

## Codexis, Inc. (CDXS)

### SMALL CAP INITIATION

### Join the Enzyme Revolution



Rating	<b>OUTPERFORM* [V]</b>
Price (12 Jul 10, US\$)	7.24
Target price (US\$)	17.00 <sup>1</sup>
52-week price range	14.45 - 7.11
Market cap. (US\$ m)	282.43
Enterprise value (US\$ m)	248.62

\*Stock ratings are relative to the relevant country benchmark.

<sup>1</sup>Target price is for 12 months.

[V] = Stock considered volatile (see Disclosure Appendix).

#### Research Analysts

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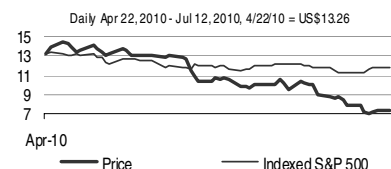
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#### Share price performance



On 07/12/10 the S&P 500 index closed at 1078.75

Quarterly EPS	Q1	Q2	Q3	Q4
2009A	—	—	—	—
2010E	-0.04	-0.13	-0.09	-0.02
2011E	—	—	—	—

- **Action:** We initiate coverage of Codexis with an Outperform and a \$17 target. Codexis' gene shuffling platform technology and blue chip customers, such as Pfizer, Merck, and Royal Dutch Shell, creates the right condition for the company to capture significant long-term option value in pharmaceuticals, biofuels and carbon capture.
- **Low Cost Option on Biofuels and Carbon Capture:** After recent weakness, at \$7.32/sh, Codexis shares are valued at just 8-12x the 2013 earnings potential from their more established pharmaceutical business alone, after adjusting for NOLs and cash. Delivery of biofuel and carbon milestones could drive the shares towards our \$17 target over time. Importantly the company's business plan is fully funded after the recent IPO.
- **Catalysts:** In this report, we detail the \$10 billion market available to Codexis (and its competition) by 2020. This \$10bn market compares with our \$96 million forecast for 2010 Codexis revenues and suggests strong revenue growth potential. Key catalysts to provide line of sight on this revenue growth include (1) signing up additional pharmaceutical companies, (2) commercializing the existing Pharma product pipeline (3) sanctioning a pilot cellulosic ethanol plant with Shell/logen in Saskatchewan in 4Q10/1Q11, (4) closing the Shell-Cosan Brazilian ethanol joint venture in 3Q10, and (5) signing an industrial partner to backstop Codexis R&D investment in lower cost carbon capture technology.
- **Target Price \$17:** Applying a 50% weighting to both our Mid-Success DCF derived value of \$18.1/share and P/E derived value of \$15.8/share (19x 2014 EPS), we determine a target price of \$17/share.

#### Financial and valuation metrics

Year	12/09A	12/10E	12/11E	12/12E
Revenue (US\$ m)	82.9	95.7	113.5	149.9
EBITDA (US\$ m)	-7.3	6.0	11.7	26.2
EPS (CS adj.) (US\$)	-0.52	-0.27	-0.13	0.14
Prev. EPS (US\$)	—	—	—	—
ROIC (%)	-27.3	-6.9	-3.0	2.5
P/E (x)	NM	NM	NM	51.0
P/E rel. (%)	NM	NM	NM	530.3
OCFPS (US\$)	-0.20	0.10	0.32	0.68
P/OCF (x)	—	72.9	22.7	10.6
Qtrly ent. val./tot. EBIDAX	—	—	—	—
Net debt (US\$ m)	-48	-111	-103	-83
Dividend (12/09A, US\$)	—	—	—	—
Dividend yield (%)	—	—	—	—
Net debt current qtr (US\$ m)	-33.8	—	—	—
Net debt qtr/total mcap	—	—	—	—
BV/share (current, US\$)	-3.7	—	—	—
GIC (12/10E, US\$)	—	—	—	—
EV qtr/GIC (x)	—	—	—	—
Current WACC	—	—	—	—
Free float (%)	—	—	—	39.01
Number of shares (m)	—	—	—	—

Source: Company data, Credit Suisse estimates.

**DISCLOSURE APPENDIX CONTAINS IMPORTANT DISCLOSURES, ANALYST CERTIFICATIONS, INFORMATION ON TRADE ALERTS, ANALYST MODEL PORTFOLIOS AND THE STATUS OF NON-U.S. ANALYSTS.** U.S. Disclosure: Credit Suisse does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the Firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

# Join the Enzyme Revolution

Spun out of Maxygen in 2002, Codexis is a west coast based technology company that uses advanced genetics to accelerate the development of industrial enzymes across the pharmaceutical and environmental sectors (notably biofuels, chemicals, carbon capture, and water treatment). The closest proxies include multi-billion dollar companies such as Novozymes (Neutral, Current Price DKK 665, target DKK 560) and Danisco (Underperform, Current Price DKK 435, target DKK 350). We believe that the current stock price offers a good risk reward profile. At \$7.3 per share, Codexis offers some downside risk protection with strong upside optionality. On the downside, cash and marketable securities account for 25% of the market cap, the company should be EBITDA positive in 2010, and the value of Codexis's pharmaceutical growth potential backstops the stock. On the upside, should Shell close its joint venture with Cosan, this could help de-risk the opportunity for Codexis to sell into a \$1.4 billion Brazilian enzyme market. Should Shell take the decision to build a cellulosic ethanol plant in Canada in the fourth quarter of 2010, this could de-risk the \$2-4 billion North America enzyme market. Based on recent progress in carbon capture, Codexis may be able to find a partner to finance R&D to develop a carbon capture solution for this \$2 billion potential market. Strong revenue growth in end-markets is attractive—we identify a pie of over \$10 billion in market revenues by 2020. Moreover, we believe the Codexis investment thesis is strongly underpinned by the roster of its blue-chip customers including Pfizer, Merck, and Shell.

Good risk reward at \$7.3 per share with key catalyst approaching

## Codexis—value with upside optionality

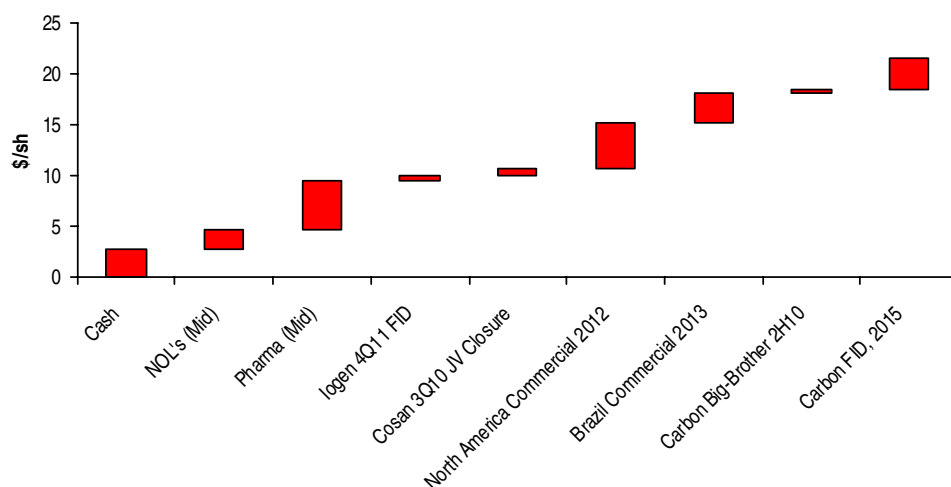
**Value Underpinned by Pharma with Catalysts to De-Risk Option Value Upside Approaching :** At \$7.3/sh, Codexis shares are valued at just 8-12x the 2013 earnings potential that we forecast for their more established pharmaceutical business, after adjusting for NOL's and cash. With enzyme manufacturer comps trading on 20-24x EPS, this embedded multiple looks too low. Delivery of biofuel and carbon milestones could drive the shares towards our \$17/sh target over time. Importantly, the company's business plan is fully funded after the recent IPO.

**Exhibit 1: Implied Multiple of Codexis Pharma Business at \$7.3/sh**

		2013 Pharma Revenues, \$M					
Implied P/E		50	60	70	80	90	100
Multiple at	20%	19	16	14	12	11	10
Different	25%	15	13	11	10	9	8
EBIT Margins	30%	13	11	9	8	7	6
@7.32 per share							

Source: Credit Suisse estimates

**Valuing the Upcoming Catalyst Calendar :** In the following chart, we outline a breakdown of our mid-case DCF valuation for the shares. Codexis shares look underpinned by the value of cash, NOLs and pharmaceuticals, leaving the option value for biofuels and carbon as potential upside. In a high success case, with Codexis meeting its targeted objective market shares in for enzyme sales in both the US and Brazilian marketplace, the DCF value could be as high as \$26/sh.

**Exhibit 2: Codexis—Valuation Staircase**

Source: Credit Suisse estimates

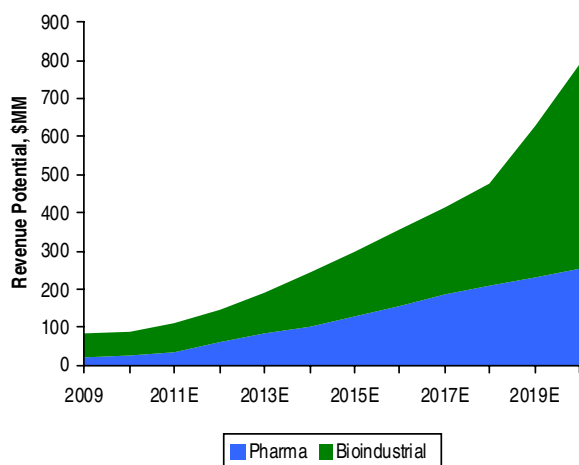
## Codexis—Business Model Highlights

De-risking the option value upside will depend on Codexis hitting the key milestones that we lay out in this report, but first - a few highlights on the Codexis thesis. Although smaller than its largest enzyme manufacturing peers, Codexis looks well placed, given its self-funded balance sheet, technology and customers to participate in the strong growth potential of its target markets.

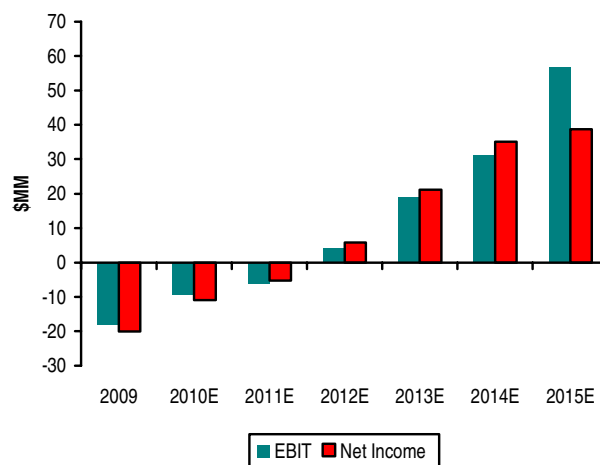
- **Business model:** To put it simply, Codexis scientists help to lower the costs and improve the environmental performance of existing processes in manufacturing drugs, biofuels, chemicals, and in the capture of carbon through the genetic modification of natures' enzymes.
- **Join the enzyme revolution:** Although enzymes and yeasts have been used for centuries to accelerate natural processes (e.g. beer), the industrial enzyme market is just taking off. Novozymes, the market leader, has been enjoying revenue growth of 10% per year over the last decade and expects to continue this pace of growth in the future. Codexis, although a smaller player, has access to competitive technology that has already secured endorsement from blue-chip customers in pharmaceuticals such as Pfizer, Merck, and in biofuels with Shell.
- **Strong revenue growth potential, profitable by 2012:** Codexis' technology platform and blue-chip customer list across a number of industries—pharmaceuticals (\$1 billion enzymes sales opportunity), biofuels (\$4-6 billion sales opportunity), carbon (\$2 billion sales opportunity) and water—offer the prospect of strong and diversified revenue growth, particularly beyond 2012, by when we expect Codexis to be in profit.
- **Self Funded :** After the IPO and including \$300M of capex that Codexis may be able to reduce through their capital light strategy, we believe execution of the company's strategy looks full funded by self-generated cashflow.

Strong technology in fast growing segment

Potential for 20% CAGR in Revenues through 2020, from a \$94-98 million revenue base in 2010E

**Exhibit 3: Codexis—Revenue Potential, \$ Million**

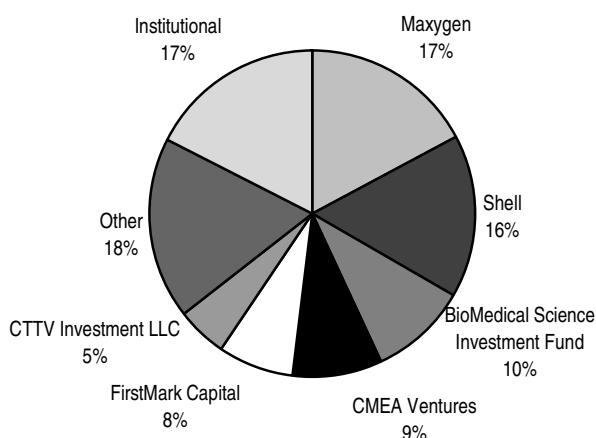
Source: Company data, Credit Suisse estimates.

**Exhibit 4: EBIT and Net Income Outlook, \$ Million**

Source: Company data, Credit Suisse estimates.

- **R&D spending underpins outlook:** Codexis' R&D expense has totaled some \$100 million over the past three years. The company employs 185 scientists in its R&D centers, over 50% of which hold Ph.Ds. Codexis owns or has licensed rights to approximately 235 issued patents and approximately 280 pending patent applications in the United States and overseas.
- **Blue-Chip customers:** Given the early stage of Codexis business development, the quality of its customer base is an important validation of its technology. Codexis is the provider of a key intermediate for Pfizer's Lipitor, to Merck for its blockbuster growth drug for Type 2 Diabetes (Januvia), and as a biofuels partner for Shell. Shell and Pfizer (to a smaller degree) are also shareowners.

Pfizer, Merck, and Shell validate Codexis technology and processes

**Exhibit 5: Ownership—Maxygen and Shell hold close to 20% each**

Source: Company data.

- **Blue-Chip science:** Codexis recently has been awarded a presidential green chemistry challenge award from the U.S. Environmental Protection Agency (EPA) for the development of a novel biocatalytic method for the synthesis of sitagliptin. In addition, a paper co-authored by Merck and Codexis scientists and published online June 17, 2010, in the peer-reviewed journal Science, detailing the improved efficiency and significantly decreased chemical waste byproducts of the Codexis approach.

Recipient of presidential green chemistry challenge award

## Key catalysts approaching

There are six key catalysts that we believe should help to provide line of sight on future revenues for Codexis:

- **Sign up new pharmaceutical products:** Codexis aims to save manufacturing costs for pharmaceutical companies through the use of enzymes. We believe near-term revenue upsides could include (1) a \$10 million range of potential enzyme sales for Merck's diabetes drug Januvia, (2) \$10 million-plus upside potential if Merck's hepatitis C drug Boceprevir moves forward, and (3) \$10 million-plus for Telaprevir, a hepatitis C drug with Vertex and Johnson & Johnson.
- **Broaden pharmaceutical customer list:** Codexis currently has two main pharmaceutical product customers—Pfizer and Merck. After initially succeeding with a bioenzymatic production solution for Merck that significantly lowered production costs for the manufacture of Januvia (type 2 diabetes blockbuster), Codexis has created follow-on product opportunities at Merck (e.g., Boceprevir a hepatitis C drug). Firstly, this follow-on speaks to the quality of Codexis technology. Secondly it suggests to us signing up new pharmaceutical customers could be a larger catalyst for de-risking future revenues than selling more products to its existing customer base. The company is providing Codex panels (of potential enzymes) to nine out of ten of the top innovators in the space, as well as to leading generic manufacturers. If Codexis can add three to four customers that buy into the company's enzymatic approach to small molecule drug manufacture over the next 6-18 months, this could substantially de-risk our \$100 million 2015 pharmaceutical revenue forecasts. We believe Codexis is targeting the Big 5 European pharma companies and look for newsflow in 2H10/1H11.
- **Closure of the Shell-Cosan joint venture:** On February 18, 2010, Shell signed an exclusive six month memorandum of understanding (MOU) to negotiate a merger between Shell's downstream assets in Brazil with Cosan's sugar and ethanol plants and its fuel distribution assets. Sugar cane is the lowest cost source of sugar in the world and access to this biomass is a key pillar for monetizing Codexis technology—either through 1G organisms for use in Cosan's existing ethanol plants or 2G pathways to convert the sugar content of bagasse into ethanol, diesel, or in the long term, into chemicals. We believe Brazil represents a \$1.4 billion end-market potential for the industry by 2020.
- **Final investment decision (FID) on the logen-Energy Saskatchewan 2G ethanol pilot plant:** We believe Shell and logen (50/50 partners in logen Energy) should take FID on a pilot plant to commercially test wheatstraw as a 2<sup>nd</sup> Generation (2G) cellulosic ethanol feedstock towards the end of 2010 to early 2011. Codexis should provide enzymes to this plant. This is the next phase in the path to full commercial operations in North America. The pilot should take approximately a year to build and be operational in 2012. Given some operational experience, we would expect a decision to launch a full commercial plant in 2013 with production in 2014.
- **Finding a partner for carbon:** Codexis' plan for the carbon market is to follow a similar strategy as in biofuels by finding a strategic partner to fund R&D and provide better visibility on a route to market. We imagine companies like Alstom and Siemens would be interested in the advantages of Codexis' enzyme solution for carbon capture. We like this big brother approach to market development that reduces the investment

Follow-on demand from existing customers is key for growth—the Merck example provides a strong endorsement

Brazil represents a \$1.4 billion end market potential

Final investment decision at logen plant could help unlock \$2-4 billion North American end-market

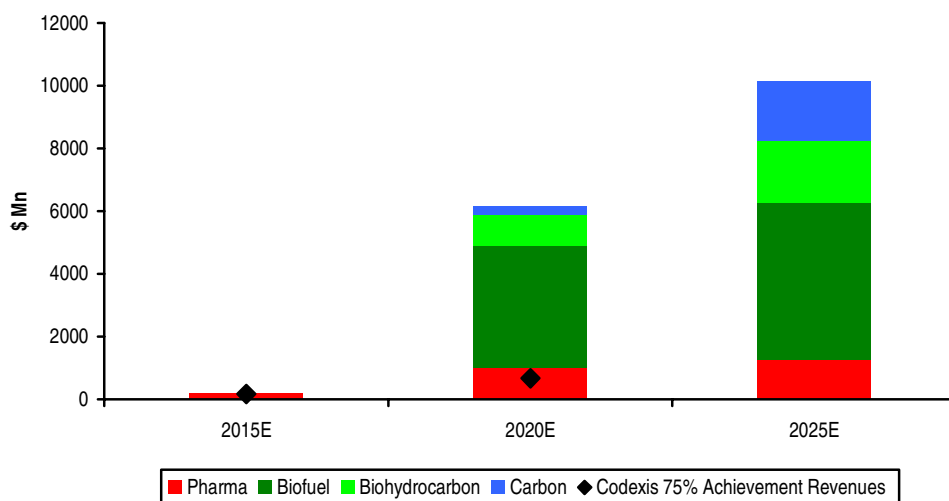
Carbon is further off than biofuels but could represent a \$0.3 billion enzyme end market by 2020 and \$2 billion by 2025

risk, while maintaining upside optionality as Codexis develops new enzyme solutions. On June 23, 2010, Codexis' partner in carbon capture, CO2 Solutions, announced that their enzyme-based technology shows the potential to reduce the size of carbon capture equipment by more than 90% and achieve substantial reduction in process energy consumption

## \$10 billion market size is the prize

In 2010, we expect Codexis to report revenues of \$96 million (at the midpoint of management's latest \$94-98 million guidance). The company is operating in a fast growing (Novozymes increased revenues by circa 10% per year since 2000) and new area. On our estimates, the end markets for Codexis enzymes could grow to as large as \$6 billion by the end of this decade and over \$10 billion by the middle of the next decade. The market size could be larger as companies such as Codexis innovate in their use of enzymes for new industrial applications. Although a long way into the future, our forecast of Codexis revenue potential in 2020 of up to \$800 million (in the high success case) would approximately represent a 15% share of these new markets. If Codexis makes faster progress in its development of enzymes for use in bio-industrial and carbon markets, the market potential could be realized earlier than the chart below indicates. Codexis could also capture a higher share of the market than we forecast.

**Exhibit 6: Enzyme Market Revenues—The Prize, \$ Million**



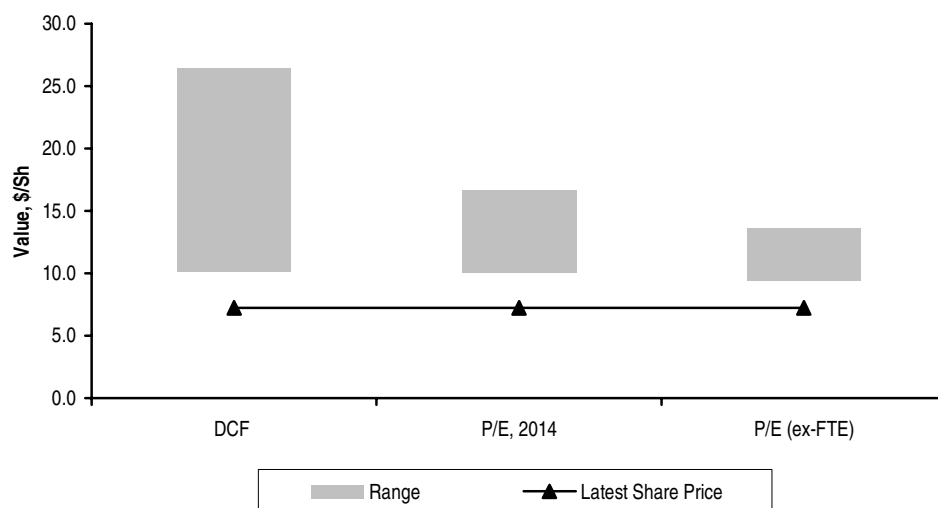
Codexis' fiscal 2010 \$94-98 million revenue compares with a \$6 billion revenue market prize in 2020 and over \$10 billion of market potential by 2025

Source: Credit Suisse estimates.

