Withholding tax (par) tax event (101 prior first step-up / par thereafter) accounting event (101 prior first step-up / par thereafter) rating agency event (101 prior first step-up / par thereafter) clean up call (101 prior first step-up / par thereafter)	Gross-up / Withholding tax (par) tax event (101 prior first step-up / par thereafter) accounting event (101 prior first step-up / par thereafter) rating agency event (101 prior first step-up / par thereafter) clean up call (101 prior first step-up / par thereafter)
<b>Comments</b>	* if event occurs before first modified reset date  Upon a change of control event, resulting in a downgrade to sub-investment grade, the coupon rate steps up by 500bps (if issuer does not exercise the right to redeem the notes)	* if this proves to be impossible, unreasonable or inadmissible, outstanding arrears are cancelled	Upon a change of control event, resulting in material downgrade, the coupon rate steps up by 500bps (if issuer does not exercise the right to redeem the notes)		

The summaries on this page are indicative only. Investment decisions should always be based on the whole prospectus of every individual instrument.

## Subordinated bonds

### Vattenfall EUR 5.25% Perp

<b>Issuer</b>	Vattenfall Treasury AB
<b>Ownership</b>	100% government-owned
<b>Amount issued / outstanding</b>	€1bn / €1bn
<b>Issue Date</b>	June 2005
<b>Maturity</b>	Perpetual
<b>First Call</b>	29.06.2015
<b>Swap spread at issuance</b>	€: 195 bps
<b>Senior rating</b>	A2 (NEG) / A- (STABLE)
<b>Instrument rating</b>	Baa2 / BBB-
	5.250%
<b>Fixed Coupon</b>	
<b>Floating Coupon</b>	3M€+ 295bps [100bps step up]
<b>Replacement capital language</b>	Tight, "intention" language in T&Cs *
<b>Optional deferral</b>	Yes
<b>Settlement after optional deferral</b>	Cash cumulative and compounding
<b>Mandatory deferral</b>	(FFO + interest paid / Interest expenses < 2.5x
<b>Settlement after mandatory deferral</b>	Non-cumulative
<b>Special issuer calls</b>	Gross-up event (at par) tax event (at make-whole)
<b>Comments</b>	* Issuer intends to redeem hybrids with proceeds raised through the issuance of equity or through the issuance of new hybrids within a period of 6 months prior to redemption.

The summaries on this page are indicative only. Investment decisions should always be based on the whole prospectus of every individual instrument.

### Appendix

If you require further information on the instruments or issuers mentioned in this publication, or you require general information on UBS CIO WM Research including research policies and statistics regarding past recommendations, please contact either your Client Advisor or the mailbox [UBS-research@ubs.com](mailto:UBS-research@ubs.com) giving your country of residence.

#### **Disclosures (7 February 2013)**

ArcelorMittal 10, 15, Bayer 3, 10, 15, EDF 10, 15, 18, General Electric Co. 4, 7, 8, 9, 10, 12, 14, 15, 16, 17, 19; Henkel 10, 15, Lafarge 10, 15, Linde 2, 15, Michelin 15, Peugeot SA 5, 10, 15, RWE 6, 10, 15, 17, 19; Siemens 1, 3, 7, 10, 13, 15, 17, 19; Telecom Italia 7, 10, 15, 17, 19; Telekom Austria 11, 15, Veolia Env. 15, 17,

1. UBS Deutschland AG is currently acting as advisor to Siemens AG
2. The U.S. equity strategist, a member of his team, or one of their household members has a long position in the ADRs of Linde AG.
3. UBS Limited acts as broker to this company.
4. The U.S. equity strategist, a member of his team, or one of their household members has a long common stock position in General Electric.
5. Because this security exhibits higher-than-average volatility, the FSR has been set at 15% above the MRA for a Buy rating, and at -15% below the MRA for a Sell rating (compared with 6/-6% under the normal rating system).
6. The UBS Wealth Management strategist, a member of his or her team, or one of their household members has a long common stock position in this company.
7. This company/entity is, or within the past 12 months has been, a client of UBS Securities LLC, and investment banking services are being, or have been, provided.
8. This company/entity is, or within the past 12 months has been, a client of UBS Securities LLC, and non-investment banking securities-related services are being, or have been, provided.
9. This company/entity is, or within the past 12 months has been, a client of UBS Securities LLC, and non-securities services are being, or have been, provided.
10. UBS AG, its affiliates or subsidiaries expect to receive or intend to seek compensation for investment banking services from this company/entity within the next three months.
11. UBS AG, its affiliates or subsidiaries beneficially owned more than 3% of the total issued share capital of this company.
12. This company/entity is, or within the past 12 months has been, a client of UBS Financial Services Inc, and non-investment banking securities-related services are being, or have been, provided.
13. UBS AG, its affiliates or subsidiaries beneficially owned more than 5% of the total issued share capital of this company.
14. Within the past 12 months, UBS Financial Services Inc has received compensation for products and services other than investment banking services from this company.
15. UBS Securities LLC makes a market in the securities and/or ADRs of this company.
16. Within the past 12 months, UBS Securities LLC has received compensation for products and services other than investment banking services from this company/entity.
17. Within the past 12 months, UBS AG, its affiliates or subsidiaries has received compensation for investment banking services from this company/entity.
18. UBS AG, its affiliates or subsidiaries held other significant financial interests in this company/entity as of last month's end (or the prior month's end if this report is dated less than 10 working days after the most recent month's end).
19. UBS AG, its affiliates or subsidiaries has acted as manager/co-manager in the underwriting or placement of securities of this company/entity or one of its affiliates within the past 12 months.