## Valuation Summary

The valuation of Codexis stock presents a number of issues—there are a limited number of publicly traded comparables, much of the near-term revenue is effectively funding R&D rather than underlying product sales, and we do not expect Codexis to breakeven until 2012. In order to accommodate these issues, we have used several approaches—a multiple based approach as well as a discounted cash flow (DCF). We have also conducted several sensitivities on this valuation. Depending on how fast the underlying markets appreciate and Codexis' success in capturing market share, we arrive at a present equity valuation (using DCF) of between \$10 per share in a low success case, and up to \$26 per share in the most bullish case.

Range of \$10 per share up to \$26 per share depending on Codexis market share and total market growth

**Exhibit 7: Valuation Ranges Under Different Methodology**

Source: Company data, Credit Suisse estimates.

**Downside risk mitigated by cash, net operating losses (NOLs) and the value of pharmaceuticals:** On the one hand, the most advanced business at Codexis in terms of product revenues is their pharmaceuticals, yet on the other, the bulk of value upside potential resides within biofuels and carbon. To consider a potential downside risk scenario, we have looked at the valuation of Codexis stock based on the contribution from the pharmaceuticals business alone (after subtracting cash and the low case for the value of NOL carry forwards). At the current stock price, cash represents approximately 25% of Codexis valuation (\$2.80 per share) and NOLs around 18%. In the table below, we have calculated the implied P/E multiples of the pharmaceutical business after stripping out this cash and the low case present value of NOLs. The implied multiple is approximately 8-12 at our revenue forecast for the pharmaceutical business of approximately \$84 million in 2013 (assuming a 40% tax rebate and a 20-30% EBIT margin in the pharmaceutical business by that time).

A multiple of 8-12x 2013 EPS, Pharmaceutical EPS, plus cash, plus NOLs would underpin the current stock price

**Exhibit 8: Implied 2013 P/E Multiples of the Pharmaceutical Business at Current Valuation**

		2013 Pharma Revenues, \$M					
Implied P/E		50	60	70	80	90	100
Multiple at	20%	19	16	14	12	11	10
Different	25%	15	13	11	10	9	8
EBIT Margins	30%	13	11	9	8	7	6
@7.32 per share							

Source: Credit Suisse estimates.

We argue that the combination of cash, NOLs, and pharmaceutical value offers some defensiveness for those who wish to take advantage of the significant option value embedded in Codexis access to technology for the bio-industrial, carbon, and water end-markets.

**Upside case up to \$26 per share**

Given the early stage of the enzymatic approach in Codexis end markets, the option value should the market achieve our size forecasts and should Codexis capture our forecast market share, is substantial. In a high case, Codexis stock could be worth up to \$26 per share over time (we outline these scenarios later in the more detailed valuation section).

Upside case up to \$26 per share



**Exhibit 9: DCF Valuation Ranges, \$ Million and \$ per Share**

	Range, \$MM			Range, \$/Share		
	Low Success	High Success	Mid Success	Low Success	High Success	Mid Success
Pharma (risk adjusted)	107	271	189	2.7	6.9	4.8
Bioindustrials	195	925	560	5.0	23.5	14.2
NOL's	\$64	106	78	1.6	2.7	2.0
EV	367	1302	827	9.3	33.0	21.0
(net debt)/cash	109.7	109.7	109.7	2.8	2.8	2.8
(other liabilities)						
Market cap (volume risk weighted)	476	1412	937	12.1	35.8	23.8
Biofuel Scale-up/commercial Risk	60%	60%	60%			
Market Cap (Success Risk Adjusted)	398	1042	713	10.1	26.4	18.1
Diluted Shares	39.4	39.4	39.4			
Equity Value Per Share	10.1	26.4	18.1			
Implied Market cap/earnings (2015)	6.7	17.5	12.0			
Implied EV/ 2015 Sales	1.0	3.7	2.3			
Implied EV/2015 Product & Royalty Sales	1.7	5.9	3.8			

Source: Company data, Credit Suisse estimates

Applying a 50% weighting to both our Mid-Success DCF derived value of \$18.1/share and P/E derived value of \$15.8/share (19x 2014 EPS), we determine a target price of \$17/share. At this \$17/sh TP, cash would represent \$2.8/sh, NOL's \$2/share, pharmaceuticals \$4.8/sh and option value in bioindustrials at \$7.45/share. This option value in bioindustrials would be consistent with about a 50% success case in terms of longer term market biofuel development and Codexis market share capture.

## Valuation Risks

We outline various risks later in the note. Codexis is a relatively young company that is reliant on licensed technology from Maxygen and only a few customers for the bulk of its revenues and value. If the company were to lose customers and/or use of the licenses technology, the DCF and Multiples based values would be negatively impacted. Summarizing the main risks:

**Personnel:** As a technology company, Codexis is dependent on its key management and other personnel. A loss of either of these resources could impact revenues/profitability of the company which could impact our derived target prices.

**Contract enzyme manufacturing:** Codexis is reliant on a limited number of contract manufacturers of our biocatalysts and suppliers for our pharmaceutical intermediates.

**Reliance on pharmaceutical manufacturing innovation and FDA:** Although reducing costs should be a key driver for the adoption of Codexis approach, the company is reliant on pharmaceutical customers' abilities to incorporate Codexis biocatalysts into their manufacturing processes, on their approval by the FDA and on the ongoing approval of new drugs by the FDA.

**Second generation ethanol economics:** Sales of enzymes into the cellulosic market, in North America and Brazil, will depend on the feasibility of producing and commercializing biofuels derived from cellulose.

**Intellectual Property:** Codexis must be able to obtain, protect and enforce our intellectual property rights. As of September 30, 2009, Codexis owned or had licensed rights to approximately 235 issued patents and approximately 280 pending patent applications in the United States and in various foreign jurisdictions. Of the licensed patents and patent applications, most are owned by Maxygen and exclusively licensed to Codexis for use with respect to certain products for specified purposes within certain fields. Loss of any of rights under the license from Maxygen could seriously impact the business.



**Commercialization of pharmaceutical cost savings:** Codexis aims to lower the manufacturing costs of pharmaceutical companies and then share some of the resultant savings. This requires pharmaceutical companies and regulators to buy into the use of enzymatic processes and for Codexis to capture enough of the savings to make the R&D investment worthwhile.

**Competition:** Codexis is aiming to develop technology in areas where a substantial number of other companies are also present, including well capitalized companies such as Novozymes, Danisco, Du Pont, and DSM. We have included the Biofuel 50 in the Appendix. The company may fail to capture our forecasted market share in the bio-industrial business.

**Failure to sell enzymes to logen Energy:** In connection with Codexis research and development collaboration with Shell, Codexis entered into a multi-party collaborative research and license agreement with logen Energy Corporation and Shell in July 2009. Either Shell or logen may fail to perform their obligations under this collaboration.

**NOLs :** Net Operating Losses may not be as beneficial as expected.

**Probability assessment:** Revenues and costs for the Pharma and Bio-industrials segments could be worse than our forecasts, given that they are based on a probability assessment of the deployment of new technology.

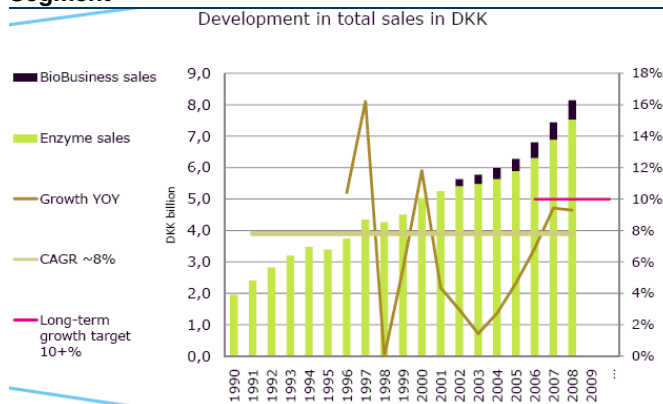
# Technology Platform

## Enzymes—A Growing Market

Over the past decade, growth in the industrial enzyme market has started to accelerate as advances in technology (particularly the gene shuffling technology to which Codexis has access) has opened new markets to the traditional players. In particular, new bulk markets such as the fermentation of sugars to create ethanol have driven strong growth in North America for Novozymes, the industry leader. Codexis is exposed to four even faster potential growth markets: (1) the replacement of chemical manufacturing in pharmaceutical markets with enzyme based processes, (2) second generation biofuel manufacture, (3) second generation hydrocarbon manufacture, and (4) carbon capture.

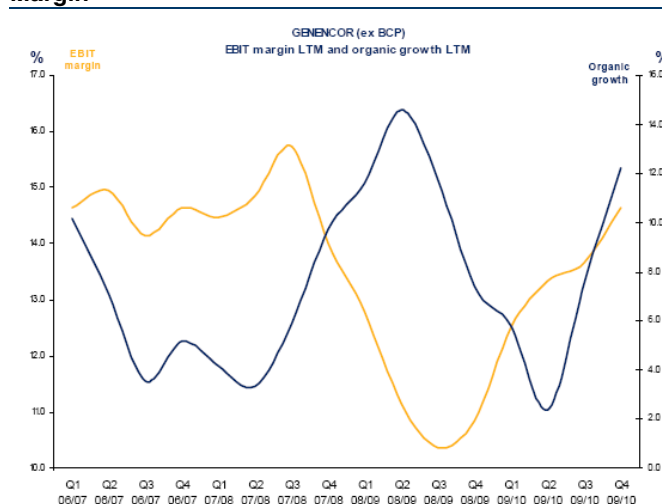
As an example, Novozymes has been growing by 8% over the past decade and believes future sales growth could accelerate to 10% per year, partly helped by biofuel enzyme sales. Genencor, the second largest player in the space, has been growing at 4-12% (depending on the quarter with an EBIT margin of approximately 15% [recession aside]).

**Exhibit 10: Novozymes Enzyme Market Growth, by Segment**



Source: Novozymes.

**Exhibit 11: Danisco Genencor Market Growth and EBIT Margin**



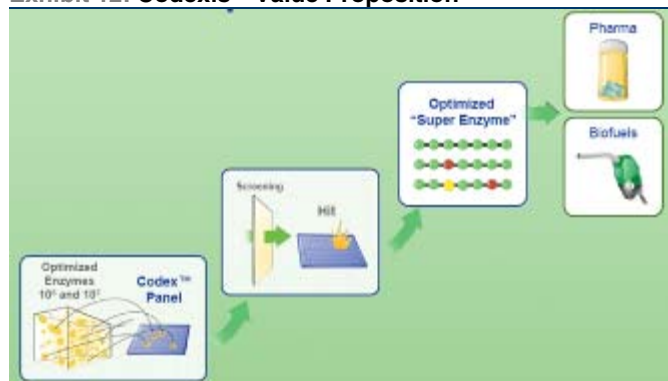
Source: Danisco.

## Codexis Technology

Codexis' proprietary technology platform aims to improve commercially relevant characteristics, such as stability, activity, product yield, and tolerance to industrial conditions, while reducing product inhibition. Key components of the Codexis technology platform include gene shuffling, whole genome shuffling, multiplexed gene SOEing, and proprietary bioinformatic software tools that allow the company to identify the potential value of beneficial mutations and avoid detrimental mutations. Over iterations, Codexis has managed to create enzymes that have dramatically reduced the costs of making pharmaceutical drugs (e.g., statins for Pfizer and diabetes drugs for Merck). It has hit enough milestones that Shell looks increasingly confident to pursue a pilot plant for the production of cellulosic ethanol from wheatstraw with logen in Canada. Codexis also aims to commercialize enzymes for use by the Shell-Cosan JV in the Brazilian sugar cane chain, in carbon, and in water.

Gene shuffling to improve enzyme's efficacy at wider range of industrial conditions opens up new markets in pharmaceuticals and biofuels

Exhibit 12: Codexis—Value Proposition



Source: Company data.

Exhibit 13: Codexis—Competencies and Skills



Source: Company data.

**People:** Codexis has 185 scientists in the R&D organization, with approximately 51% of R&D staff at the Ph.D. level.

**Patents:** Codexis owns or has licensed rights to approximately 235 issued patents and approximately 280 pending patent applications in the United States and overseas. Using company data, we have summarized these in the following charts. Codexis' patent portfolio consists of technology licenses from its key partners such as Maxygen, and then the patents which Codexis either owns or are pending, for both process technology as well as pharmaceutical/biofuel products. Within carbon capture, Codexis has two pending U.S. provisional applications directed to the use of novel carbonic anhydrase (CA) enzymes with its partner CO2 Solutions.

Exhibit 14: Shuffling Technology

**A. "Shuffling" - Licensed Maxygen Technology:**

- DNA Shuffling – 41 issued U.S. patents (first to expire ~ 2014 – 2015) and 6 pending U.S. applications.
  - Claims directed to methods of shuffling polynucleotide molecules (e.g., *in vitro*, *in vivo*, single cycle etc.).
  - No U.S. litigation.
  - Corresponding foreign patents/applications in AU, CA, EP JP and SG.
  - Patents opposed in AU and EP and maintained.
- Full Synthetic Shuffling - 7 issued U.S. patents (expire ~ 2020) and 3 pending U.S. applications.
  - Claims directed to methods of recombining homologous polynucleotide molecules using chemically synthesized oligo-nucleotide molecules.
  - No U.S. litigation.
  - Corresponding foreign patents and applications in CA, EP and JP.

Source: Company data.

Exhibit 15: Shuffling Technology

**A. "Shuffling" - Licensed Maxygen Technology:**

- DNA Shuffling – 41 issued U.S. patents (first to expire ~ 2014 – 2015) and 6 pending U.S. applications.
  - Claims directed to methods of shuffling polynucleotide molecules (e.g., *in vitro*, *in vivo*, single cycle etc.).
  - No U.S. litigation.
  - Corresponding foreign patents/applications in AU, CA, EP JP and SG.
  - Patents opposed in AU and EP and maintained.
- Full Synthetic Shuffling - 7 issued U.S. patents (expire ~ 2020) and 3 pending U.S. applications.
  - Claims directed to methods of recombining homologous polynucleotide molecules using chemically synthesized oligo-nucleotide molecules.
  - No U.S. litigation.
  - Corresponding foreign patents and applications in CA, EP and JP.

Source: Company data.

**Exhibit 16: Bioinformatics Technology****C. "Bioinformatics" – Licensed Maxygen Technology:**

- 6 issued U.S. patents (expiration ~2019 – 2020) and 10 pending U.S. applications.
- Claims directed to various *in silico* methods for sequence-activity analysis as applied to protein engineering (ProSAR), and related software.
- No U.S. litigation.
- Corresponding foreign applications in CA, EP and JP.

Source: Company data.

**Exhibit 18: Patents and Applications****A. Total Patents and Applications:**

- At least 12 issued U.S. patents and 34 U.S. patent applications including provisional applications directed to biocatalytic enzymes for manufacturing pharmaceutical intermediates and APIs (e.g., ketoreductases, halohydrin dehalogenases, transaminases, acylases, etc.). Earliest expiration is ~ 2021.
  - Pending U.S. patent applications include coverage of specific Codex™ Biocatalyst Panels.
- Corresponding foreign patent applications in AU, BR, CA, EP, HK, IN, IS, JP, KR and SG.

Source: Company data.

**Exhibit 20: Patents and Applications****B. Patents and Applications Directed to Biocatalysts and Processes for Making APIs and Intermediates:**

- Intermediate for API **duloxetine** (Eli Lilly, Cymbalta®) - 2 patent families covering different routes to API.
- Intermediates for **hepatitis C protease inhibitors** (Schering-Plough, boceprevir and Vertex, telaprevir) - 1 patent family.
- Intermediate for API **simvastatin** (Merck, Zocor®, Teva) - a) 2 patent families and b) 2 UCLA co-exclusive licensed patent families with corresponding foreign filings.
- API **sitagliptin** (Merck, Januvia®) - 2 patent families.

Source: Company data.

**Exhibit 17: Patents and Applications****D. Codexis Generated Complementary Core Technology Patents and Applications:**

- 2 pending patent families - claims directed to methods of creating an optimized diverse population of molecular variants useful for identifying new variants with altered properties.
- 2 pending patent families - claims directed to various Automated Parallel SOEing (APS) methods for rapidly generating beneficial genetic diversity.
- 1 pending patent family - claims directed to the Codex™ Biocatalyst Panels concept.
- If issued earliest expiration of above patent families ~2028.

Source: Company data.

**Exhibit 19: Patents and Applications****B. Patents and Applications Directed to Biocatalysts and Processes for Making APIs and Intermediates:**

- Intermediate for API **atorvastatin** (Pfizer, Lipitor®) - ~ 4 issued U.S. patents and 4 patent families including foreign national applications.
- Intermediate for API **montelukast** (Merck, Singulair®) - 1 patent family.
- Intermediate for API **ezetimibe** (Schering-Plough, Zetia® and Vytarin® and Teva) - 2 patent families.
- Intermediate for API **sulopenem** (Pfizer) - 1 patent family.

Source: Company data.

**Exhibit 21: Patents and Applications****C. California Institute of Technology (CIT):**

- Exclusive licensee to U.S. and foreign patent applications claiming certain cytochrome p450 variants, which are used in Codexis® Microcyp screening plates (launched in 2008) to facilitate the production of metabolites and useful for API toxicity studies.
- 3 issued U.S. patents (expiration of any patent that issues 2022 – 2027) and 9 pending U.S. patent applications.
- Corresponding foreign applications in EP, SG and IN.

Source: Company data.

**Exhibit 22: Patents and Applications**

- **A. Biofuels - Patents and Applications:**

- Cellulase Enzymes:
  - 6 pending U.S. provisional applications
- Expression/Production Systems:
  - 1 pending U.S. provisional application
- Hydrocarbons:
  - 2 pending U.S. provisional applications

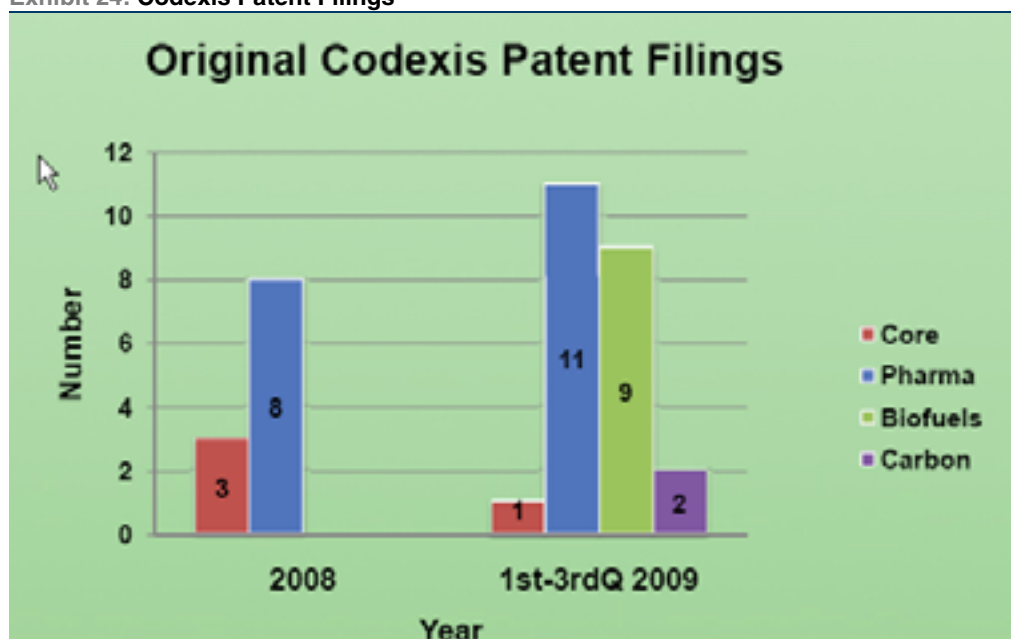
Source: Company data.

**Exhibit 23: Licenses**

- **B. C1 – License:**

- Filamentous Fungal Expression System and Enzymes: Dyadic International, Inc.
  - Non-exclusive license to ~ 7 patent families, which includes at least 12 U.S. patents and applications and corresponding foreign applications.

Source: Company data.

**Exhibit 24: Codexis Patent Filings**

Source: Company data, Credit Suisse estimates.

Overall, Codexis filed 23 patents in the first nine months of 2009.

## Relationship with Maxygen

Codexis was originally spun out of Maxygen in March 2002. Codexis licensed intellectual property rights and technology from Maxygen under a March 2002 license agreement, which was subsequently amended in September 2002, October 2002, and August 2006. We have summarized some of the key points governing the contractual relationship between Maxygen and Codexis (a fuller description is available in their Amended S-1 on their website).

**Payments for biofuels:** Under the terms of the license agreement, Codexis must pay a significant percentage of certain types of consideration they receive in connection with their biofuels research and development collaboration with Shell. If Codexis directly commercializes an energy product that is made using a biocatalyst developed from the Maxygen technology, it will owe Maxygen a 2% royalty on net sales of the energy product and on amounts received from any sublicensee, or third party, for the use of the energy product. If Codexis sublicenses rights to a third party for the development and commercialization of an energy product, it will owe Maxygen 20% of all consideration received. Codexis will owe Maxygen fees for consideration it receives in the form of (1)

Maxygen should participate in future biofuels profits



up-front option and/or license fees, (2) FTE funding for biofuels research, (3) milestone payments, (4) payments from the sale of our equity securities, and (5) payments in connection with the commercialization of energy products made with a biocatalyst developed using the licensed technology. From 2007-09, Codexis paid Maxygen \$7.9 million, \$0.9 million, and \$5.5 million, respectively. This is included in R&D expense.

**Technology:** Codexis relies heavily on the technology licensed by Maxygen and third parties under the Maxygen license, including advanced biotechnology methods, bioinformatics, and years of accumulated know-how to develop biocatalysts. Maxygen has the right to terminate Codexis rights under the license with respect to biofuels, but not with respect to chemicals or pharmaceuticals, if Codexis breaches its royalty obligations to Maxygen and does not cure such a breach within 60 days after it receives notice of the breach.

**Novozymes:** In addition, as part of the license Codexis received from Maxygen, Maxygen assigned or sublicensed several license agreements between itself and third parties, including an agreement with one of its main competitors, Novozymes. Under this license, Maxygen granted exclusive rights to Novozymes that are outside the field of use licensed to Codexis. Maxygen also granted certain rights to Novozymes co-exclusively in certain fields that could overlap with other fields Codexis is pursuing under its license, including biofuels. At a minimum, Codexis enjoys co-exclusive rights in such fields and believes it has sufficient rights for its collaborations and partnerships. Novozymes did not receive a license to all of the rights Codexis is using in biofuel applications and which they believe are critical to pursuing such applications

**Termination:** Maxygen also has the right to terminate Codexis' license with respect to any family of related patent applications if it fails to pay our share of costs for obtaining and maintaining a patent licensed by Maxygen more than three times within any three year period. In addition, Maxygen has the first right to control prosecution, maintenance, and enforcement of certain licensed intellectual property rights.

**Transfer of ownership:** If Maxygen is acquired by a third party or transfers to a third party, some or all of the intellectual property rights that Codexis has licensed, the acquirer may choose not to enforce the intellectual property rights or may seek to enforce those rights ineffectively and have them invalidated, affecting Codexis' ability to develop and expand their business.

**Intellectual Property:** Any termination of the license agreement with Maxygen or any of the rights licensed to Codexis by third parties through Maxygen, or any loss of intellectual property rights as a result of ineffective enforcement of such rights, would have a material adverse affect on Codexis' financial condition, results of operations, and growth prospects.

**Additional rights may be required in chemicals:** Under the Codexis license agreement with Maxygen, the company obtained exclusive rights to manufacture certain types of chemicals for specified purposes within particular fields. Should Codexis desire to work on any chemicals that are outside the scope of these license rights, they may need to seek additional rights from Maxygen.

**Limitations:** Under the terms of this license agreement, the Codexis license is subject to certain third-party rights in the Maxygen shuffling technology and they cannot utilize the licensed Maxygen shuffling technology for drug discovery or for the manufacture of protein-based therapeutics, such as antibodies.



# Pharmaceuticals—Saving Cost of Goods Sold

Codexis' pharmaceutical business is predicated on the proposition that its enzyme technology can significantly reduce the manufacturing cost of drugs (COGS) and that Codexis can secure a large enough share of resultant savings to justify its investment in enzyme R&D.

Codexis applies its platform technology to customize proprietary biocatalysts derived from living organisms and evolves them to perform a desired process. These biocatalysts are highly efficient super enzymes that speed chemical reactions, replace costly chemical steps, improve the production yields, and reduce the amount of waste products.

The biocatalytic process is particularly useful in manufacturing a chiral molecule, a type of molecule that lacks an internal plane of symmetry and has a non-superimposable mirror image. The two mirror images are called enantiomers. The clinical activity often resides in one of the two enantiomers but the production and purification of a single enantiomer presents significant challenges. Owing to their three dimensional structure, enzymes can selectively catalyze a chemical reaction to produce a single enantiomer predominantly.

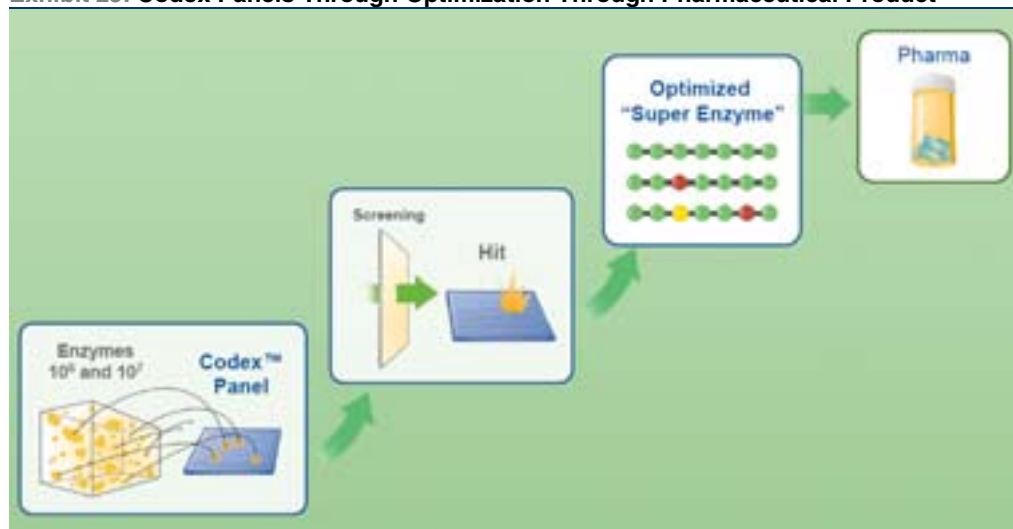
We estimate Codexis technology can potentially be applied to the manufacturing of 80% of all small molecule pharmaceuticals. The size of the U.S. prescription drug market is about \$300 billion annually and the small molecule market is approximately \$250 billion of this. The cost of good sold (COGS) is typically 5%. Assuming Codexis could reduce the \$12.5 billion COGS in the U.S. small molecule market by 25% and capture 30% of these savings, the potential market in pharmaceuticals could be approximately \$1 billion in the long term compared with our 2015 pharmaceutical revenue forecast of approximately \$100 million.

Save pharmaceutical manufacturing costs and capture enough of these costs to generate a decent return on R&D

We estimate Codexis technology can potentially be applied to the manufacturing of 80% of all small molecule pharmaceuticals opening a \$1 billion market

## Enzyme Optimization Process

The enzyme optimization process starts by identifying genes that code for enzymes known to confer the type of catalytic reactivity for a specific chemical reaction. Mutations are introduced to generate enzymes giving rise to changes in the enzymes for which these genes encode. With Codexis' gene shuffling methodology, the company produces libraries of genes that have random combinations of the mutations. The resulting pool of enzymes are then screened in high throughput using test conditions relevant to the desired process. The variant enzymes that exhibit improved performance characteristics including stability, activity, and selectivity are identified. In the next step, Codexis uses its proprietary software tool, ProSAR, to analyze protein sequence-activity relationships. ProSAR ranks the individual mutations by their magnitude of benefit or detriment to the desired enzyme activity. In another step of the optimization process, each of the identified best variants is produced in larger quantity to be evaluated in the desired chemical process at a laboratory scale. The gene that codes for the best performing enzyme is used as a starting gene for the next round of shuffling and screening. In this way, enzyme biocatalysts are rapidly optimized until all performance requirements and the economic objectives are successfully met.

**Exhibit 25: Codex Panels Through Optimization Through Pharmaceutical Product**

Source: Company data.

## Biocatalyst Panel Helps Drive Pharmaceutical Business

The Codex Biocatalyst Panels were originally developed by Codexis to speed their internal process for identifying enzymes with desired characteristics. Each Codex Biocatalyst Panel is comprised of variants of one or more enzymes that catalyze one type of a specific chemical reaction. However, Codexis' pharmaceutical customers can also use the Codex Biocatalyst Panels to rapidly identify variants that react with the new chemical structure. In cases where a customer wishes to screen a proprietary new chemical structure itself, Codexis can produce a custom panel of new variants.

The Codex Panels were launched in February 2007, and current subscribers include major pharmaceutical companies such as Merck, Pfizer, Roche, and GlaxoSmithKline. Even though the sales of panels represents a small source of revenue, the real purpose of the panels is to increase the uses of Codexis' enzymes and intermediates as these are main revenue drivers. As we will discuss in further detail, the Codex Panel business has resulted in significant enzyme orders from Merck, Pfizer, and Vertex.

## Januvia: A Case Study of How Codexis Helped Merck Lower its Cost of Manufacturing

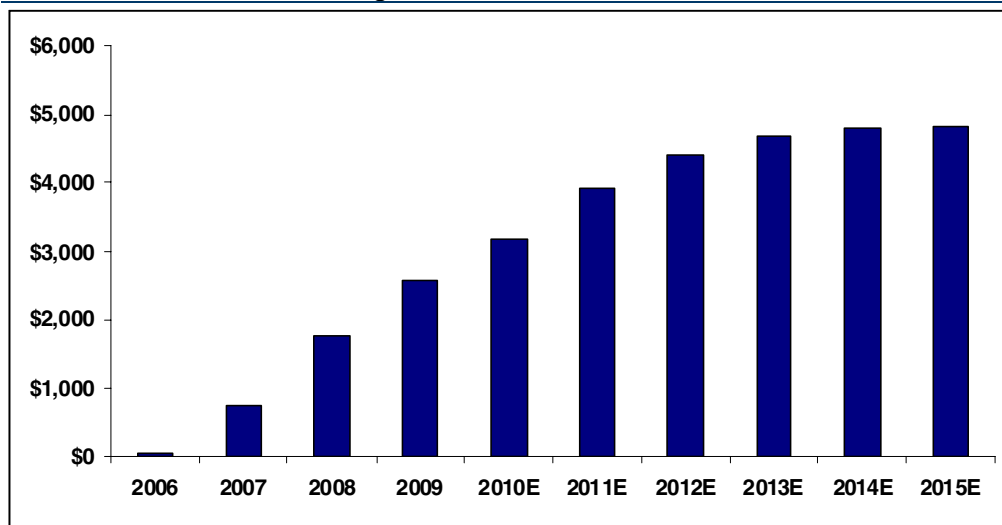
Januvia is an oral dipeptidyl peptidase-4 (DPP-4) inhibitor indicated for the treatment of type 2 diabetes. It was developed by Merck and approved by the Federal Drug Administration (FDA) in 2006. As a first-in-class treatment for diabetes, Januvia was quickly adopted by physicians and became one of the top selling products for Merck with worldwide sales of \$2.6 billion in 2009.

In light of the anticipated growth of the Januvia/Janumet franchise, Merck planned to construct a second manufacturing plant. As the first panel customer for Codexis, Merck was able to significantly lower its cost of goods by eliminating some operational steps, improving the overall product yield, and changing to a more environmentally friendly process. The improved manufacturing process for Januvia based on Codexis technology is now Merck's main production route.

Codex Biocatalyst Panels test enzymes for use in replacing chemical based pharmaceutical manufacturing processes

Recipient of presidential green chemistry challenge award

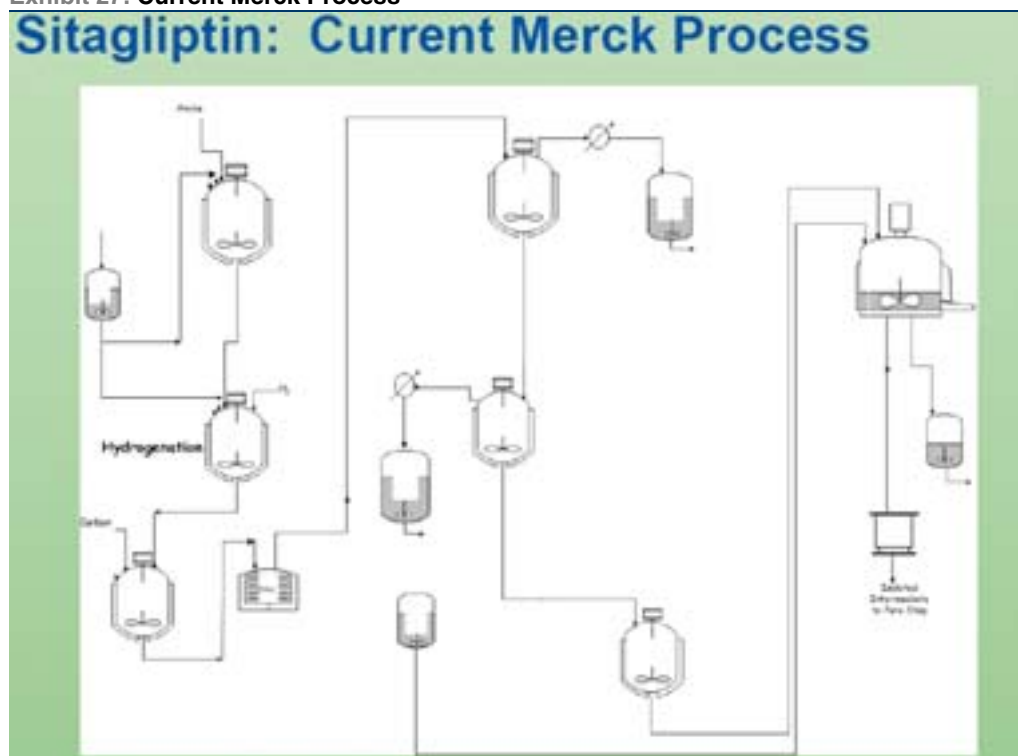
Januvia will be a key driver of Codexis pharmaceutical product revenue growth into 2011

**Exhibit 26: Forecast Januvia Drug Sales**

Source: Company data, Credit Suisse estimates.

Although Januvia is a \$5 billion potential drug; Codexis revenues may be in the tens of million. Codexis reduces the COGS of production (a small share of overall drug revenues) and then shares these cost savings with Merck.

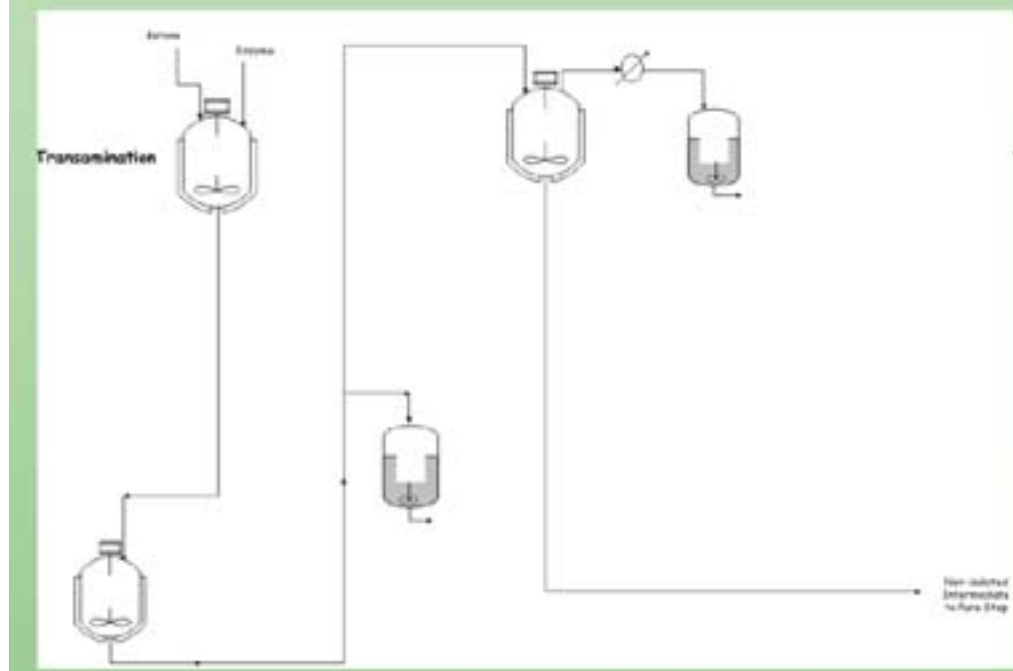
Having identified cost savings at a pharmaceutical customer, Codexis then structures commercial agreements (either through the sale of enzymes and/or royalty payments) that share the cost savings between Codexis and its customer. This share will vary from product to product and from customer to customer and is proprietary commercial information at Codexis.

**Exhibit 27: Current Merck Process**

Source: Codexis.

## Exhibit 28: Codexis Process

## Sitagliptin: Codexis Process



Source: Codexis.

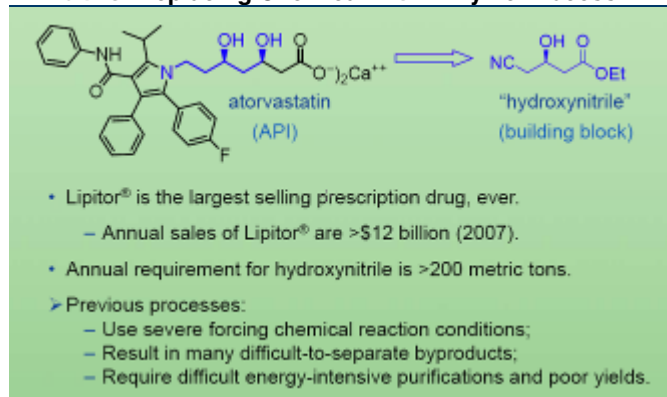
The Codexis process has less steps and produces less chemical waste

## Case Study—Atorvastatin

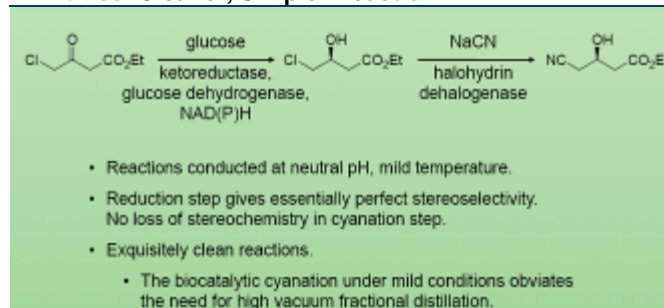
Pfizer has been a stockholder and customer since 2004. Pfizer accounted for 13% of group revenues in 2008. Codexis used its technology platform to develop four biocatalysts that enabled significant improvements in the manufacturing processes for key intermediates used in the production of Atorvastatin, which is the active pharmaceutical ingredient (API) in Lipitor, the world's best-selling prescription drug. Manufacturers have historically used a complex, expensive, capital intensive, and hazardous chemistry-based process to produce these intermediates, called ATS-5 and ATS-8. As a result, they have long sought alternate ways to make the drug, including through biocatalysts-enabled processes. However, none of the naturally occurring enzymes that Codexis tested showed the required activity and stability necessary for their manufacturer. Codexis first developed a new two-step process using three optimized biocatalysts for the production of ATS-5, which Pfizer purchases as their starting material to make Atorvastatin. The next key isolated intermediate for Atorvastatin is ATS-8, which Codexis supplies to manufacturers of generic Atorvastatin. Codexis replaced the second of three steps in the manufacturing of ATS-8 with a biocatalytic reaction. Using its technology platform, for ATS-5 and ATS-8, Codexis greatly reduced the waste generated by the conventional chemistry-based processes and generated a biodegradable waste from two of the steps.

Lower cost manufacturing of ATS-5 and ATS-8 with less waste

Atorvastatin accounts for a significant share of the current pharmaceutical product revenue line for Codexis.

**Exhibit 29: Replacing Chemical with Enzyme Process**

Source: Company data.

**Exhibit 30: Cleaner, Simpler Reaction**

Source: Company data.

## Near-term Revenue Growth Driven by Boceprevir and Telaprevir

Although sales to generic pharmaceutical companies have historically accounted for a significant portion of Codexis' pharmaceutical division's revenue, the current focus is on late stage clinical compounds and second generation processes post launch. The preference of branded pharmaceutical products over generics stems from the substantially higher margin of the branded business while there are several reasons behind the focus on late stage clinical compounds and marketed products. First, late stage clinical assets come with relatively low risk. Second, time to market is short providing near-term revenue opportunities. Third, the order volume is typically in the metric tons and a long-term supply contract can be secured.

Boceprevir and Telaprevir belong to the class of hepatitis C virus (HCV) protease inhibitors, the most advanced direct acting antiviral agents being developed as treatments for HCV infections. Hepatitis C is a chronic liver disease caused by the infection of the HCV. Hepatitis C, which is perceived as a silent disease because it is asymptomatic in its early stages, has reached an epidemic level with estimated 170 million people infected worldwide and 3.2 million in the United States alone. With a latent period of 10-20 years, many of the patients in the United States who were infected in the 1980s are starting to experience fibrosis and cirrhosis that will ultimately lead to liver failure or liver cancer. Approximately 8,000-10,000 hepatitis C related deaths occur in the United States every year. Current standard of care consists of pegylated interferon injection once weekly, in combination with oral ribavirin twice daily, for 48 weeks. However, approximately half of the patients treated in the United States fail the standard of care and are left with few, if any, options. Furthermore, the pegylated interferon/ribavirin combination is associated with flu-like, neuropsychiatric, and hematologic adverse effects that could be dose-limiting and/or unbearable. Therefore, we see a large unmet medical need for therapies that are more efficacious and easier to tolerate.

### Focus on Telaprevir (up to \$10-20 million of potential Codexis revenue)

Telaprevir is being developed by Vertex and partner Johnson & Johnson with the first of three, Phase 3, clinical trials recently reporting top-line results. In the advance trial, which evaluated Telaprevir based regimen in approximately 1,100 naïve genotype 1 HCV patients, 75% of patients treated with 12 weeks of Telaprevir in combination with Pegasys/ribavirin followed by 12 weeks of Pegasys/ribavirin were cured, compared with 44% of patients cured with 48 weeks of Pegasys/ribavirin. Results from the remaining two Phase 3 trials are expected in the third quarter of 2010. Vertex plans to submit the New Drug Application (NDA) for Telaprevir in the second half of 2010, and we believe priority

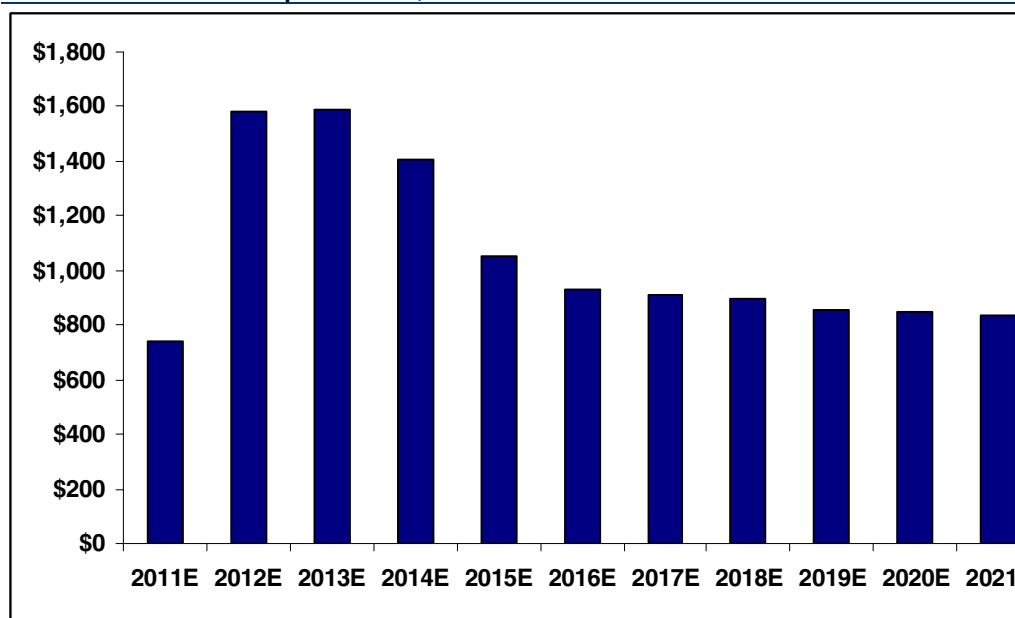
Hepatitis C drugs with Merck and Vertex/Johnson & Johnson are two other drivers of near-term revenue growth

\$10-20 million estimated revenue for Codexis

review will be granted by FDA, leading to approval by mid-2011. We forecast a quick ramp to peak sales of \$1.6 billion in the United States within two years of commercial launch. Sales are then forecast to decline owing to incoming competitors as well as a shrinking pool of eligible patients.