# Subordinated bonds

## Appendix

### Disclaimer

UBS CIO WM Research is published by Wealth Management & Swiss Bank and Wealth Management Americas, Business Divisions of UBS AG (UBS) or an affiliate thereof. In certain countries UBS AG is referred to as UBS SA. This publication is for your information only and is not intended as an offer, or a solicitation of an offer, to buy or sell any investment or other specific product. Certain services and products are subject to legal restrictions and cannot be offered worldwide on an unrestricted basis and/or may not be eligible for sale to all investors. All information and opinions expressed in this document were obtained from sources believed to be reliable and in good faith, but no representation or warranty, express or implied, is made as to its accuracy or completeness (other than disclosures relating to UBS AG, its subsidiaries and affiliates). All information and opinions as well as any prices indicated are current as of the date of this report, and are subject to change without notice. The analysis contained herein is based on numerous assumptions. Different assumptions could result in materially different results. Opinions expressed herein may differ or be contrary to those expressed by other business areas or divisions of UBS, its subsidiaries and affiliates, as a result of using different assumptions and/or criteria. At any time UBS and other companies in the UBS group (or its employees) may have a long or short position, or deal as principal or agent, in relevant securities or provide advisory or other services to the issuer of relevant securities or to a company connected with an issuer. Some investments may not be readily realizable since the market in the securities is illiquid and therefore valuing the investment and identifying the risk to which you are exposed may be difficult to quantify. UBS relies on information barriers to control the flow of information contained in one or more areas within UBS, into other areas, units, divisions or affiliates of UBS. Futures and options trading is considered risky. Past performance of an investment is no guarantee for its future performance. Additional information will be made available upon request. Some investments may be subject to sudden and large falls in value and on realization you may receive back less than you invested or may be required to pay more. Changes in foreign exchange rates may have an adverse effect on the price, value or income of an investment. The compensation of the analyst(s) who prepared this report is determined exclusively by research management and senior management (not including investment banking). Analyst compensation is not based on investment banking revenues, however, compensation may relate to the revenues of UBS Wealth Management & Swiss Bank as a whole, which includes investment banking, sales and trading services. We are of necessity unable to take into account the particular investment objectives, financial situation and needs of our individual clients and we would recommend that you take financial and/or tax advice as to the implications (including tax) of investing in any of the products mentioned herein. For structured financial instruments and funds the sales prospectus is legally binding. If you are interested you may attain a copy via UBS or a subsidiary of UBS. This document may not be reproduced or copies circulated without prior authority of UBS or a subsidiary of UBS. UBS expressly prohibits the distribution and transfer of this document to third parties for any reason. UBS will not be liable for any claims or lawsuits from any third parties arising from the use or distribution of this document. This report is for distribution only under such circumstances as may be permitted by applicable law. In developing the Chief Investment Office economic forecasts, CIO economists worked in collaboration with economists employed by UBS Investment Research. Forecasts and estimates are current only as of the date of this publication and may change without notice.