Codexis is in discussions with Vertex to supply an intermediate called P2 at the scale of up to 10-15 metric tons per year. We estimate Codexis could generate around \$10-\$20 million of incremental revenues when Telaprevir becomes commercial.

**Exhibit 31: Forecast Telaprevir sales, \$ Million**



Source: Credit Suisse estimates.

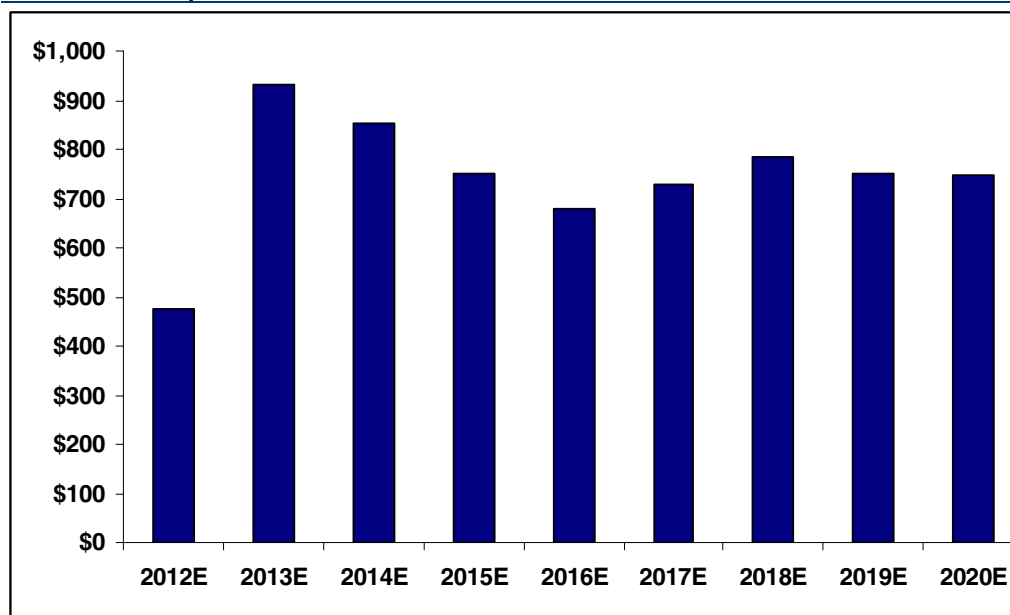
### Focus on Boceprevir—a Similar Codexis Revenue Opportunity

Boceprevir is a competing HCV protease developed by Merck that is currently undergoing Phase 3 trials in both naïve and treatment-experienced patients. Compared with Telaprevir, Boceprevir is less potent and slower acting with regard to reducing HCV viral load in patients. Furthermore, Telaprevir has been shown to produce similar cure rates when it was dosed twice-daily to the cure rates when it was taken every eight hours. In contrast, Boceprevir must be taken three times a day. With regard to side effects, Telaprevir is associated with skin rashes, while Boceprevir has anemia issues. Taking all the above factors into consideration, we expect both agents to reach market but Telaprevir will gain a majority share. We forecast launch in 2012 and peak worldwide sales of Boceprevir at \$931 million in 2013.

Codexis received order from Merck for 500 kilograms of validation material for Boceprevir that was delivered in the first quarter of 2010 and Merck has indicated interest in purchasing 10–20 metric tons per year. We believe Codexis could generate potential annual revenue of \$10-\$20 million when the drug is launched.

While smaller in potential market; Boceprevir may also generate similar revenues for Codexis



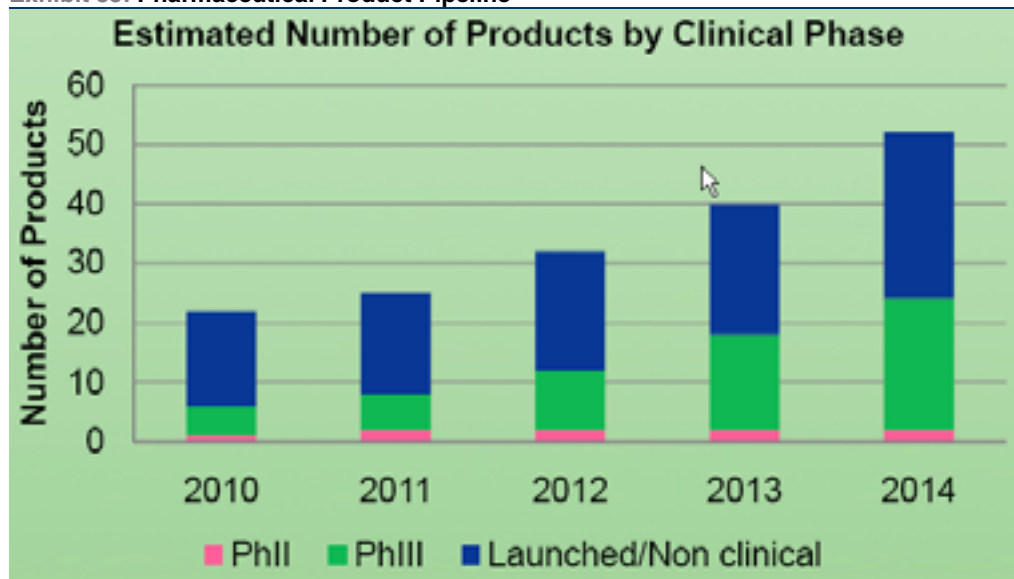
**Exhibit 32: Boceprevir Forecast Revenues, \$ Million**

Source: Credit Suisse estimates.

## Beyond Telaprevir and Boceprevir

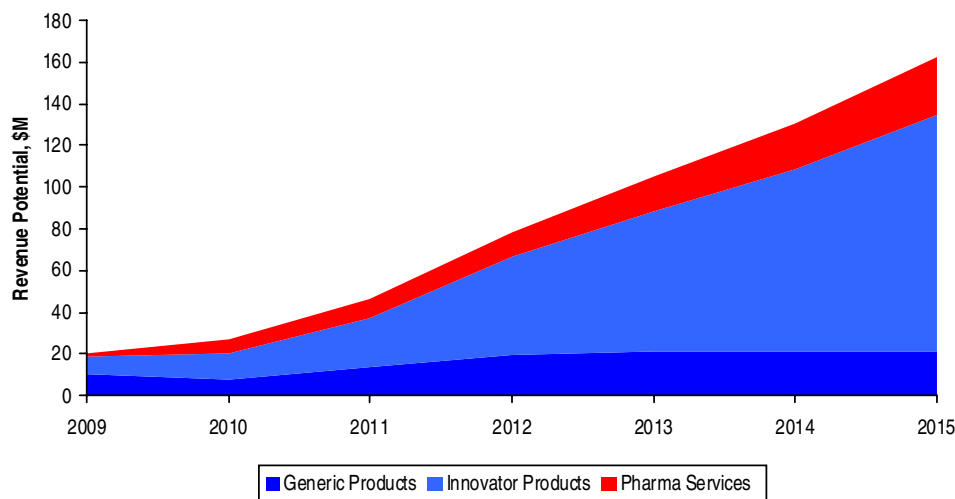
Codexis has seven commercial teams targeting innovator pharmaceutical companies to drive pharmaceutical revenue growth. Adding the midpoint of revenue potential from Telaprevir and Boceprevir to current pharmaceutical revenues of approximately \$24 million, with a contribution from Januvia, and we could de-risk up to 76% of our \$84 million 2013 pharmaceutical revenue forecast. Codexis is working on approximately 35 products, over 80% of which are either launched already (i.e., a Codexis process would replace an existing manufacturing process) or are in Phase 3. Given the experience at Merck, where initial success lead to repeat orders on different drugs, we believe that signing new innovator companies is the key catalysts for growth. In the second half of 2010 to first half of 2011, we believe Codexis is targeting European pharmaceutical innovators in particular.

Developing products for new  
Innovator companies are the  
key milestones

**Exhibit 33: Pharmaceutical Product Pipeline**

Source: Company data.

Overall, we expect Codexis' pharmaceutical revenue to start rising sharply beyond 2011, as the number of innovator customers that buy into the benefits of the Codexis process increases. Capturing these customers on commercial terms is the key milestone that Codexis sales teams must deliver.

**Exhibit 34: Codexis Pharmaceutical Forecast Revenue Potential, \$ Million**

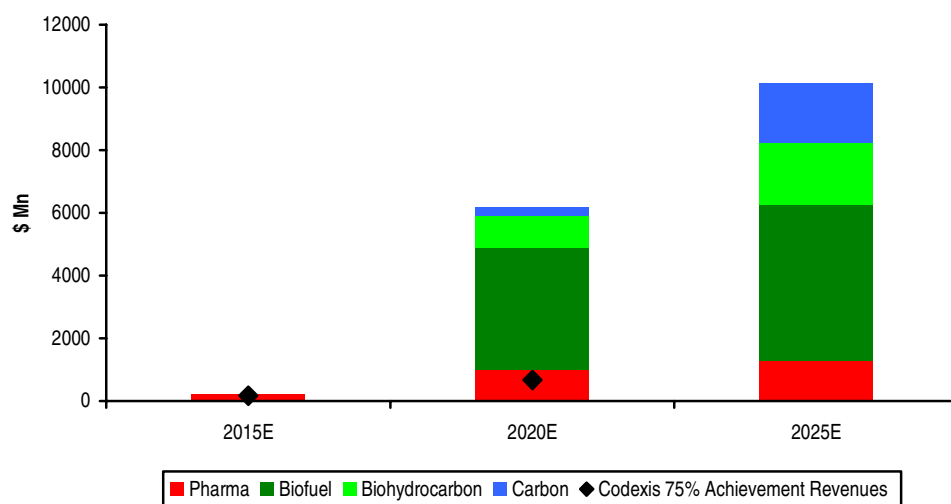
Source: Company data, Credit Suisse estimates.

# Biofuels—The Closest and Most Significant Source of Option Value

Codexis aims to deliver biocatalyst solutions that can extract sugars from cellulosic material and either turn these into ethanol (for gasoline), diesel, or into chemicals. Each one of these markets is of significant scale. Although there are still technological, commercial, and feedstock availability challenges to overcome, the potential market for biofuels and biohydrocarbons dwarfs the potential for pharmaceuticals and could be as large as \$5 billion by 2020 and up to \$7-8 billion by 2025.

Biofuels market could be as large as \$5bn by 2020, assuming technological, commercial and feedstock availability challenges can be overcome.

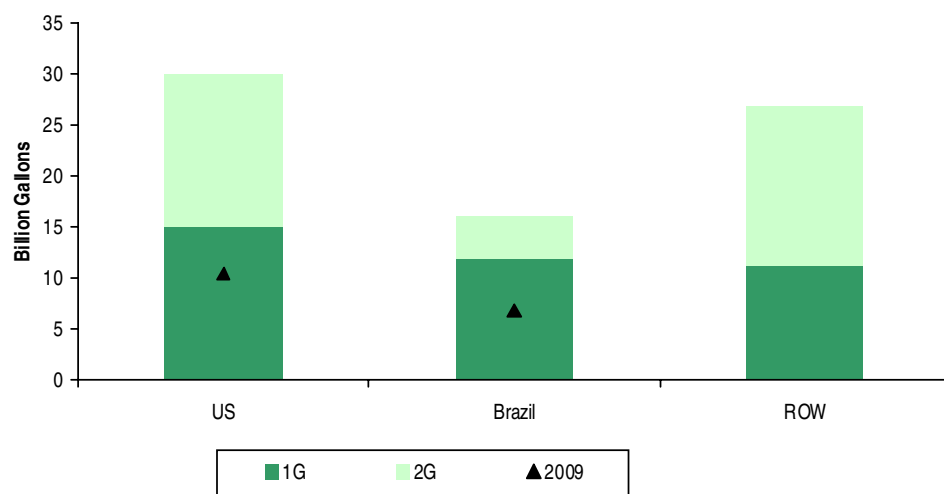
**Exhibit 35: Enzyme Market Revenues—The Prize, \$ Million**



Source: Credit Suisse estimates.

## The Biofuel Revenue Prize

In a recent presentation, Danisco laid out its thoughts on the potential size of the biofuel market by region. At this stage of the second generation technological development and, given access to the right cellulosic feedstocks, any forecast of market size is risky. That said, given the strong energy security and greenhouse gas (GHG) incentives to find non-fossil related transport fuels (not to mention any legislative response to the Macondo oil spill), Danisco forecast strong volume potential, especially in the United States, Brazil and the rest of the world. Our own views might be more conservative in the United States, and more optimistic in Brazil. Translating the 38 billion gallons of 1G biofuel production and 35 billion gallons of 2G biofuel production would yield a total enzyme revenue market size of up to \$10 billion per year by 2020, double the \$5 billion market size that we show in Exhibit 35.

**Exhibit 36: Potential Biofuel Production By Region**

Source: Danisco.

Biofuels—Strong Growth Potential. Translating this forecast into enzyme revenues could result in a \$10bn market vs our \$5bn-8bn estimate.

The current production of first generation ethanol market is approximately 12 billion gallons per year in the United States (mainly corn feedstock) and approximately 8 billion gallons per year in Brazil (sugar-cane feedstock). Novozymes is the market leader with approximately 65% market share selling enzymes to first generation ethanol producers.

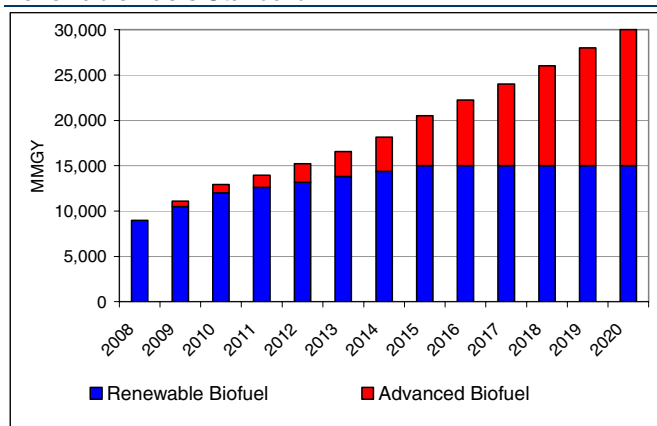
- **Second generation (2G) ethanol in the United States:** Recognizing the competition between the use of corn for food and for fuel, particularly in the light of spiking food prices in 2008, the U.S. government has introduced an incentive system to encourage research into the conversion of non-food sources of sugar (cellulose) into ethanol. Under the Renewable Fuel Standard II (RFS2), the U.S. government has set a target production of up to 15 billion gallons of ethanol from non-food sources, in addition to the 15 billion gallons of ethanol from first generation (1G) production. Taken together, this would represent around 20% of the current demand for gasoline in the United States. In order to promote investment in R&D for this second generation build-out, the government has created an incentive pricing mechanism that sets a floor price for 2G ethanol at \$3 per gallon. A large number of companies have sprung up to target this opportunity using a variety of feedstock sources including, but not limited, to corn cobs and stover, wheatstraw, switch grass, wood chips, and algae. We have listed the Biofuel 50, a list of potential competitors to Codexis, in the appendix.
- **The 10% blend wall:** Virtually every gallon of gasoline sold in the United States currently contains ethanol, 98% as E10 (up to 10% ethanol for conventional autos) and 2% as E85 (85% ethanol and 15% gasoline for use in flex fuel vehicles only). Current law and infrastructure preclude the use of greater than 10% ethanol blends in conventional autos.
- **Higher blends being sought up to 15%:** A Clean Air Act waiver request has been filed with the EPA to allow up to 15% ethanol blends. To qualify for a fuel waiver, one must be able to show that the fuel additive will not “cause or contribute to a failure of any emission control device or system.” To date, the Renewable Fuels Association (RFA), an industry lobby, believes no such failure has occurred in automotive testing for midlevel blends (mostly E15 and E20). The EPA is conducting tests with a view to rule on this waiver request originally by July, but now the EPA has suggested it will not be ready to rule on the waiver request until fall 2010.

RFS2 mandates strong growth for second generational ethanol and supports economics in the United States

10% Blend Wall is a constraint on the US ethanol market

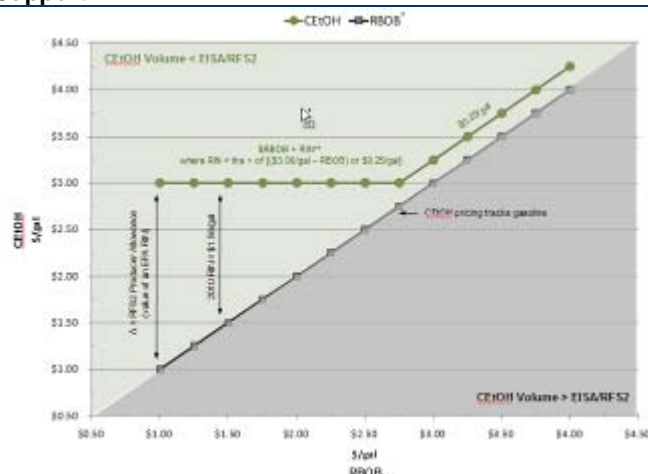
- **Auto warranty:** Currently most auto warranties only allow a 10% ethanol blend. Although the EPA can rule on higher blends, without auto warranties, some marketers may not be willing to sell higher blends. This could slow the development of the industry. Providing a partial offset, across the country, vehicle manufacturers are offering FlexFuel Vehicles (FFVs) that are capable of operating on 100% gasoline, E85 (85% ethanol, 15% gasoline), or any mixture of the two, such as midlevel ethanol fuel blends. To date, there are more than eight million FFVs operating on America's roadways but this only represents 3% of the car fleet. Major automobile manufacturers in the United States, including Ford, Chrysler, and General Motors, have made a commitment to produce 50% of their current models with the flex-fuel option. As demand from consumers for FFVs grows, the 10% blend wall should become less relevant over time.

**Exhibit 37: Mandated Ethanol Volume Under the Renewable Fuels Standard**



Source: RFS 2.

**Exhibit 38: Formula for 2G Ethanol Pricing Provides Support**



Source: Biofuels. RBOB = Reformulated Gasoline Blendstock for Oxygen Blending = unleaded gas futures. \*\* EPA 40 CFR Part 80, May 26, 2009, Regulation of Fuels and Fuel Additives; in 2008 dollars and inflation-adjusted thereafter.

- **Cellulosic ethanol economics are improving:** Although there is no commercial US second generation production, Novozymes believe they have reduced the costs of their process to around \$2.85/gal and will reduce this cost further to around \$2/gal by 2015. This compares with the \$3/gal pricing incentive under RFS2 and the \$2.6/gal latest ethanol rack price (which includes logistics premiums). We believe the current breakeven might be higher due to enzyme costs but agree with Novozymes, that these are on a downward curve.

2G Enzyme costs on a downward curve

**Exhibit 39: Cellulosic Economics, \$/gal**

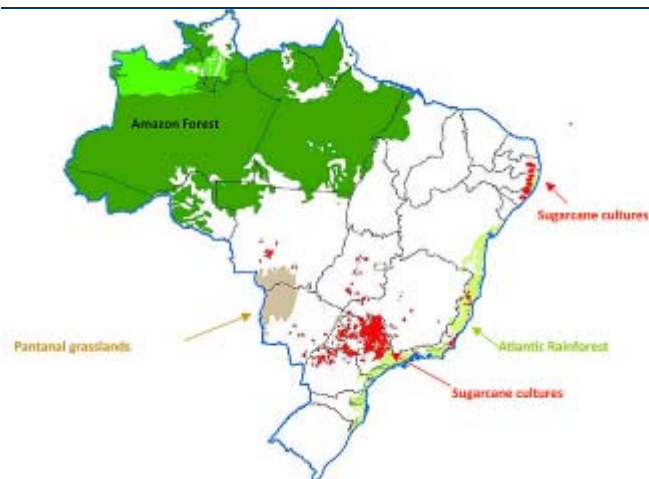
USA	Novozymes Forecast		CS 2010 View
	2010	2015	
Feedstock	65	55	65
Enzymes	50	30	100
Corn Steep Liq	12	5	12
Yeast	28	10	28
Net Raw Materials	10	3	10
Fixed Operating Cost	20	18	20
Capital Cost	115	85	115
Electricity Export	-15	-10	-15
<b>Total, USA</b>	<b>285</b>	<b>196</b>	<b>335</b>

Source: Novozymes, Credit Suisse estimates

- **Brazilian ethanol production:** Sugar cane is the most logical source of feedstock for the biofuel industry. Brazil currently produces approximately 8 billion gallons of ethanol per year. Sugar cane is planted predominantly around Sao Paulo state, far from the Amazon rainforests. Only around 1% of Brazil's arable land is given over to sugar cane production. In the current process, the sugar contained within the waste called bagasse (around 30% of the feedstock) is lost and burnt primarily for power generation. With additional planting and a higher utilization of the original feedstock, Brazilian ethanol or biohydrocarbon output has room to grow significantly.