**External Asset Managers / External Financial Consultants:** In case this research or publication is provided to an External Asset Manager or an External Financial Consultant, UBS expressly prohibits that it is redistributed by the External Asset Manager or the External Financial Consultant and is made available to their clients and/or third parties. **Australia:** 1) **Clients of UBS Wealth Management Australia Ltd:** This notice is distributed to clients of UBS Wealth Management Australia Ltd ABN 50 005 311 937 (Holder of Australian Financial Services Licence No. 231127), Chifley Tower, 2 Chifley Square, Sydney, New South Wales, NSW 2000, by UBS Wealth Management Australia Ltd.: This Document contains general information and/or general advice only and does not constitute personal financial product advice. As such the content of the Document was prepared without taking into account the objectives, financial situation or needs of any specific recipient. Prior to making any investment decision, a recipient should obtain personal financial product advice from an independent adviser and consider any relevant offer documents (including any product disclosure statement) where the acquisition of financial products is being considered. 2) **Clients of UBS AG:** This notice is issued by UBS AG ABN 47 088 129 613 (Holder of Australian Financial Services Licence No 231087): This Document is issued and distributed by UBS AG. This is the case despite anything to the contrary in the Document. The Document is intended for use only by "Wholesale Clients" as defined in section 761G ("Wholesale Clients") of the Corporations Act 2001 (Cth) ("Corporations Act"). In no circumstances may the Document be made available by UBS AG to a "Retail Client" as defined in section 761G of the Corporations Act. UBS AG's research services are only available to Wholesale Clients. The Document is general information only and does not take into account any person's investment objectives, financial and taxation situation or particular needs. **Austria:** This publication is not intended to constitute a public offer or a comparable solicitation under Austrian law and will only be used under circumstances which will not be equivalent to a public offering of securities in Austria. The document may only be used by the direct recipient of this information and may under no circumstances be passed on to any other investor. **Bahamas:** This publication is distributed to private clients of UBS (Bahamas) Ltd and is not intended for distribution to persons designated as a Bahamian citizen or resident under the Bahamas Exchange Control Regulations. **Bahrain:** UBS AG is a Swiss bank not licensed, supervised or regulated in Bahrain by the Central Bank of Bahrain and does not undertake banking or investment business activities in Bahrain. Therefore, Clients have no protection under local banking and investment services laws and regulations. **Belgium:** This document has not been submitted for approval by, and no advertising or other offering materials have been filed with, the Belgian Financial Services and Markets Authority. This document and any other information or materials relating thereto is for information purposes only and does not (intend to) constitute a public offering or involve an investment service in Belgium. Neither this document nor any other information or materials relating thereto (a) may be distributed or made available to the public in Belgium, (b) may be used in relation to any investment service in Belgium (c) or may be used to publicly solicit, provide advice or information to, or otherwise provoke requests from, the public in Belgium in relation to the offering. Any offering will be made exclusively on a private basis in accordance with Belgian law and will be addressed only to, and subscription will only be accepted from eligible investors in accordance with Belgian private placement rules. **Canada:** The information contained herein is not, and under no circumstances is to be construed as, a prospectus, an advertisement, an offer to sell securities described herein, solicitation of an offer to buy securities described herein, in Canada or any province or territory thereof. Any offer or sale of the securities described herein in Canada will be made only under an exemption from the requirements to file a prospectus with the relevant Canadian securities regulators and only by a dealer properly registered under applicable securities laws or, alternatively, pursuant to an exemption from the dealer registration requirement in the relevant province or territory of Canada in which such offer or sale is made. Under no circumstances is the information contained herein to be construed as investment advice in any province or territory of Canada and is not tailored to the needs of the recipient. To the extent that the information contained herein references securities of an issuer incorporated, formed or created under the laws of Canada or a province or territory of Canada, any trades in such securities must be conducted through a dealer registered in Canada or, alternatively, pursuant to a dealer registration exemption. No securities commission or similar regulatory authority in Canada has reviewed or in any way passed upon these materials, the information contained herein or the merits of the securities described herein and any representation to the contrary is an offence. Tax treatment depends on the individual circumstances and may be subject to change in the future. UBS does not provide legal or tax advice and makes no representations as to the tax treatment of assets or the investment returns thereon both in general or with reference to specific Client's circumstances and needs. Clients should obtain independent tax advice on the suitability of products, assets or instruments before investing and as they may consider appropriate. In Canada, this publication is distributed to clients of UBS Wealth Management Canada by UBS Investment Management Canada Inc. **Dubai:** Research is issued by UBS AG Dubai Branch within the DIFC, is intended for professional clients only and is not for onward distribution within the United Arab Emirates. **France:** This publication is distributed by UBS (France) S.A., French "société anonyme" with share capital of € 125.726.944, 69, boulevard Haussmann F-75008 Paris, R.C.S. Paris B 421 255 670, to its clients and prospects. UBS (France) S.A. is a provider of investment services duly authorized according to the terms of the "Code Monétaire et Financier", regulated by French banking and financial authorities as the "Banque de France" and the "Autorité des Marchés Financiers". **Germany:** The issuer under German Law is UBS Deutschland AG, Bockenheimer Landstrasse 2-4, 60306 Frankfurt am Main. UBS Deutschland AG is authorized and regulated by the "Bundesanstalt für Finanzdienstleistungsaufsicht". **Hong Kong:** This publication is distributed to clients of UBS AG Hong Kong Branch by UBS AG Hong Kong Branch, a licensed bank under the Hong Kong Banking Ordinance and a registered institution under the Securities and Futures Ordinance. **India:** Distributed by UBS Securities India Private Ltd. 2/F, 2 North Avenue, Maker Maxity, Bandra Kurla Complex, Bandra (East), Mumbai (India) 400051. Phone: +912261556000. SEBI Registration Numbers: NSE (Capital Market Segment): INB230951431, NSE (F&O Segment) INF230951431, BSE (Capital Market Segment) INB010951437. **Indonesia:** This research or publication is not intended and not prepared for purposes of public offering of securities under the Indonesian Capital Market Law and its implementing regulations. Securities mentioned in this material have not been, and will not be, registered under the Indonesian Capital Market Law and regulations. **Italy:** This publication is distributed to the clients of UBS (Italia) S.p.A., via del vecchio politecnico 3, Milano, an Italian bank duly authorized by Bank of Italy to the provision of financial services and supervised by "Consob" and Bank of Italy. UBS Italia has not participated in the production of the publication and of the research on investments and financial analysis herein contained. **Jersey:** UBS AG, Jersey Branch, is regulated and authorized by the Jersey Financial Services Commission