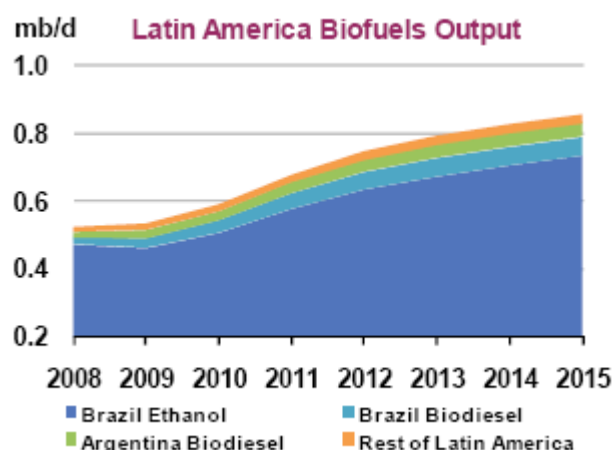
Significant potential to plant more cane and to improve process efficiency

**Exhibit 40: Map of Sugar Cane Regions**



Source: University of Sao Paulo.

**Exhibit 41: Potential growth of Latin America Biofuels Output**



Source: IEA.

**Exhibit 42: Crop Energy Content per Acre**

Feedstock	Ethanol Yield Gallons/acre	Feedstock Yield Dry tons/acre/year
Energy Cane		1830
Switch Grass		732
Sugar		653
Sugar		493
Corn		402
Softwood		400
Corn Stover		240
Wheat Straw		168
		20
		8
		4.83
		3.64
		4.2
		5
		3
		2.1

Source: Verenum.

Sugar Cane is the most economic Energy Crop.

## Codexis and Shell in the Biofuels Business Chain

There are many companies targeting the potential revenue prize of second generation biofuels. In addition to technology, management and execution, we believe one of the key determinants of success will be a close relationship with a well capitalized existing global player. Commercial 200 million gallons per year 2G plants in the United States or Canada may each cost over \$1 billion to construct and these capital costs are not yet certain. Once built, ethanol needs to be blended and marketed. Hence, we view Codexis' relationship with Shell as a key enabler. This relationship is potentially even more powerful considering the joint venture negotiations between Shell and Cosan and also the large biofuel market that may develop in Asia.

Shell is a key enabler, we believe



Through its relationship with Shell, Codexis now has 128 full time employees (FTE) involved in the research of enzymatic pathways for turning biomass into ethanol, diesel, and chemicals. Codexis' role is to develop the enzymes and fermentation microbes to enable the cost effective deployment of these pathways. In the short term, Codexis receives payments for its FTE's and milestone payments for hitting various economic milestones.

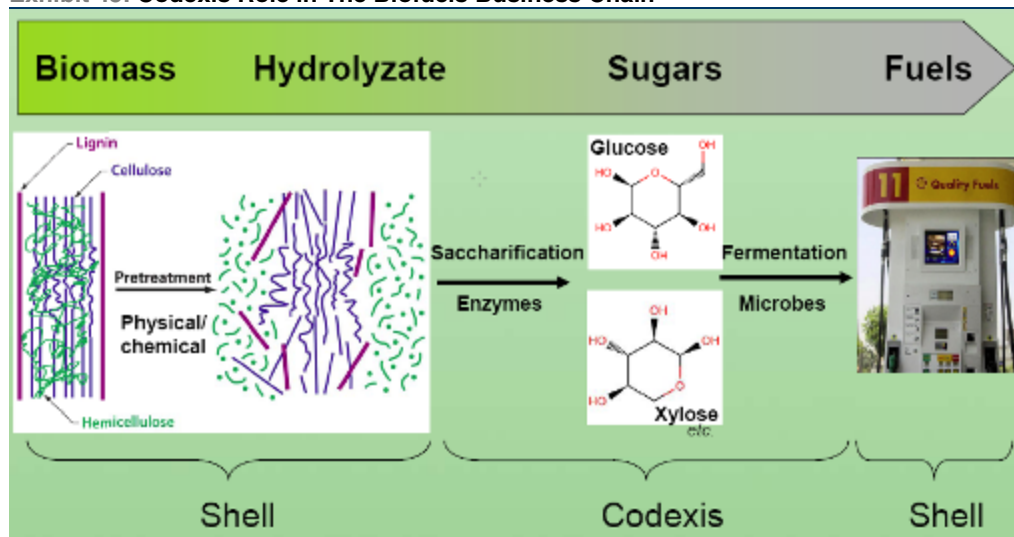
Once Codexis' technology is deployed commercially, Codexis will receive royalty payments from Shell and direct enzyme product revenues. Shell also holds a 16% stake in Codexis, having invested \$66 million in Series D-F rounds.

Within the biofuel chain, Shell will be responsible for sourcing the biomass, and in the case of wheatstraw in North America for its pretreatment. Codexis is responsible for the enzymes that extract sugars from the cellulose material and microbes for fermenting these sugars into useable fuels (e.g., ethanol or diesel). Shell will then be responsible for marketing these fuels. Through this relationship, Codexis has significantly improved the risk/reward profile of its R&D spending and should be able to follow a capital light strategy.

In the short term Shell pays Codexis FTE payments and milestone bonuses

After commercialization, Codexis will receive royalty payments for fuels sold and enzyme sales revenues

**Exhibit 43: Codexis Role in The Biofuels Business Chain**



Source: Company data.

## North America Opportunity with logen-Energy

In June 2009, a collaborative research and license agreement was signed between Shell, logen, and Codexis. logen is a private company based in Canada that aims to commercialize the production of ethanol from wheatstraw. logen Energy (50% owned by Shell and 50% by logen) is currently operating its Ottawa demonstration plant on a continuous basis using the proven R7 technology release (over C\$60 million has been invested in this plant). Over the past 12 months, logen Energy has produced more than 170,000 gallons of cellulosic ethanol from wheat straw using its R7 technology. On June 3, 2010, Shell announced additional funding that will be used to develop and demonstrate logen's next two major technology releases, R8 and R9, which should significantly reduce the capital and operating costs per gallon of cellulosic ethanol.

The collaboration with logen is a key part of Shell's strategic investment and development program in next generation biofuels using non-grain feedstocks for the North American market. The fuel is made from raw materials such as wheat straw and promises to reduce CO<sub>2</sub> emissions by greater than 80% compared to gasoline. logen has approximately 325 permanent full-time employees. logen is currently assessing a potential location for a commercial scale cellulosic ethanol plant. In the long-term, logen intends to commercialize

Assuming the Shell/logen pilot is launched and is successful, full scale commercial production could be achieved by late 2014 or early 2015

The US could represent a \$2-4 billion enzyme market by 2020

its cellulosic ethanol process by licensing its technology broadly through turnkey plant construction partnerships.

The next key milestone in this development is taking a Final Investment Decision (FID) on a pilot plant, most likely in Saskatchewan. Assuming that this FID is taken, the pilot plant should be on-stream in 2012. We assume that the plant would run for some time before an FID is taken on a full-scale commercial plant—this could be on stream by late 2014 or early 2015.

## Brazil—Shell-Cosan Joint Venture

On February 18, 2010, Shell signed an exclusive six month MOU to negotiate a merger between Shell's downstream assets in Brazil with Cosan's sugar and ethanol plants and its fuel distribution assets. Sugar cane is the lowest cost source of sugar in the world and access to this biomass is a key pillar for monetizing Codexis' technology—either through 1G organisms for use in Cosan's existing ethanol plants or 2G pathways to convert the sugar content of bagasse into ethanol, diesel, or in the long term, into chemicals. We believe Brazil represents a potential \$1.4 billion end-market potential for the industry by 2020.

Brazil could represent a \$1.4 billion potential market by 2020

As part of this MOU, Shell would contribute its 16% stake in Codexis into the joint venture. We believe this could unlock a substantial revenue opportunity for Codexis. The non-binding MOU had the intention to form an approximately \$12 billion joint venture in Brazil for the production of ethanol, sugar, and power, and the supply, distribution, and retail of transportation fuels. Under the terms of the MOU, both companies would contribute certain existing Brazilian assets to the joint venture. In addition, Shell would contribute a total of \$1.625 billion in cash, payable over two years. With annual production capacity of about 2 billion litres (0.6 bn gallons) and significant growth aspirations, the joint venture would be one of the world's largest ethanol producers. As Shell highlighted in its press release "in addition, the inclusion of Shell's equity interests in Logen and Codexis would potentially enable the joint venture to deploy next generation biofuels technologies in the future".

Shell's Codexis stake to be rolled into the joint venture

Specifically, Codexis could profit from (1) the sale of first generation microbes to Cosan, assuming that the additional royalty payments earned by Codexis were offset from a Cosan perspective from improved efficiency, (2) the sale of second generation enzymes to extract sugars from bagasse, and (3) the sale of second generation microbes to convert such sugars into either ethanol, biohydrocarbons, or chemicals.

Cosan offers multiple potential opportunities to Codexis

The deal is not only focused on ethanol—with a network of about 4,500 retail sites and a total annual throughput of about 17 billion litres, the joint venture would have a leading position in the fuels retailing market in Brazil, with strong potential for synergy capture and future growth. In our discussions with Shell, we believe that post-closure of the joint venture, Shell would initially focus on this retail integration with the role of Codexis becoming more important as a driver of value once this initial integration phase was over in mid-2011.

Retail integration likely the first priority—thereafter the value that Codexis technology brings to the table should increase

Although, Codexis will be part owned by the joint venture, we note that Cosan is also open to use the technology of other players. On June 22, 2010, Amyris and Cosan announced that they have executed term sheets to establish a joint venture for the worldwide development, production, and commercialization of renewable intermediate chemicals for specific industrial and automotive applications. The competitive landscape in Brazil is still evolving.

Competitive landscape in Brazil, like the United States, is still evolving

**Exhibit 44: Shell and Cosan Assets to Be Contributed to the Joint Venture**

Cosan	Shell
<ul style="list-style-type: none"> <li>• Sugar cane crushing capacity: currently ~60 million tonnes per annum from 23 mills</li> <li>• Ethanol production capacity: currently ~2 billion litres per annum</li> <li>• Co-generation: seven existing plants, two under construction and a further three to be built in the next three-to-four years.</li> <li>• Brazilian downstream assets, including ~1,730 retail sites and supply and distribution assets.</li> <li>• Ethanol logistics assets</li> <li>• Controlling share in ethanol trading company</li> <li>• Net debt of approximately \$2.5 billion</li> <li>• Lubricants activities would not be included in this JV.</li> </ul>	<ul style="list-style-type: none"> <li>• Brazilian downstream assets, including ~2,740 branded retail sites, supply and distribution assets, and the aviation fuel business, including the one recently acquired from Cosan.</li> <li>• Its 50% share interest in Iogen Energy*</li> <li>• Its 14.7% share interest in Codexis**</li> <li>• \$1,625 billion in cash, paid over two years.</li> <li>• Lubricants activities would not be included in this JV.</li> </ul>

Source: Shell, Cosan.

## Relationship with Shell—Mostly Positive, but Potentially a Double Edged Sword

As we highlighted above, we view the relationship with Shell as a key enabler for Codexis to overcome the significant challenges to commercializing second generation enzyme and microbe technologies. Codexis is benefiting in the initial phase from funding for R&D. As product is deployed, Codexis should also receive royalty payments.

Under the Shell/Codexis research and development collaboration, Shell will have the right, but not the obligation, to commercialize any technology that Codexis develops in its biofuels program. If Shell commercializes Codexis' biofuels technology, Codexis should collect a royalty for every gallon of fuel that Shell produces using this technology. Codexis receives bi-monthly payments from Shell that are based on the number of funded FTEs that work on their research collaboration with Shell, subject to Shell's ability to increase or reduce the number of FTEs under certain conditions over time (that we outline in more detail in the financial modeling section).

Funded R&D, global commercialization support, and royalty payments are the key positives for Codexis. The main downside risk is that Codexis is reliant on Shell (and the Shell-Cosan joint venture) to set the pace of deployment of Codexis technology. Once commercially proven, Shell could allow Codexis to license its technology to others, to allow Codexis to generate faster revenue growth, but this is by no means certain.

Funded R&D, commercialization support and royalty payments are the key positives; exclusivity to Shell does make Codexis reliant on Shell for the pace of development of the technology

# Carbon Capture Breakthrough

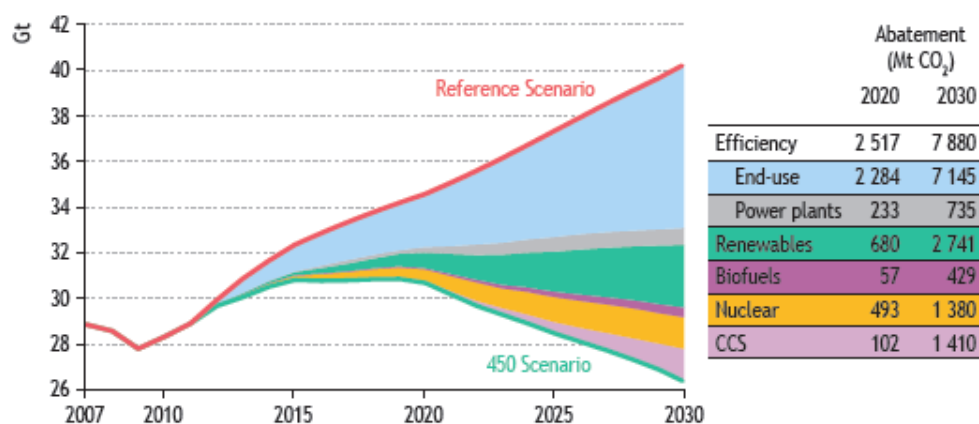
In December 2009, Codexis signed a joint R&D agreement with CO2 Solution Inc. to develop a lower cost enzyme approach for carbon capture. The leading carbon capture technologies currently are typically solvent based (e.g., amine, other). Unfortunately, in this process, 35% of the power is wasted through parasitic energy loss and two thirds of the overall Carbon Capture and Sequestration (CCS) cost is the capture portion. As well as reducing energy consumption, the benefits of CO2 Solution's and Codexis' accelerated carbon capture include higher amine capacity utilization, smaller equipment size, and cheaper construction materials. Although CCS is at an early stage, Codexis might play an important role in this market, if its approach does enable CCS to be done at a cheap enough cost.

Reducing the energy cost of carbon capture using enzymes

In a similar approach that Codexis has adopted for biofuels, the company is aiming to find a key partner to backstop the R&D required to create this enzyme. We believe that Europe is the more likely test bed of carbon capture technology and companies such as Siemens and Alstom are likely potential partners for Codexis. The Macondo spill could accelerate interest in some form of U.S. carbon cap and trade, or tax, but we believe significant political hurdles remain. The IEA estimate that a carbon price of \$50 per metric ton in 2020 and \$110 per metric ton in 2030, would be required to drive sufficient carbon abatement to set the world onto a lower emissions pathway. Based on a global CCS abatement of 102 metric tons of CO2 by 2020 (1,410 metric tons of CO2 by 2030) and assuming enzyme sales represent 5% of CO2 costs, we estimate a total market potential of around \$0.4 billion in 2020 and up to \$3 billion in 2025.

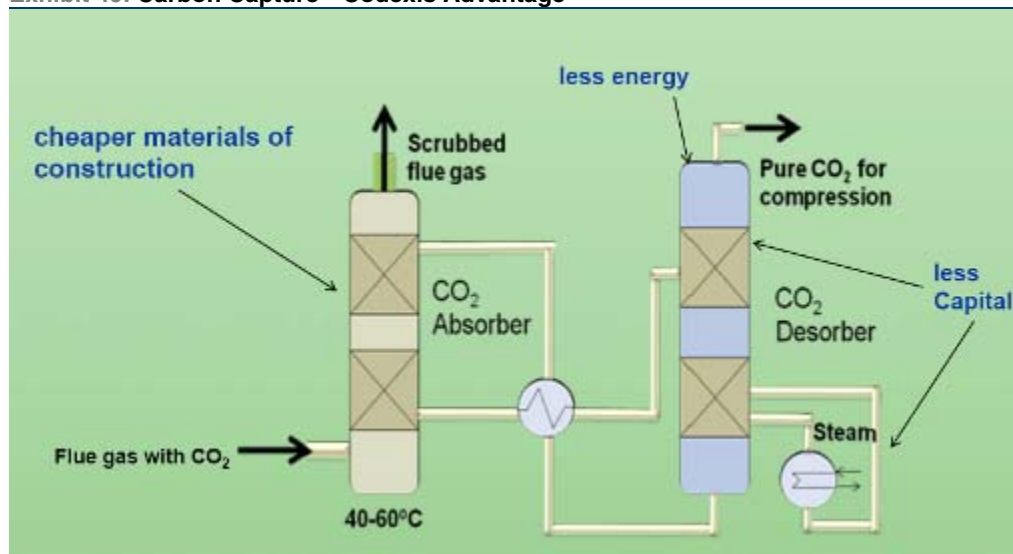
Potential \$0.4 billion enzyme market by 2020 and up to \$3 billion by 2025

**Exhibit 45: World Energy Outlook—CO2 Emissions Savings**



Source: IEA.

Exhibit 46: Carbon Capture—Codexis Advantage



Source: Company data.

## Partnering with CO2 Solutions

In December 2009, Codexis signed a joint R&D agreement with CO2 Solution, whose stock is publicly traded in Canada on the TSX Venture Exchange, for the development of carbon capture technologies.

On June 23, 2010, CO2 Solution announced that its enzyme-based technology shows the potential to reduce the size of carbon capture equipment by more than 90% and achieve substantial reduction in process energy consumption. In conjunction with its consultant, Procede Group B.V., laboratory scale testing and process modeling demonstrated the potential to reduce the size of CO2 absorber columns at coal-fired power plants by more than 90% when the enzymatic technology was used with MDEA, as opposed to pure MDEA. MDEA is a widely used solvent for natural gas treating, but is generally regarded as too kinetically limited for CO2 capture from power plant flue gas and other low-pressure gas effluent streams. By employing the enzyme, the rate of CO2 absorption in MDEA was increased more than ten-fold, reducing the height of the modeled CO2 absorption column from more than 200 meters to approximately 20 meters. In addition, by taking advantage of the low-energy properties of MDEA, solvent regeneration and process energy consumption is predicted to be reduced by approximately 30% compared to the current industry standard monethanolamine (MEA) process. These results point to a significant reduction in capital and operating costs of commercial scale carbon capture at typical coal-fired power plants or other large emitters, while utilizing a widely available commercial solvent.

Latest press release is encouraging

The use of the enzyme also holds a distinct advantage in that its use is energy-neutral to the process, as opposed to chemical CO2 absorption promoters, such as piperazine or primary amines, which increase the energy required for subsequent CO2 stripping. Furthermore, the process benefits from the favorable properties of MDEA for application to CO2 capture from flue gas including lower corrosiveness and volatility. The results also point to favorable economics of the process in that relatively small quantities of the enzyme catalyst are necessary to achieve the desired rate increase. CO2 Solution is developing this technology in collaboration with Codexis. The process is expected to benefit further from advanced, low-cost carbonic anhydrases developed by Codexis, which provide for enhanced stability and catalytic activity in industrial carbon capture solvents at the elevated temperatures typical of commercial operations.

Codexis playing a key role



The laboratory testing and process simulation work was carried out by Procede Group, led by Dr. Geert Versteeg. Commenting on the results, Dr. Versteeg said, "What we see with CO2 Solution's technology is a breakthrough for the economic capture of carbon dioxide at large scale. This is because the enzyme is an extremely efficient catalyst that enables the use of MDEA and other low-energy solvents for flue gas applications, something that was economically unattainable to date because of the low reactivity of these solvents. This technology has the potential to transform how the industry looks at solvent-based systems for carbon capture and storage from power plants and other large sources of CO2 emissions". CO2 Solution's technology platform is protected by several North American and European patents, including the use of carbonic anhydrase for CO2 capture and release in a packed column system.

Signing an agreement with one of the larger equipment vendors such as Alstom, Siemens offering solutions in this space would be one of the key steps required to de-risk CO2 Solution and Codexis offering in this area.

Potential to transform the approach for carbon capture

Exhibit 47: Comparison of Carbon Capture Technologies

## CO<sub>2</sub> Capture Technologies

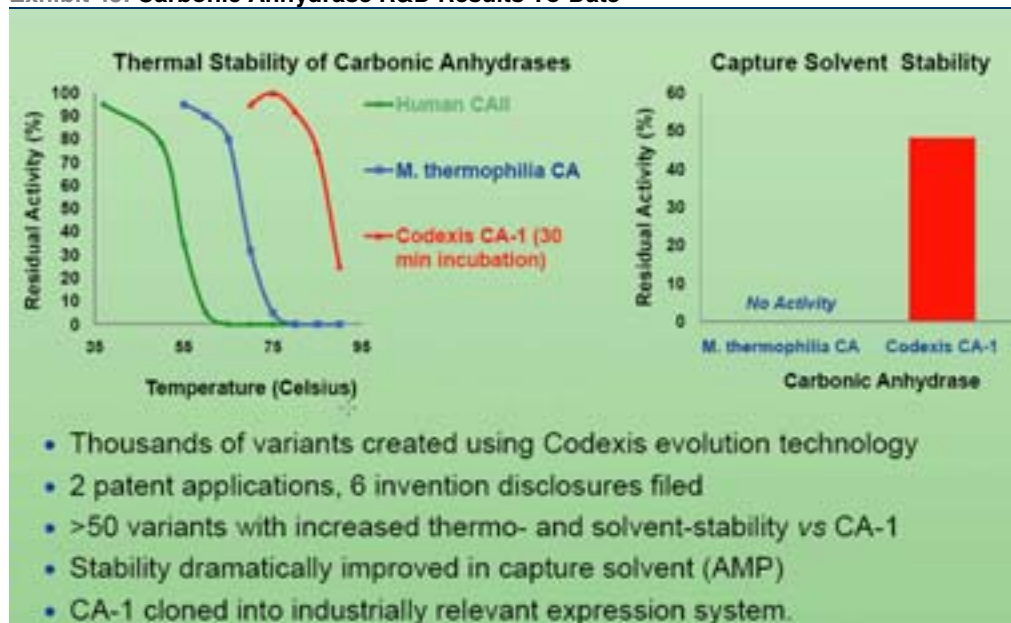
- **Post-Combustion Capture – Existing Units**
  - **Organic Amines or Chilled Ammonia**
    - Amine technologies commercially available in other industrial applications, Chilled Ammonia technology under development
    - High parasitic load – reduced unit output
      - Conventional amine ~25-35%, Chilled Ammonia goal of 10-15%
    - Amines require very clean flue gas, Chilled Ammonia Technology more tolerant to flue gas contaminants
- **Modified-Combustion Capture – Oxygen Combustion Technology**
  - Technology not yet proven at commercial scale
  - Creates stream of very high CO<sub>2</sub> concentration
  - High parasitic load, >25%
- **Pre-Combustion Capture**
  - **IGCC with Water-Gas Shift. Much of this process is commercially available in other industrial applications**
    - Turbine modified for H<sub>2</sub>-based fuel, which has not yet been proven at commercial scale
    - CO<sub>2</sub> Removed from the fuel gas prior to combustion.
    - Parasitic demand (~20%) for CO<sub>2</sub> capture - lower than amine or oxy-coal options

7

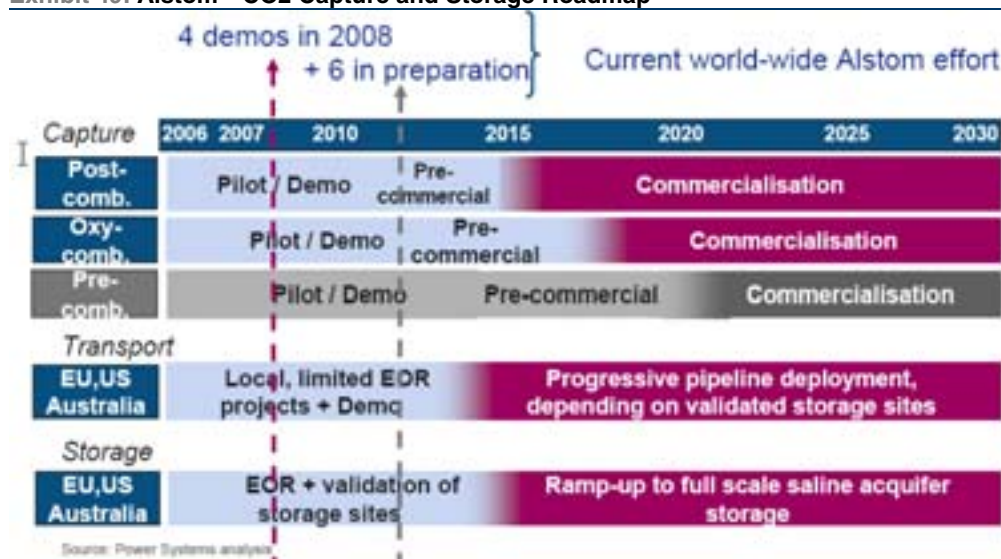
Source: AEP.



Exhibit 48: Carbonic Anhydrase R&amp;D Results To-Date



Source: Company data, Credit Suisse estimates.

Exhibit 49: Alstom—CO<sub>2</sub> Capture and Storage Roadmap

Source: Company data, Credit Suisse estimates.

# Financials, Valuation, and Risks

## Revenue Model

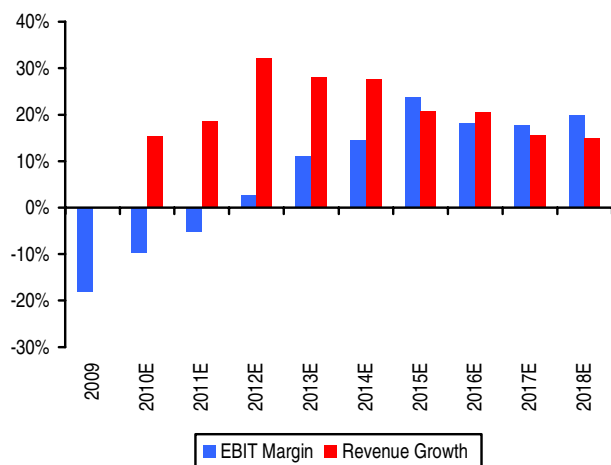
Codexis revenues are made up of FTE payments, pharmaceutical enzyme product sales, pharmaceutical services and biofuel enzyme product revenues and royalties.

- **FTE payments:** Codexis receives these revenues from its R&D partners (e.g., Shell) in the form of FTE payments. The number of funded FTEs that work on the program, and the payments from Shell for these FTEs, are specified in a collaborative research agreement, subject to Shell's ability to increase or reduce the number of FTEs under certain conditions over time. Until November 1, 2010, Shell has the right to reduce the number of funded FTEs under the collaborative research agreement by up to 12 FTEs following 60 days advance written notice. After November 1, 2010, Shell has the right to further reduce the number of funded FTEs, with any one reduction not to exceed funded 98 FTEs, following advance written notice. The required notice period ranges from 30-270 days, so the earliest an FTE reduction could take place would be December 2, 2010. Following any such reduction, Shell is subject to a standstill period of between 90 and 360 days during which period Shell cannot provide notice of any further FTE reductions.
- **Pharmaceutical product revenues:** After having agreed commercial terms, Codexis will sell enzymes to both Innovator and Generic companies and receive direct payments for enzyme sold. These typically cover a percentage of the COGS saved by using the Codexis process versus the chemical based manufacturing processes.
- **Bio-industrial product revenues:** Aside from FTE payments received from Shell, Codexis should earn product revenues and receive product related royalties, once sales to the pilot in Saskatchewan or to the Shell/Cosan joint venture in Brazil commence (we assume late 2012). Based on current timelines, we do not anticipate a large scale commercial plant to be in operation until 2014-15. Hence, bio-industrial product revenues are only \$56 million (18% of our 2015 revenue forecast). The bulk of biofuel product revenue growth occurs after 2015.
- **Carbon:** As Codexis and CO2 Solutions prove up their carbon capture technology we envisage the companies approaching a large capture equipment manufacturer to help fund R&D. We currently model \$4 million of FTE revenues in 2012 rising to around \$30 million in 2015, with product revenues starting to flow in the second half of the decade.

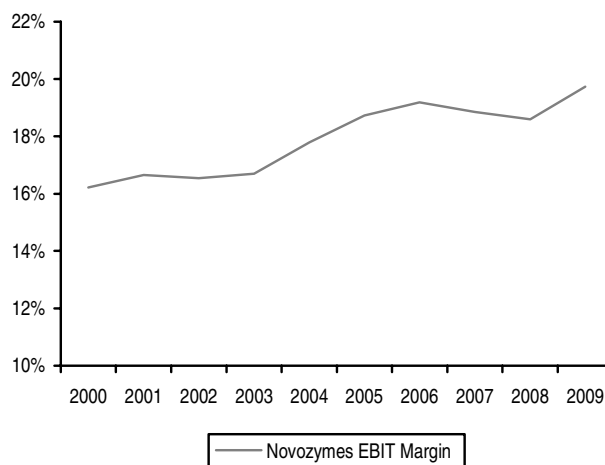
FTE payments from Shell represent around 66% of forecast revenues in 2010. If Codexis sign a partner for carbon capture, we would expect additional FTE revenues in 2012-2014

## Typical EBIT Margins

Codexis' EBIT margin is currently burdened by high R&D spending. However, as product revenues become a larger part of the mix, we expect the EBIT margin should rise towards the 15-20% range, which is a similar to the peer group.

**Exhibit 50: Codexis EBIT Margin Over Time**

Source: Company data, Credit Suisse estimates.

**Exhibit 51: Novozymes Group EBIT Margins**

Source: HOLT.

### Net Operating Loss Carryforwards

As of December 31, 2008, Codexis had federal NOLs of \$89.0 million and federal research and development tax credit carryforwards of \$1.4 million. The federal NOLs will expire at various dates beginning in 2022 through 2028 if not utilized; the federal research and development tax credits will expire at various dates beginning in 2022 through 2028 if not utilized. As of December 31, 2008, Codexis had state NOLs of \$78.2 million and state research and development tax credit carryforwards of \$1.5 million. The state NOLs will expire at various dates beginning in 2013 through 2028 if not utilized and the state research and development tax credits will not expire. From a tax perspective, the likely profit and loss tax for Codexis will be limited until 2015, from which time we assume a 40% tax rate will apply (the company may find ways to reduce this tax rate in time). From a valuation perspective, we fully load tax into our valuation of the respective businesses (pharmaceutical and bio-industrial) and then add back the present value of NOLs as a separate item—flexing the present value of the NOLs depending on the success scenario for EBIT.

### R&D, COGS, and SG&A

R&D and SG&A are the two largest cost centers over the next several years for Codexis. As Codexis enzyme sales increase, COGS will also rise. There should be some operational leverage in the business. Once the intensive R&D phase to commercialize biofuels and/or carbon has been successful, the pace of R&D spending growth should stabilize, though Maxygen payments will grow in lockstep with sales. The same should be true of SG&A, although we believe there may still be some staffing creep associated with pharmaceutical sales teams, manning for enzyme production, and global biofuel and carbon business development teams.

### Share Count

After the recent IPO, Codexis should have around 34.2 basic million shares in issue. Codexis also has around 8.4 million share options and 327,000 warrants outstanding. Using the Treasury Method, this would result in a diluted share count of approximately 39 million shares, that we use for calculation of EPS and target price.

**Exhibit 52: Codexis—Abridged Profit and Loss Statement**

	2009	2010E	2011E	2012E	2013E	2014E	2015E
Total Revenues	82.9	95.7	113.5	149.9	192.2	245.4	296.3
% growth overall	nm	15%	19%	32%	28%	28%	21%
COGS	16.7	19.4	22.3	38.8	54.0	79.9	94.7
% growth yoy	0%	17%	15%	74%	39%	48%	19%
R&D	45.9	51.9	60.5	65.4	73.6	73.3	77.2
% of sales	55%	54%	53%	44%	38%	30%	26%
% growth yoy	0%	13%	16%	8%	12%	0%	5%
SG&A	29.9	33.2	30.1	30.5	37.4	49.9	61.7
% of sales	36%	35%	27%	20%	19%	20%	21%
% growth yoy	0%	11%	-9%	1%	22%	33%	24%
Opex	8.7	6.9	6.8	11.1	8.2	11.0	6.1
% growth yoy	0%	-20%	-1%	62%	-26%	35%	-44%
Total Operating Expense	101.1	104.6	119.7	145.9	173.1	214.1	239.7
% growth yoy	0%	3%	15%	22%	19%	24%	12%
EBIT	-18.2	-8.9	-6.3	4.1	19.0	31.3	56.6
EBIT Margin, %	-18%	-8%	-5%	3%	11%	15%	24%
Financial Income/Expense	-1.9	-1.3	1.8	2.5	2.5	4.2	10.4
Pre-Tax	-20.1	-10.2	-4.5	6.5	21.6	35.5	67.0
Tax	0.0	0.4	0.7	0.7	0.4	0.4	28.4
Tax Rate	0%	-5%	-16%	11%	2%	1%	42%
Net Income	-20.1	-10.6	-5.2	5.8	21.1	35.1	38.7
Basic Shares Out	33.9	34.2	34.9	35.6	36.3	36.9	37.6
Diluted Shares Out	38.8	39.4	40.2	40.9	41.5	42.2	42.9
EPS, Basic	-0.51	-0.31	-0.15	0.16	0.58	0.95	1.03
EPS, Diluted	-0.52	-0.27	-0.13	0.14	0.51	0.83	0.90

Source: Company data, Credit Suisse estimates

**Capital Light Strategy**

We are including around \$300 million of capital expenditures in the forecast period from 2010-2015. The bulk of this capital expenditure is related to building enzyme plants to support the biofuels business (one in North America and one in Brazil). Codexis may be able to secure grants to reduce this capital expenditure and also seek support from its partners. Reducing this capital burden would improve the DCF valuation. Capital expenditure has a negative effect on the DCF of approximately \$170 million or \$4.40 per share.

After the IPO, we do not foresee Codexis needing to raise any future debt to finance its organic growth strategy. Management may make bolt-on acquisitions that alter this picture.

**Exhibit 53: Codexis—Abridged Cashflow Statement**

	2009	2010E	2011E	2012E	2013E	2014E	2015E
<u>Operating Activities</u>							
Net Income (Loss)	-20.3	-10.6	-5.2	5.8	21.1	35.1	38.7
DD&A	6.1	7.8	9.5	14.8	16.8	19.7	25.5
Warrants, Other	1.6	0.0	0.0	0.0	0.0	0.0	0.0
Stock compensation	4.8	6.6	8.5	7.3	7.1	7.1	7.8
Working Capital	-1.0	-1.0	-5.9	-3.2	-9.9	10.2	-9.0
Net Cash (Used)/Provided	-8.7	2.9	7.0	24.7	35.2	72.0	62.9
<u>Investing Activities</u>							
(Increase)/decrease in restricted cash	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Other investments	-1.9	13.6	0.0	0.0	0.0	0.0	0.0
Property & equipment	-10.8	-11.8	-15.0	-44.5	-8.0	-116.4	-101.0
Net cash provided by (used in) investing activities	-12.5	1.8	-15.0	-44.5	-8.0	-116.4	-101.0
<u>Financing activities</u>							
Change in Debt	-6.1	-5.5	-2.0	0.0	0.0	0.0	0.0
Proceeds from exercise of stock options	0.1	0.0	0.0	0.0	0.0	0.0	0.0
IPO proceeds/costs	-1.0	70.9	0.0	0.0	0.0	0.0	0.0
Proceeds from sale of preferred stock	46.9	0.1	0.0	0.0	0.0	0.0	0.0
Net Cash from Financing	40.0	65.5	-2.0	0.0	0.0	0.0	0.0
FX	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Change in Cash	18.8	70.2	-10.0	-19.9	27.2	-44.4	-38.1

Source: Company data, Credit Suisse estimates.

Codexis strategy is fully financed after the IPO. We also highlight that Codexis may be able to reduce the \$200M of spending for enzyme plant in 2014-2015 through grants or assistance from partners

**Exhibit 54: Codexis—Abridged Balance Sheet**

	2009	2010E	2011E	2012E	2013E	2014E	2015E
<b>Current Assets</b>							
Cash & Investments	55.6	112.0	102.0	82.1	109.4	65.0	26.9
Other Current	11.8	4.6	10.5	13.7	23.7	13.5	22.5
<b>Total Current Assets</b>	<b>67.4</b>	<b>116.7</b>	<b>112.5</b>	<b>95.9</b>	<b>133.0</b>	<b>78.5</b>	<b>49.4</b>
 Gross PP&E	38.9	50.7	65.7	110.2	118.2	234.6	335.6
DD&A	-17.3	-25.1	-34.6	-49.4	-66.2	-85.9	-111.4
<b>Net PP&amp;E</b>	<b>21.6</b>	<b>25.6</b>	<b>31.1</b>	<b>60.8</b>	<b>52.0</b>	<b>148.7</b>	<b>224.2</b>
 Acquired Intangibles, net	4.9	4.0	4.0	4.0	4.0	4.0	4.0
Other Assets	5.2	7.9	7.9	7.9	7.9	7.9	7.9
<b>Total Assets</b>	<b>99.0</b>	<b>154.2</b>	<b>155.5</b>	<b>168.6</b>	<b>196.9</b>	<b>239.1</b>	<b>285.5</b>
 <b>Current Liabilities</b>	56.3	38.7	38.7	38.7	38.7	38.7	38.7
Current portion of debt	7.9	1.3	-0.7	-0.7	-0.7	-0.7	-0.7
<b>Total Current Liabilities</b>	<b>64.2</b>	<b>40.0</b>	<b>38.0</b>	<b>38.0</b>	<b>38.0</b>	<b>38.0</b>	<b>38.0</b>
 Deferred revenues, net of current	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Related party deferred revenues, net of	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Long Term Debt	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other long-term liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total Longer Term Liabilities</b>	<b>0.0</b>	<b>10.9</b>	<b>10.9</b>	<b>10.9</b>	<b>10.9</b>	<b>10.9</b>	<b>10.9</b>
<b>Total Liabilities</b>	<b>0.0</b>	<b>50.9</b>	<b>48.9</b>	<b>48.9</b>	<b>48.9</b>	<b>48.9</b>	<b>48.9</b>
 <b>Preferred Stock</b>	<b>179.7</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
 <b>Shareholders Equity</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
 Additional Paid in Capital	15.0	269.0	277.5	284.8	292.0	299.0	306.8
Unrealized Gains on Investments	-14.8	0.0	0.0	0.0	0.0	0.0	0.0
Cumulative Translation Adjustments/Other	-0.3	0.0	0.0	0.0	0.0	0.0	0.0
Accumulated Deficit	-144.8	-165.7	-170.9	-165.1	-144.0	-108.9	-70.2
<b>Total SH EQ/(Deficit)</b>	<b>34.8</b>	<b>103.3</b>	<b>106.6</b>	<b>119.7</b>	<b>148.0</b>	<b>190.2</b>	<b>236.6</b>
 <b>Total Liabilities and Stock Holders Equity</b>	<b>99.0</b>	<b>154.1</b>	<b>155.5</b>	<b>168.6</b>	<b>196.9</b>	<b>239.1</b>	<b>285.5</b>
 <b>Memo : (Net Debt)/Net Cash</b>	<b>47.6</b>	<b>110.8</b>	<b>102.7</b>	<b>82.9</b>	<b>110.1</b>	<b>65.7</b>	<b>27.6</b>

Source: Company data, Credit Suisse estimates.

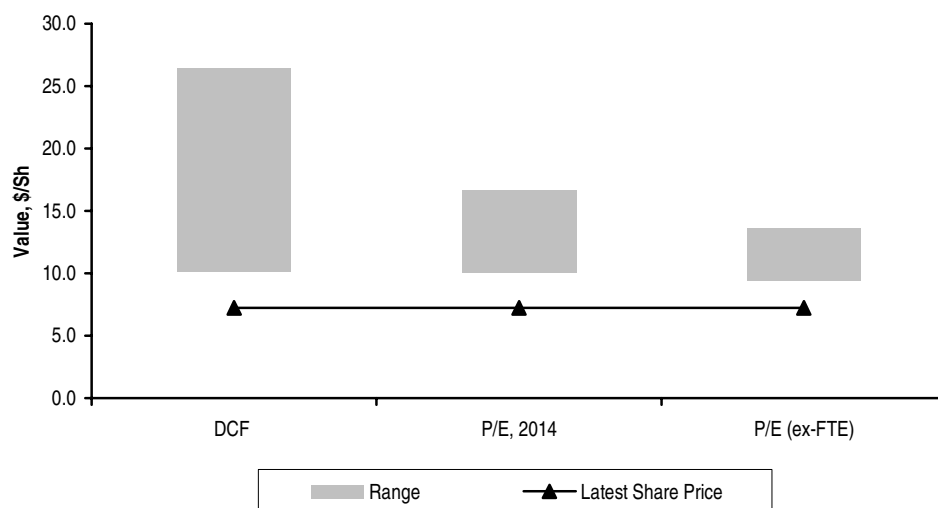
## Valuation

The valuation of Codexis stock presents a number of issues—there are a limited number of publicly traded comparables, much of the near-term revenue is effectively funded R&D rather than underlying product sales, and we do not expect Codexis to breakeven until 2012. In order to accommodate these issues, we have used several approaches—a multiple based approach as well as a DCF. We have also conducted several sensitivities on this valuation. Depending on how fast the underlying markets appreciate and also Codexis' success in capturing market share, we arrive at a range of present equity

Range of \$10 per share to over \$20 per share depending on Codexis market share and total market growth

valuation (using DCF) of between \$10 per share in a low case and up to \$26 per share in the most bullish case.

**Exhibit 55: Valuation Ranges Under Different Methodology**



Source: Company data, Credit Suisse estimates.

**Downside risk mitigated by cash, NOLs, and the value of pharmaceuticals:** The most advanced business at Codexis in terms of product revenues is pharmaceuticals, yet the bulk of value upside potential resides within biofuels and carbon. To consider a potential downside scenario, we have looked at the valuation of Codexis stock based on the contribution from the pharmaceuticals business alone (after subtracting cash and the low case for the value of net operating loss carryforwards). At the current stock price, cash represents approximately 25% of Codexis valuation (\$2.80 per share) and NOLs around 18%. In the table below, we have calculated the implied P/E multiples of the pharmaceutical business after stripping out this cash and the low case present value of NOLs. The implied multiple of 8-12x is at our revenue forecast for the pharmaceutical business of approximately \$84 million in 2013 (assuming a 40% tax rate and a 20-30% EBIT margin in the pharmaceutical business by that time).

A multiple of 8-12x 2013 EPS, Pharmaceutical EPS, plus cash, plus NOLs would underpin the current stock price

**Exhibit 56: Implied 2013 P/E Multiples of the Pharmaceutical Business at Current Valuation**

		2013 Pharma Revenues, \$M					
Implied P/E		50	60	70	80	90	100
Multiple at	20%	19	16	14	12	11	10
Different	25%	15	13	11	10	9	8
EBIT Margins	30%	13	11	9	8	7	6
@7.32 per share							

Source: Company data, Credit Suisse estimates.

We argue that the combination of cash, NOLs, and pharmaceutical value offers some defensiveness for those who wish to take advantage of the significant option value embedded in Codexis access to technology for the bio-industrial, carbon, and water end-markets.

### Upside case up to \$26 per share

Given the early stage of the enzymatic approach in Codexis end markets, the option value would be substantial should the market achieve our size forecasts and should Codexis

Upside case up to \$26 per share



capture our forecast market share. In a high case, Codexis shares could be worth up to \$25 per share over time.

**Exhibit 57: DCF Valuation Ranges, \$ Million and \$ per Share**

	Low Success	Range High Success	Mid Success
Pharmaceuticals (risk adjusted)	107	271	189
Bio-industrials	195	925	560
NOLs	\$64	106	78
EV	366	1302	827
(net debt)/cash	108.6	108.6	108.6
(other liabilities)			
Market cap (volume risk weighted)	475	1410	936
Biofuel Scale-up/commercial Risk	60%	60%	60%
Market Cap (Success Risk Adjusted)	397	1040	712
Diluted Shares	39.4	39.4	39.4
Equity Value Per Share	10.1	26.4	18.1
Implied Market cap/earnings (2015E)	6.7	17.5	12.0
Implied EV/ 2015E Sales	1.0	3.7	2.3
Implied EV/2015E Product & Royalty Sales (only)	1.7	5.9	3.8

Source: Credit Suisse estimates.