## Appendix

---

### Disclaimer

for the conduct of banking, funds and investment business. **Luxembourg:** This publication is not intended to constitute a public offer under Luxembourg law, but might be made available for information purposes to clients of UBS (Luxembourg) S.A., a regulated bank under the supervision of the "Commission de Surveillance du Secteur Financier" (CSSF), to which this publication has not been submitted for approval. **Mexico:** This document has been distributed by UBS Asesores México, S.A. de C.V., a company which is not subject to supervision by the National Banking and Securities Commission of Mexico and is not part of UBS Grupo Financiero, S.A. de C.V. or of any other Mexican financial group and whose obligations are not guaranteed by any third party. UBS Asesores México, S.A. de C.V. does not guarantee any yield whatsoever. **Singapore:** Please contact UBS AG Singapore branch, an exempt financial adviser under the Singapore Financial Advisers Act (Cap. 110) and a wholesale bank licensed under the Singapore Banking Act (Cap. 19) regulated by the Monetary Authority of Singapore, in respect of any matters arising from, or in connection with, the analysis or report. **Spain:** This publication is distributed to clients of UBS Bank, S.A. by UBS Bank, S.A., a bank registered with the Bank of Spain. **Turkey:** No information in this document is provided for the purpose of offering, marketing and sale by any means of any capital market instruments and services in the Republic of Turkey. Therefore, this document may not be considered as an offer made or to be made to residents of the Republic of Turkey in the Republic of Turkey. UBS AG is not licensed by the Turkish Capital Market Board (the CMB) under the provisions of the Capital Market Law (Law No. 2499). Accordingly neither this document nor any other offering material related to the instruments/services may be utilized in connection with providing any capital market services to persons within the Republic of Turkey without the prior approval of the CMB. However, according to article 15 (d) (ii) of the Decree No. 32 there is no restriction on the purchase or sale of the instruments by residents of the Republic of Turkey. **UAE:** This research report is not intended to constitute an offer, sale or delivery of shares or other securities under the laws of the United Arab Emirates (UAE). The contents of this report have not been and will not be approved by any authority in the United Arab Emirates including the UAE Central Bank or Dubai Financial Authorities, the Emirates Securities and Commodities Authority, the Dubai Financial Market, the Abu Dhabi Securities market or any other UAE exchange. **UK:** Approved by UBS AG, authorized and regulated in the UK by the Financial Services Authority. A member of the London Stock Exchange. This publication is distributed to private clients of UBS London in the UK. Where products or services are provided from outside the UK, they will not be covered by the UK regulatory regime or the Financial Services Compensation Scheme. **USA:** This document is not intended for distribution into the US and / or to US persons. UBS Securities LLC is a subsidiary of UBS AG and an affiliate of UBS Financial Services Inc., UBS Financial Services Inc. is a subsidiary of UBS AG.

Version 01/2013.

© UBS 2013. The key symbol and UBS are among the registered and unregistered trademarks of UBS. All rights reserved.