In the table above, we have laid out various sensitivities for the pharmaceutical business and bio-industrials business (all fully taxed at 40%).

- **Low achievement of sales potential:** In our low achievement case, we value pharmaceutical at \$107 million (a 65% sales achievement of our 2014 potential). We value Bio-industrials at \$195 million - broadly consistent with a sales achievement of only 40% of our 2020 bioindustrial revenue potential, discounted at a 11% WACC. This level of bio-industrial valuation is just under twice the level of VRNM which has an EV of \$114 million.
- **Midachievement of sales potential:** In our mid achievement case, we value pharmaceuticals at \$190 million (a 80% sales achievement of our 2014 potential). We value Bio-industrials at \$560 million - broadly consistent with a sales achievement of 80% of our 2020 bioindustrial revenue potential, discounted at a 11% WACC.
- **High achievement of sales potential:** In our high achievement case, we value pharmaceuticals at \$271 million (a 105% sales achievement of our 2014 potential). We value bio-industrials at \$925 million - broadly consistent with a sales achievement of 100% of our 2020 bioindustrial revenue potential, discounted at a 11% WACC.

**Exhibit 58: Bio-industrial DCF Sensitivities, \$ Million**

		WACC				
		9%	10%	11%	12%	13%
<b>Terminal Multiple</b>	<b>17.5</b>	492	433	380	334	293
	<b>20.0</b>	574	506	446	393	346
	<b>22.5</b>	656	580	512	453	400
	<b>25.0</b>	739	654	579	512	453

		WACC				
		9%	10%	11%	12%	13%
<b>2020 Sales Achievement %</b>	<b>40%</b>	302	262	226	195	168
	<b>60%</b>	550	484	427	375	330
	<b>80%</b>	795	705	625	553	490
	<b>100%</b>	1041	925	822	731	650
	<b>120%</b>	1286	1145	1020	909	810

		SG&A Cost Growth,LT,				
		6%	8%	10%	12%	14%
<b>LT</b>	<b>3%</b>	708	678	645	611	574
<b>R&amp;D Spend</b>	<b>6%</b>	658	628	596	561	524
<b>Growth</b>	<b>9%</b>	602	572	540	505	467
	<b>12%</b>	540	510	477	442	404
	<b>15%</b>	471	440	407	372	333

Source: Credit Suisse estimates.

**Exhibit 59: Pharmaceuticals DCF Sensitivity**

		WACC					
		\$174	10.5%	11.0%	11.5%	12.0%	12.5%
2014		50%	44.8	44.2	43.8	43.3	43.0
Sales		65%	110.3	109.0	107.8	106.7	105.8
Achievement		80%	175.9	173.7	171.8	170.1	168.7
		95%	241.4	238.4	235.8	233.5	231.5
		110%	307.0	303.2	299.8	296.9	294.4

Source: Company data, Credit Suisse estimates.

**Target Price: \$17/share**

The valuation of Codexis stock presents a number of issues—there are a limited number of publicly traded comparables, much of the near-term revenue is effectively funded R&D rather than underlying product sales, and we do not expect Codexis to breakeven until 2012. In order to accommodate these issues, we have used several approaches—a multiple based approach as well as a DCF. Applying a 50% weighting to the Mid-Success DCF derived value of \$18.1/share and a 50% weighting to the P/E derived value of \$15.8/share (19x 2014 EPS), we determine a target price of \$17/share for CDXS. At this \$17/sh TP, cash would represent \$2.8/sh, NOL's \$2/share, pharmaceuticals \$4.8/sh and option value in bioindustrials at \$7.45/share. This option value in bioindustrials would be consistent with about a 50% success case in terms of longer term market biofuel development and Codexis market share capture.

**Limited comps**

Right now there are few publicly traded comps (though a lot of companies in the space, see the list in the Appendix). The shares of the large players such as Novozymes and Danisco have been outperforming and are trading in the range of 21-24x 2011 P/E. On our

forecast, Codexis P/E multiple falls to around 21 by 2013, and 12-13 times P/E on our 2014-2015 projections.

**Exhibit 60: Comps Table—Codexis; Novozymes; Danisco; Rentech; VRNM and other breakthrough technology**

	Local Price		Mkt. Cap	Price Change			Earnings Per Share			PE Multiple			EV/EBITDA			Rating
BIOFUEL & ENZYME COMPARABLES	7/7/2010		(USD\$m)	2009	YTD	1mo	2009	2010E	2011E	2009	2010E	2011E	2009	2010E	2011E	& Target
<b>Comps</b>																
Danisco (DCO Dk, fy Apr)	432.70	DKK	3,495	62%	24%	11%	14.31	19.01	21.35	30.2x	22.8x	20.3x	12.5x	10.8x	9.8x	U 350.00
First Solar Inc (FSLR US, fy Dec)	128.48	USD	10,957	-2%	-4%	23%	7.39	7.53	8.32	17.4x	17.1x	15.5x	12.4x	10.7x	11.9x	O 150.00
Maxygen Inc. (MAXY US, fy Dec)	5.49	USD	165	-32%	-10%	-6%	-	-	-	-	-	-	-	-	-	-
Novozymes (NZYM.B DK, fy Dec)	658.00	DKK	6,970	29%	22%	0%	18.92	21.51	23.97	34.8x	30.6x	27.5x	16.2x	14.6x	13.3x	N 560.00
Rentech Inc. (RTK US, fy Sep)	0.95	USD	204	81%	-20%	4%	(0.02)	(0.12)	(0.06)	-	-	-	15.1x	na	25.6x	-
SunPower (SPWRA US, fy Dec)	13.41	USD	1,306	-36%	-42%	16%	0.92	1.25	1.63	14.6x	10.7x	8.2x	8.5x	6.5x	4.7x	N 16.30
Verenium Corp. (VRNM US, fy Dec)	2.21	USD	27	-57%	-50%	-17%	(4.73)	(3.09)	(2.02)	-	-	-	na	na	na	-
Codexis Inc. (CDXS US, fy Dec)	7.24	USD	247	-	-	-27%	(0.52)	(0.27)	(0.13)	nm	nm	nm	na	na	122.0x	O 17.00
<b>Sector Median</b>			<b>777</b>	<b>-2%</b>	<b>-10%</b>	<b>2%</b>				<b>23.8x</b>	<b>19.9x</b>	<b>17.9x</b>	<b>12.5x</b>	<b>10.7x</b>	<b>12.6x</b>	

Source: Company data, Credit Suisse estimates

## Risks

Codexis is a relatively young company that is reliant on licensed technology and only a few customers for the bulk of its revenues and value. We have outlined some of the key risks that could affect our earnings and valuation as follows—we would also refer investors to the Registration S-1 statement.

**Loss of any of rights under the license from Maxygen:** Under the Codexis agreement with Maxygen, Maxygen has the first right to enforce many of the patents that Codexis have licensed, particularly those directly related to gene shuffling technology. If Maxygen declines to enforce these patent rights, Codexis can enforce these rights after a delay of up to six months, or Maxygen can deny us the ability to enforce if Maxygen concludes that such enforcement may have a material adverse affect on Maxygen or one or more other licensees of Maxygen's technology. Some portions of the technology licensed to Codexis by Maxygen are owned by third parties that retain the right to enforce the patents. If Maxygen or these third parties fail to enforce their patent rights, Codexis could be materially adversely affected. Maxygen also has the right to control the defense of patent infringement claims made by third parties alleging infringement related to gene shuffling technology. If Maxygen does not provide a timely and adequate defense to these claims, Codexis could be forced to stop using the licensed technology, redesign our products and/or obtain a license from the party claiming infringement, which may not be available on commercially reasonable terms or at all. Codexis may need to secure additional licenses from Maxygen to pursue certain future business opportunities in the chemical market.

**Big brother business model:** We view the presence of large, well established partners in Codexis key markets as a differentiator; however, dependence on these collaborators also carries risk (e.g., the dependence on Shell for the development and commercialization of biofuels).

**Contract enzyme manufacturing:** Codexis is reliant on a limited number of contract manufacturers of biocatalysts and suppliers for our pharmaceutical intermediates. Codexis needs to maintain license rights for commercial scale expression systems for cellulases. Codexis rely on two primary contract manufacturers, CPC Biotech, or CPC, and Lactosan GmbH & Co KG, or Lactosan, to manufacture substantially all of the commercial biocatalysts used in the pharmaceutical business. Codexis also entered into a license agreement with Dyadic International, and its affiliate, or Dyadic, in November 2008, to obtain access to an expression system that is capable of producing the necessary biocatalysts for the commercialization of cellulosic biofuels. Under the license, agreement with Dyadic, Codexis obtained a non-exclusive license under intellectual property rights of Dyadic relating to Dyadic's proprietary fungal expression technology for the production of enzymes.

**Reliance on pharmaceutical manufacturing innovation and FDA:** Although reducing costs should be a key driver for the adoption of Codexis approach, the company is reliant on pharmaceutical customers' abilities to incorporate Codexis biocatalysts into their manufacturing processes, on their approval by the FDA and on the ongoing approval of new drugs by the FDA.

**Second generation economics:** Sales of enzymes into the cellulosic market, in North America and Brazil, will depend on the feasibility of producing and commercializing biofuels derived from cellulose which in turn depends on the price of oil and the availability of appropriate feed biomass. On our forecasts, second generation ethanol production in the United States will likely require continued government subsidy.

**Carbon and water:** At present, the route to market in both these end-uses is not wholly apparent. Carbon capture in particular requires political acceptance of a cost to carbon

and improvements in the economics and logistics of the carbon capture and sequestration process.

**People:** As a technology company, Codexis is dependent on its key management and other personnel.

**Intellectual Property:** Codexis must be able to obtain, protect and enforce their intellectual property rights. As of September 30, 2009, Codexis owned or had licensed rights to approximately 235 issued patents and approximately 280 pending patent applications in the United States and in various foreign jurisdictions. Of the licensed patents and patent applications, most are owned by Maxygen and exclusively licensed to Codexis for use with respect to certain products for specified purposes within certain fields. However, some of these patents will expire as early as 2014. As of September 30, 2009, Codexis owned approximately 35 issued patents and approximately 110 pending patent applications in the United States and in various foreign jurisdictions. These patents and patent applications are directed to enabling technologies, methods and products which support the pharmaceuticals and bio-industrials business. Codexis intend to continue to apply for patents relating to our technologies, methods and products as they deem appropriate. If Codexis biocatalysts, or the genes that code for these biocatalysts, were stolen, misappropriated or reverse engineered, they could be used by other parties who may be able to reproduce these biocatalysts for their own commercial gain. If this were to occur, it would be difficult for Codexis to challenge this type of use, especially in countries with limited intellectual property protection

**Commercialization of pharmaceutical cost savings:** Codexis aims to lower the manufacturing costs of pharmaceutical companies and then share some of the resultant savings. This requires pharmaceutical companies and regulators to buy into the use of enzymatic processes and for Codexis to capture enough of the savings to make the R&D investment worthwhile.

**Competition:** Codexis is aiming to develop technology in areas where a substantial number of other companies are also present, including well capitalized companies such as Novozymes, Danisco, Du Pont, and DSM. We have included the Biofuel 50 in the Appendix.

**Acceptance of genetics:** Public concerns about the ethical, legal and social ramifications of genetically engineered products and processes may impact Codexis.

**Failure to sell enzymes to logen Energy:** In connection with our research and development collaboration with Shell, Codexis entered into a multi-party collaborative research and license agreement with logen Energy Corporation and Shell in July 2009. Either Shell or logen may fail to perform their obligations under this collaboration, may breach or terminate the collaboration agreement or otherwise fail to conduct their collaborative activities successfully and in a timely manner.

# Management Bios

**Alan Shaw, Ph.D.**

Mr. Shaw has served as president of Codexis since its inception and chief executive officer since 2002. He has been a member of the board of directors since 2002. Prior to Codexis, Dr. Shaw was head of new business development for Clariant and managing director for Lancaster Synthesis and prior to Clariant's acquisition of BTP plc, chief operating officer of Archimica, the pharmaceutical chemicals division of BTP plc. From 1994-99, he was with Chiroscience Group plc, most recently as managing director of the pharmaceutical services unit, Chirotech Technology Limited, and a member of the board of directors of Chiroscience Ltd. Earlier in his career, Dr. Shaw held various scientific and management positions for over 15 years at Imperial Chemical Industries PLC /Zeneca. Dr. Shaw serves on the board of directors of BIO, the biotechnology industry trade association, and is chair of the BIO industrial and environmental section. He holds a B.S. in chemistry from Teesside University, England, and a Ph.D. in chemistry from the University of Durham, England. Dr. Shaw is a Fellow of the Royal Society of Chemistry (FRSC, C.Chem.) and the Chartered Institute of Marketing (FCIM, Chartered Marketer).

**Robert J. Lawson**

Mr. Lawson has served as Senior Vice President and Chief Financial Officer since November 2009. Prior to joining Codexis, Mr. Lawson was most recently Vice President, Finance-Consumer Group of Intuit. While at Intuit from 2001 to November 2009, Mr. Lawson held various senior financial management positions, including Vice President, Investor Relations and Financial Planning and Analysis and Vice President, Finance-Small Business and Personal Finance. Prior to Intuit, Mr. Lawson served for 15 years in various financial management roles at General Electric. He holds a B.S. in business from Iowa State University.

**David L. Anton, Ph.D.**

Mr. Anton has served as senior vice president, research and development since May 2009. He joined Codexis in March 2008 as vice president, research and development, for Codexis bio-industrials. Dr. Anton has over 25 years experience directing development of new technology solutions and production processes. He joined DuPont in 1983, and held a variety of senior research management positions across bioprocessing and biocatalysts. He holds a B.S. in biochemistry from the University of California, Berkeley, and a Ph.D. in biochemistry from the University of Minnesota.

**Joseph J. Sarret, M.D., J.D.**

Mr. Sarret has served as chief business officer and president, pharmaceutical services and enzyme products since October 2009. He joined Codexis in 2005 as corporate counsel and director, business development, and was promoted to vice president, corporate development in 2007 and senior vice president, corporate development in October 2009. Previously, he was an associate at Latham & Watkins LLP. He also served as attending physician and later acting medical director for the HIV Clinic at the University of California, San Francisco Medical Center. Dr. Sarret is a graduate of both the University of California, San Francisco School of Medicine, and the Stanford Law School. He holds a B.A. in human biology from Stanford, where he graduated Phi Beta Kappa.

Exhibit 61: 2009 Summary Compensation Table

<u>Name</u>	<u>Year</u>	<u>Salary (\$)</u>	<u>Bonus (\$)</u>	<u>Option Awards (\$)(1)</u>	<u>Non-Equity Incentive Plan Compensation (\$)(2)</u>	<u>All Other Compensation (\$)</u>	<u>Total (\$)</u>
Alan Shaw, Ph.D., President and Chief Executive Officer	2009	\$425,000	\$ —	\$1,368,640	\$ 312,375	\$ 638(3)	\$2,106,653
	2008	425,000	149,899	—	—	—	574,899
	2007	385,000	—	1,472,329	259,875	—	2,117,204
Robert J. Lawson, Senior Vice President and Chief Financial Officer(4)	2009	55,000	50,000(5)	1,602,640	—	53(3)	1,707,693
Douglas T. Sheehy, Senior Vice President, General Counsel and Secretary	2009	272,660	—	415,483	126,682	638(3)	815,463
	2008	260,000	55,022	—	—	—	315,022
	2007	164,522	—	313,604	79,200	—	557,326
David L. Anton, Ph.D., Senior Vice President, Research & Development	2009	260,308	—	403,265	137,488	1,045(6)	802,106
	2008	176,250	42,019	671,640	—	146,583	1,036,492
Joseph J. Sarret, M.D., J.D., Chief Business Officer and President, Pharmaceutical Services and Enzyme Products	2009	275,417	—	974,735	156,408	6,051(7)	1,412,611
Robert S. Breunl, Former Senior Vice President, Finance and Chief Financial Officer(8)	2009	160,000	—	342,160	—	194,895(9)	697,055
	2008	320,000	72,234	—	—	—	392,234
	2007	288,750	—	577,315	133,908	—	999,973

Source: Company data, Credit Suisse estimates

Exhibit 62: 2010 Base Salary

<u>Name of Executive Officer</u>	<u>Increase</u>	<u>2010 Base Salary</u>
Alan Shaw, Ph.D.	8.2%	\$ 460,000
Robert J. Lawson	—	330,000
Douglas T. Sheehy	—	300,000
David L. Anton, Ph.D.	7.4	290,000
Joseph J. Sarret, M.D., J.D.	—	320,000

Source: Company data, Credit Suisse estimates



# Appendix 1—The Biofuel 50

## Exhibit 63: The Biofuel 50

Company	Description
1. Solazyme	Solazyme's produces algae oil and biomaterials in standard fermentation facilities quickly, efficiently and at large scale. These natural oils and biomaterials are tailored not only for fuel production, but also as replacements for fossil-derived petroleum and a variety of natural plant oils and compounds, making them useful in a wide range of products: from oleochemicals, to cosmetics, to foods.
2. POET	POET, LLC is a privately held company with no stock listing. POET is a leader in biorefining through its efficient, vertically integrated approach to production. Today, POET has a network of 26 plants in seven states. POET provides turnkey development, design, engineering, construction, management and marketing for our plant. Amyris is building an integrated renewable products company. Amyris Biotechnologies is engineering yeast to rise over the world's dependence on petroleum. The company developed a process that uses genetically modified molecules (GMMs) from yeast to create biofuels and other renewable chemicals as an alternative to petroleum products. Amyris uses fermented yeast from Brazilian sugarcane to produce farnesene, a chemical that can replace petroleum as the basis for such products as detergent, cosmetics, perfume, industrial lubricants, and fuel.
3. Amyris Biotechnologies	BP is one of the world's largest energy companies, providing its customers with fuel for transportation, energy for heat and light, retail services and petrochemicals products for everyday items.
4. BP Biofuels	Sapphire Energy is privately held. Sapphire Energy founders are led by entrepreneur and scientist Jason Pyle, and bioengineer Mike Mendez. Sapphire has already developed technology to produce fungible, drop-in transportation fuels—including 91 octane gasoline, 89 cetane diesel, and jet fuel—all out of algae, sunlight, and
5. Sapphire Energy	Coskata is a biology-based renewable energy company whose low-cost platform technology allows for the production of fuels and chemicals from a variety of input material (including biomass, agricultural and municipal wastes, and other carbonaceous material).
6. Coskata	DuPont Danisco Cellulosic Ethanol LLC is a 50/50 joint venture between DuPont and Genencor, a subsidiary of Danisco. The \$140 million venture seeks to commercialize technology for production of ethanol from non-edible parts of plants and other biomass, otherwise known as cellulosic ethanol, and to eventually license it to ethanol
7. DuPont Danisco	LS9, Inc., the Renewable Petroleum Company™, is a privately-held industrial biotechnology company based in South San Francisco, California developing patent-pending UltraClean™ fuels and sustainable chemicals made with the power of synthetic biology.
8. LS9	Verenium Corporation is a leader in the development and the commercialization of cellulosic ethanol, an environmentally-friendly and renewable transportation fuel, as well as higher performance specialty enzymes for applications within the biofuels, industrial, and animal nutrition and health markets.
9. Verenium	Mascoma Corporation was founded with private capital. Mascoma has aggressively pursued the development of Consolidated Bioprocessing (CBP) technology across a range of cellulosic feedstocks. This technology offers potentially high values of return on energy investment and low production costs.
10. Mascoma	Creates bio-industrial products by using enzymes for such things as waste water cleanup, house cleaners and lawn maintenance.
11. Novozymes	UOP LLC, a Honeywell company, has been delivering cutting-edge technology to the petroleum refining, gas processing, petrochemical production and major manufacturing industries for over 90 years.
12. UOP Honeywell	Gevo is the leading technology development company for biobutanol, a versatile platform chemical for the liquid fuels and petrochemical market that can be used as a gasoline blendstock to meet clean air standards and renewable fuel obligations. Biobutanol helps meet consumer demands for sustainable products as a feedstock for biobased materials, including renewable hydrocarbons, chemicals and plastics.
13. Gevo	Production of low carbon biofuels, such as cellulosic ethanol, and clean renewable energy using organic material made from plants or animals (biomass) that cannot be used for food, and is sustainable, renewable, and in excess supply. Material that was formerly discarded – such as timber harvesting residues, corn stover (stalks that remain after the corn has been harvested), sawdust, paper pulp, hog manure, municipal garbage, and more, including highly productive grasses and trees, such as switchgrass, eucalyptus and hybrid poplar – can be
14. Range Fuels	Abengoa is a technological company that applies innovative solutions for sustainable development in the infrastructures, environment and energy sectors. It is present in over 70 countries where it operates through its five Business Units: Solar, Bioenergy, Environmental Services, Information Technology, and Industrial
15. Abengoa Bioenergy	PetroAlgae (OTCBB: PALG), a Florida-based leading renewable energy company, licenses a commercial micro-crop technology system that enables the production of green diesel and a high-value protein food source in an environmentally beneficial manner.
16. PetroAlgae	Synthetic Genomics Inc. (SGI) is a privately-held company founded in the spring of 2005. Synthetic Genomics Inc. was founded to commercialize genomic-driven technologies.
17. Synthetic Genomics	Brazilian company with presence in other 27 countries. Our stock is traded in the world's main stock exchanges.
18. Petrobras	BlueFire Ethanol Incorporated's ("BlueFire") use of the Concentrated Acid Hydrolysis patented process positions it as the only viable, world-wide cellulose-to-ethanol company with demonstrated production experience with ethanol from wood wastes, urban trash (post-sorted MSW), rice and wheat straws and other agricultural residues.
19. Bluefire Ethanol	ZeaChem Inc. produces advanced ethanol, fuels and chemicals. Our indirect approach leapfrogs the yield and carbon dioxide (CO2) problems associated with traditional and cellulosic based processes.
20. ZeaChem	

Source: BioFuelsDigest, Company data.

**Exhibit 64: The Biofuel 50 (continued)**

Company	Description
21. Virent	Virent is commercializing an innovative advanced biofuel technology that catalytically transforms a wide range of soluble plant sugars into hydrocarbon molecules like those produced at a petroleum refinery. Virent's renewable hydrocarbons can be blended seamlessly to make gasoline, jet fuel, and diesel.
22. Qteros	The Qteros team is developing cellulosic ethanol that will provide clean and affordable transportation fuel, spur economic development, and improve the health of our planet. With smart agriculture and advanced microbiology, we are addressing the world's considerable energy challenges by utilizing its own renewable natural resources.
23. logen	logen is a privately held company, based in Ottawa, Ontario, Canada. logen Corporation has become one of Canada's leading biotechnology firms. logen is a world leader in technology to produce cellulosic ethanol, a fully renewable, advanced biofuel that can be used in today's cars. logen is also a manufacturer and marketer of enzyme products for application in processes that modify or hydrolyze natural fiber, including, for example, the pulp and paper, grain processing, brewing, textile and animal feed industries.
24. Algenol	Algenol Inc. is a development stage industrial biotechnology company based in Bonita Springs, Florida that uses hybrid algae to make biofuels and high-value organic green-chemicals from carbon dioxide, water and sunlight.
25. Enkern	Based in Canada, Enkern is one of the world's leading developers and producers of advanced fuels and green chemicals. As a private company, Enkern is majority owned by institutional and clean technology investment
26. Genencor	Genencor is a leading industrial biotechnology company that develops and markets innovative enzymes and biobased products.
27. Shell	Shell is a global group of energy and petrochemicals companies with around 101,000 employees in more than 90 countries and territories. Our innovative approach ensures we are ready to help tackle the challenges of the new
28. Ceres	Ceres develops & markets low-carbon, non-food grasses for advanced biofuels and biopower.
29. ExxonMobil	ExxonMobil is the world's largest publicly traded international oil and gas company. We hold an industry-leading inventory of global oil and gas resources. We are the world's largest refiner and marketer of petroleum products.
30. Cobalt Biofuels	Cobalt Technologies is leading the transportation industry to cleaner, more efficient renewable fuels
31. Aurora Biofuels	Aurora Biofuels generates biodiesel from optimized algae in a patented production process.
32. Joule Biotechnologies	Joule is pioneering the production of Liquid Fuel from the Sun™, surpassing today's barriers to abundant, sustainable, cost-competitive supply.
33. Syngenta	Syngenta is one of the world's leading companies with more than 25,000 employees in over 90 countries dedicated to our purpose: Bringing plant potential to life. Through world-class science, global reach and commitment to our customers we help to increase crop productivity, protect the environment and improve health
34. KL Energy	KL Energy Corporation is a first mover in the global cellulosic ethanol market having developed a proprietary 2G process that takes non-food biomass feedstock and fractions them into their main components
35. Codexis	Codexis is a public company that focuses in cost-effective conversion of renewable resources into transportation fuels and pharmaceuticals, and on the development of new technologies for effective air and water treatment and chemical manufacturing.
36. IneosBio	Commercialisation of the world's leading second generation bioethanol technology process to serve the global renewable transport fuels market.
37. Renewable Energy Group	Renewable Energy Group, Inc. is leading the biodiesel industry by marketing more biodiesel than anyone in the United States. Nevertheless, we're continuously working to find new markets for biodiesel in many industries.
38. Rentech	Provider of clean energy solutions. Gas to liquid and natural gas conversion technology for carbon-bearing materials, iron-based catalysts, oil, and coal bed methane
39. Praj Industries	Praj is a global Indian company that offers innovative solutions to significantly add value in bio-ethanol, bio-diesel, brewery plants and process equipment & systems for customers, worldwide.
40. Neste Oil	Neste Oil Corporation is a refining and marketing company focusing on advanced, cleaner traffic fuels.

Source: BioFuelsDigest, Credit Suisse estimates.

**Exhibit 65: The Biofuel 50 (continued)**

<b>Company</b>	<b>Description</b>
41. LanzaTech	LanzaTech was founded in early 2005 to develop, and commercialize proprietary technologies for the production of lowest cost fuel ethanol from the carbon monoxide in low-hydrogen waste gases produced by the steel
42. OriginOil	OriginOil, Inc. is developing a breakthrough technology that will transform algae, the most promising source of renewable oil, into a true competitor to petroleum.
43. Choren	Our vision is the potentially infinite production of renewable energy – by following nature's example. Environmentally friendly, clean fuel that is abundant and commercially viable.
44. Solix	Solix Biofuels Inc. is the leader in production technology used to create energy from algae. Our technology will enable the large-scale commercialization of microalgae based fuels and co-products.
45. Chemrec	Helps pulp and paper mills dramatically increase their cash flow and profitability by enabling them to become Dynamotive Energy Systems Corporation is an energy solutions provider headquartered in Vancouver, Canada, with offices in the USA and Argentina. Its carbon/ greenhouse gas neutral fast pyrolysis technology uses medium
46. Dynamotive	temperatures and oxygen-free conditions to turn dry waste biomass and energy crops into BioOil® for power and Terrabon, Inc. is bringing cost-effective, sustainable solutions to the production of renewable fuels and industrial
47. Terrabon	chemicals and to the scalable treatment of non-conventional water resources.
48. Fulcrum Bioenergy	Privately held company with a mission to create a clean, low-cost and sustainable source of domestic SG Biofuels is a plant oil company specializing in the development of Jatropha as a low cost, sustainably
49. SG Biofuels	produced oil that can be used for a variety of bio-based materials including biodiesel and feedstock substitutes for the petrochemical and jet fuel industries.
50. Inbicon	Working to produce bio-refineries that produce electricity using decomposition of biomass waste in Denmark.

Source: *BioFuelsDigest*, Credit Suisse estimates.

## Appendix—Income Statement

	2009	2010E	2011E	2012E	2013E	2014E	2015E
Total Revenues	82.9	95.7	113.5	149.9	192.2	245.4	296.3
% growth overall	nm	15%	19%	32%	28%	28%	21%
COGS	16.7	19.4	22.3	38.8	54.0	79.9	94.7
% growth yoy	0%	17%	15%	74%	39%	48%	19%
R&D	45.9	51.9	60.5	65.4	73.6	73.3	77.2
% of sales	55%	54%	53%	44%	38%	30%	26%
% growth yoy	0%	13%	16%	8%	12%	0%	5%
SG&A	29.9	33.2	30.1	30.5	37.4	49.9	61.7
% of sales	36%	35%	27%	20%	19%	20%	21%
% growth yoy	0%	11%	-9%	1%	22%	33%	24%
Opex	8.7	6.9	6.8	11.1	8.2	11.0	6.1
% growth yoy	0%	-20%	-1%	62%	-26%	35%	-44%
Total Operating Expense	101.1	104.6	119.7	145.9	173.1	214.1	239.7
% growth yoy	0%	3%	15%	22%	19%	24%	12%
EBIT	-18.2	-8.9	-6.3	4.1	19.0	31.3	56.6
EBIT Margin, %	-18%	-8%	-5%	3%	11%	15%	24%
Financial Income/Expense	-1.9	-1.3	1.8	2.5	2.5	4.2	10.4
Pre-Tax	-20.1	-10.2	-4.5	6.5	21.6	35.5	67.0
Tax	0.0	0.4	0.7	0.7	0.4	0.4	28.4
Tax Rate	0%	-5%	-16%	11%	2%	1%	42%
Net Income	-20.1	-10.6	-5.2	5.8	21.1	35.1	38.7
Basic Shares Out	33.9	34.2	34.9	35.6	36.3	36.9	37.6
Diluted Shares Out	38.8	39.4	40.2	40.9	41.5	42.2	42.9
EPS, Basic	-0.51	-0.31	-0.15	0.16	0.58	0.95	1.03
EPS, Diluted	-0.52	-0.27	-0.13	0.14	0.51	0.83	0.90

Source: Company data, Credit Suisse estimates

# Appendix—Balance Sheet

	2009	2010E	2011E	2012E	2013E	2014E	2015E
Current Assets							
Cash & Investments	55.6	112.0	102.0	82.1	109.4	65.0	26.9
Other Current	11.8	4.6	10.5	13.7	23.7	13.5	22.5
<b>Total Current Assets</b>	<b>67.4</b>	<b>116.7</b>	<b>112.5</b>	<b>95.9</b>	<b>133.0</b>	<b>78.5</b>	<b>49.4</b>
Gross PP&E	38.9	50.7	65.7	110.2	118.2	234.6	335.6
DD&A	-17.3	-25.1	-34.6	-49.4	-66.2	-85.9	-111.4
<b>Net PP&amp;E</b>	<b>21.6</b>	<b>25.6</b>	<b>31.1</b>	<b>60.8</b>	<b>52.0</b>	<b>148.7</b>	<b>224.2</b>
Acquired Intangibles, net	4.9	4.0	4.0	4.0	4.0	4.0	4.0
Other Assets	5.2	7.9	7.9	7.9	7.9	7.9	7.9
<b>Total Assets</b>	<b>99.0</b>	<b>154.2</b>	<b>155.5</b>	<b>168.6</b>	<b>196.9</b>	<b>239.1</b>	<b>285.5</b>
Current Liabilities	56.3	38.7	38.7	38.7	38.7	38.7	38.7
Current portion of debt	7.9	1.3	-0.7	-0.7	-0.7	-0.7	-0.7
<b>Total Current Liabilities</b>	<b>64.2</b>	<b>40.0</b>	<b>38.0</b>	<b>38.0</b>	<b>38.0</b>	<b>38.0</b>	<b>38.0</b>
Deferred revenues, net of current	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Related party deferred revenues, net of	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Long Term Debt	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other long-term liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total Longer Term Liabilities</b>	<b>0.0</b>	<b>10.9</b>	<b>10.9</b>	<b>10.9</b>	<b>10.9</b>	<b>10.9</b>	<b>10.9</b>
<b>Total Liabilities</b>	<b>0.0</b>	<b>50.9</b>	<b>48.9</b>	<b>48.9</b>	<b>48.9</b>	<b>48.9</b>	<b>48.9</b>
<b>Preferred Stock</b>	<b>179.7</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Shareholders Equity</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Additional Paid in Capital	15.0	269.0	277.5	284.8	292.0	299.0	306.8
Unrealized Gains on Investments	-14.8	0.0	0.0	0.0	0.0	0.0	0.0
Cumulative Translation							
Adjustments/Other	-0.3	0.0	0.0	0.0	0.0	0.0	0.0
Accumulated Deficit	-144.8	-165.7	-170.9	-165.1	-144.0	-108.9	-70.2
<b>Total SH EQ/(Deficit)</b>	<b>34.8</b>	<b>103.3</b>	<b>106.6</b>	<b>119.7</b>	<b>148.0</b>	<b>190.2</b>	<b>236.6</b>
<b>Total Liabilities and Stock Holders Equity</b>	<b>99.0</b>	<b>154.1</b>	<b>155.5</b>	<b>168.6</b>	<b>196.9</b>	<b>239.1</b>	<b>285.5</b>
<b>Memo : Net Debt</b>	<b>47.6</b>	<b>110.8</b>	<b>102.7</b>	<b>82.9</b>	<b>110.1</b>	<b>65.7</b>	<b>27.6</b>

Source: Company data, Credit Suisse estimates

# Appendix—Cash Flow Statement

	2009	2010E	2011E	2012E	2013E	2014E	2015E
<u>Operating Activities</u>							
Net Income (Loss)	-20.3	-10.6	-5.2	5.8	21.1	35.1	38.7
DD&A	6.1	7.8	9.5	14.8	16.8	19.7	25.5
Warrants, Other	1.6	0.0	0.0	0.0	0.0	0.0	0.0
Stock compensation	4.8	6.6	8.5	7.3	7.1	7.1	7.8
Working Capital	-1.0	-1.0	-5.9	-3.2	-9.9	10.2	-9.0
<b>Net Cash (Used)/Provided</b>	<b>-8.7</b>	<b>2.9</b>	<b>7.0</b>	<b>24.7</b>	<b>35.2</b>	<b>72.0</b>	<b>62.9</b>
<u>Investing Activities</u>							
(Increase)/decrease in restricted cash	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Other investments	-1.9	13.6	0.0	0.0	0.0	0.0	0.0
Property & equipment	-10.8	-11.8	-15.0	-44.5	-8.0	-116.4	-101.0
<b>Net cash provided by (used in) investing activities</b>	<b>-12.5</b>	<b>1.8</b>	<b>-15.0</b>	<b>-44.5</b>	<b>-8.0</b>	<b>-116.4</b>	<b>-101.0</b>
<u>Financing activities</u>							
Change in Debt	-6.1	-5.5	-2.0	0.0	0.0	0.0	0.0
Proceeds from exercise of stock options	0.1	0.0	0.0	0.0	0.0	0.0	0.0
IPO proceeds/costs	-1.0	70.9	0.0	0.0	0.0	0.0	0.0
Proceeds from sale of preferred stock	46.9	0.1	0.0	0.0	0.0	0.0	0.0
<b>Net Cash from Financing</b>	<b>40.0</b>	<b>65.5</b>	<b>-2.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
FX	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Change in Cash	18.8	70.2	-10.0	-19.9	27.2	-44.4	-38.1

Source: Company data, Credit Suisse estimates

**Companies Mentioned** (Price as of 12 Jul 10)

BP (BP.N, \$36.76, OUTPERFORM, TP \$46.35, MARKET WEIGHT)  
 Codexis, Inc. (CDXS, \$7.32, OUTPERFORM, TP \$17)  
 Cosan (CSAN3, \$13.69, OUTPERFORM [V], TP \$18.00)  
 Danisco (DCO.CO, DKr434.40, UNDERPERFORM, TP DKr350.00, OVERWEIGHT)  
 E.I. du Pont de Nemours and Company (DD, \$36.52, NEUTRAL [V], TP \$44.00)  
 ExxonMobil Corporation (XOM, \$58.94, NEUTRAL, TP \$71.00)  
 First Solar (FSLR, \$129.71, OUTPERFORM [V], TP \$150.00)  
 Honeywell International Inc. (HON, \$40.82, NEUTRAL, TP \$49.00)  
 Koninklijke DSM NV (DSMN.AS, Eu33.54)  
 Maxygen, Inc. (MAXY, \$5.74)  
 Merck & Co. (MRK, \$36.09, OUTPERFORM, TP \$46.00)  
 Neste (NES1V.HE, Eu12.45, UNDERPERFORM, TP Eu12.30, MARKET WEIGHT)  
 Novozymes (NZYMB.CO, DKr665.00, NEUTRAL, TP DKr560.00, OVERWEIGHT)  
 Petrobras (PBR, \$35.75, OUTPERFORM [V], TP \$65.00)  
 Pfizer (PFE, \$14.93, OUTPERFORM, TP \$21.00)  
 Renewable Energy (REC.OL, NKr17.12, OUTPERFORM [V], TP NKr26.00, MARKET WEIGHT)  
 Rentech, Inc. (RTK, \$1.01)  
 Royal Dutch Shell PLC (ADR) (RDSA.N, \$53.51, NEUTRAL, TP \$59.70, MARKET WEIGHT)  
 SunPower Corp. (SPWRA, \$13.81, NEUTRAL [V], TP \$16.30)  
 Syngenta (SYNN.VX, SFr237.20)  
 Verenum (VRNM)

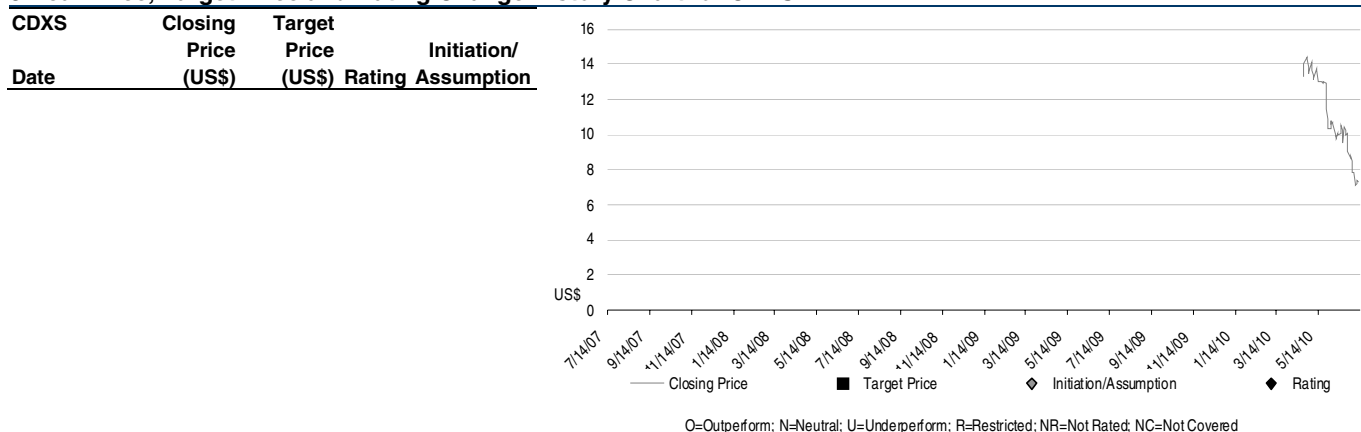
## Disclosure Appendix

### Important Global Disclosures

Edward Westlake & Rakesh Advani, CFA each certify, with respect to the companies or securities that he or she analyzes, that (1) the views expressed in this report accurately reflect his or her personal views about all of the subject companies and securities and (2) no part of his or her compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this report.

See the Companies Mentioned section for full company names.

### 3-Year Price, Target Price and Rating Change History Chart for CDXS



The analyst(s) responsible for preparing this research report received compensation that is based upon various factors including Credit Suisse's total revenues, a portion of which are generated by Credit Suisse's investment banking activities.

### Analysts' stock ratings are defined as follows:

**Outperform (O):** The stock's total return is expected to outperform the relevant benchmark\* by at least 10-15% (or more, depending on perceived risk) over the next 12 months.

**Neutral (N):** The stock's total return is expected to be in line with the relevant benchmark\* (range of  $\pm 10-15\%$ ) over the next 12 months.

**Underperform (U):** The stock's total return is expected to underperform the relevant benchmark\* by 10-15% or more over the next 12 months.

\*Relevant benchmark by region: As of 29<sup>th</sup> May 2009, Australia, New Zealand, U.S. and Canadian ratings are based on (1) a stock's absolute total return potential to its current share price and (2) the relative attractiveness of a stock's total return potential within an analyst's coverage universe\*\*.



with Outperforms representing the most attractive, Neutrals the less attractive, and Underperforms the least attractive investment opportunities. Some U.S. and Canadian ratings may fall outside the absolute total return ranges defined above, depending on market conditions and industry factors. For Latin American, Japanese, and non-Japan Asia stocks, ratings are based on a stock's total return relative to the average total return of the relevant country or regional benchmark; for European stocks, ratings are based on a stock's total return relative to the analyst's coverage universe\*\*. For Australian and New Zealand stocks a 22% and a 12% threshold replace the 10-15% level in the Outperform and Underperform stock rating definitions, respectively, subject to analysts' perceived risk. The 22% and 12% thresholds replace the +10-15% and -10-15% levels in the Neutral stock rating definition, respectively, subject to analysts' perceived risk.

\*\*An analyst's coverage universe consists of all companies covered by the analyst within the relevant sector.

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**Analysts' coverage universe weightings are distinct from analysts' stock ratings and are based on the expected performance of an analyst's coverage universe\* versus the relevant broad market benchmark\*\*:**

**Overweight:** Industry expected to outperform the relevant broad market benchmark over the next 12 months.

**Market Weight:** Industry expected to perform in-line with the relevant broad market benchmark over the next 12 months.

**Underweight:** Industry expected to underperform the relevant broad market benchmark over the next 12 months.

\*An analyst's coverage universe consists of all companies covered by the analyst within the relevant sector.

\*\*The broad market benchmark is based on the expected return of the local market index (e.g., the S&P 500 in the U.S.) over the next 12 months.

**Credit Suisse's distribution of stock ratings (and banking clients) is:**

Global Ratings Distribution		
Outperform/Buy*	47%	(62% banking clients)
Neutral/Hold*	40%	(59% banking clients)
Underperform/Sell*	12%	(53% banking clients)
Restricted	2%	

\*For purposes of the NYSE and NASD ratings distribution disclosure requirements, our stock ratings of Outperform, Neutral, and Underperform most closely correspond to Buy, Hold, and Sell, respectively; however, the meanings are not the same, as our stock ratings are determined on a relative basis. (Please refer to definitions above.) An investor's decision to buy or sell a security should be based on investment objectives, current holdings, and other individual factors.

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See the Companies Mentioned section for full company names.

**Price Target:** (12 months) for (CDXS)

**Method:** The valuation of Codexis stock presents a number of issues: there are a limited number of publicly traded comparables, much of the near-term revenue is effectively funded R&D, rather than underlying product sales, and we don't expect Codexis to break even until 2012. To accommodate these issues, we use several valuation methods, including a multiple-based approach and a discounted cash flow (DCF) analysis. Applying a 50% weighting to the our Mid-Success DCF derived value of \$18.1/share and a 50% weighting to the P/E derived value of \$15.8/share (19x 2014E EPS), we determine a target price of \$17/share for CDXS.

**Risks:** The primary risk to our \$17 target price for Codexis is that this is a relatively young company that is reliant on licensed technology and only a few customers for the bulk of its revenues and value. Other key risks include: (1) loss of any rights under the license from Maxygen, (2) reliance on pharmaceutical manufacturing innovation and FDA approvals, (3) second generation economics, (4) commercialization of pharmaceutical cost savings, and (5) competition from a substantial number of other companies, including well capitalized companies such as Novozymes, Danisco, DuPont, and DSM.

Please refer to the firm's disclosure website at [www.credit-suisse.com/researchdisclosures](http://www.credit-suisse.com/researchdisclosures) for the definitions of abbreviations typically used in the target price method and risk sections.

See the Companies Mentioned section for full company names.

The subject company (CDXS) currently is, or was during the 12-month period preceding the date of distribution of this report, a client of Credit Suisse.

Credit Suisse provided investment banking services to the subject company (CDXS) within the past 12 months.

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