## **DUXTON ASSET MANAGEMENT**

# Global investing in agricultural land made simple

Ed Peter

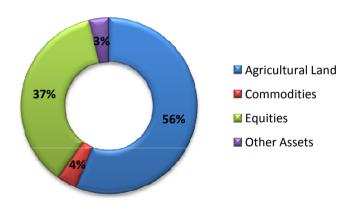
CEO

Duxton Asset Management
Singapore
September 2011

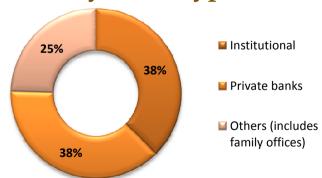


## **Duxton's Investment Universe**

### AUM by asset class

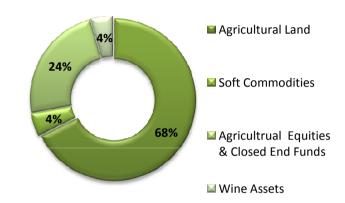


### AUM by client type



Total AUM ~ USD 615 Mn as of July 31, 2011 All figures are approximate as at July 31, 2011 apart from client numbers which are approximated as at August 31, 2011

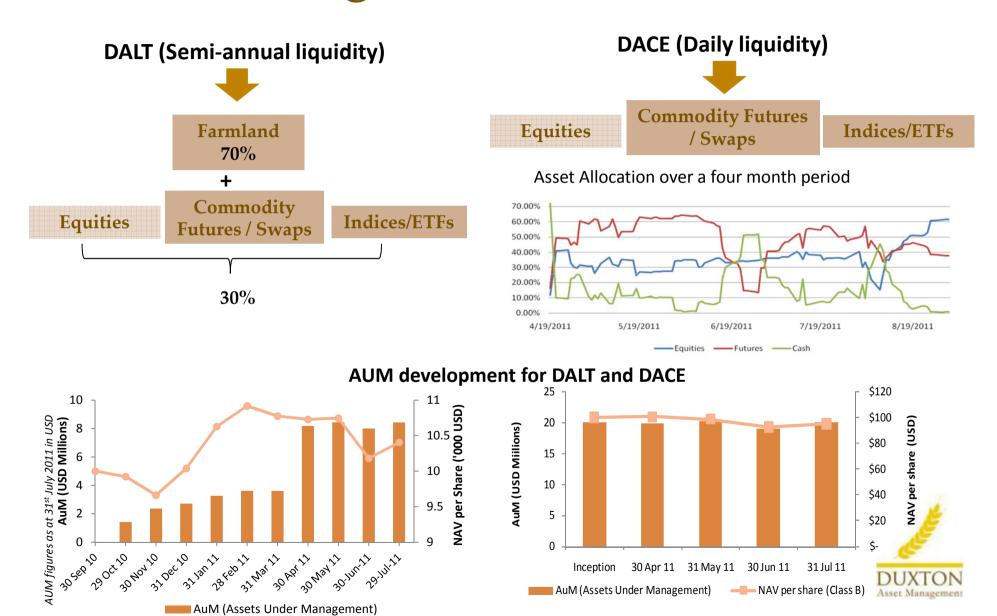
### **Agricultural assets**



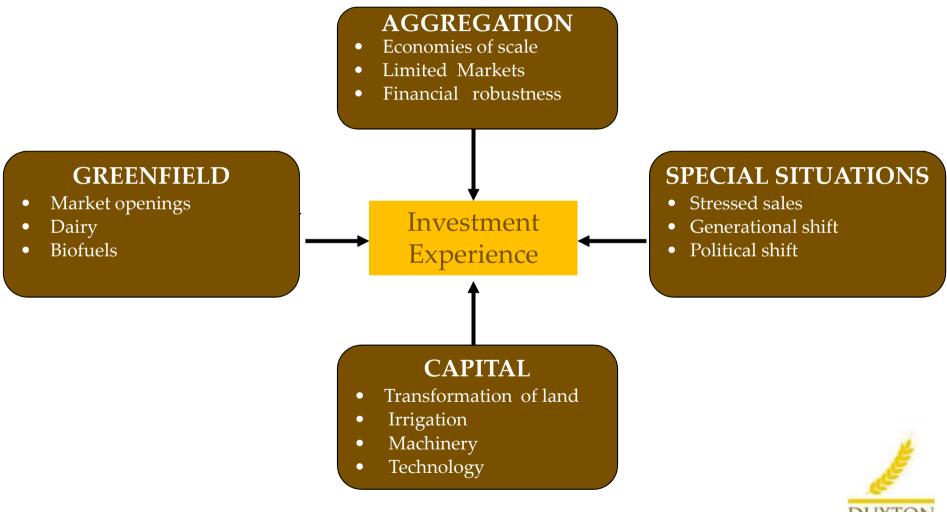
### Clients by account size

Account Size \$m	Number of Clients
0 -10	Approx 15 in various funds
10-25	Approx 2 in funds
25-100	1 client in funds
100m+	1 direct advisory mandate

## Duxton's Agri land and listed funds



## **Duxton's Direct Investment Experience - Strategy**



## Duxton's Direct Investment Experience - Value Add

• Consolidate small fragmented parcels of land into larger farmland (e.g. optimal size for generic grain farmland is 10K-12K Ha), and **maximizing** land utilization by removing fence lines, and transforming undeveloped grazing land into cropping land. As such, synergies are created with existing farms and economies of scale ("EOS") are achieved.

Consolidation (Create EOS)  Optimize the farming system by applying a mixture of contracting, leasing and owning, thereby minimizing operating costs and investments in equipment and capital items.

Utilization

(Optimizing the farming system)

• Human Capital Management:
Significantly reduce labor cost by managing human-capital.
Relatively less managers are required to manage a larger farm in developed countries. However, the converse is true for our strategies in developing countries, where we utilize more labor than capital due to cheaper labor costs.

Human Capital Management

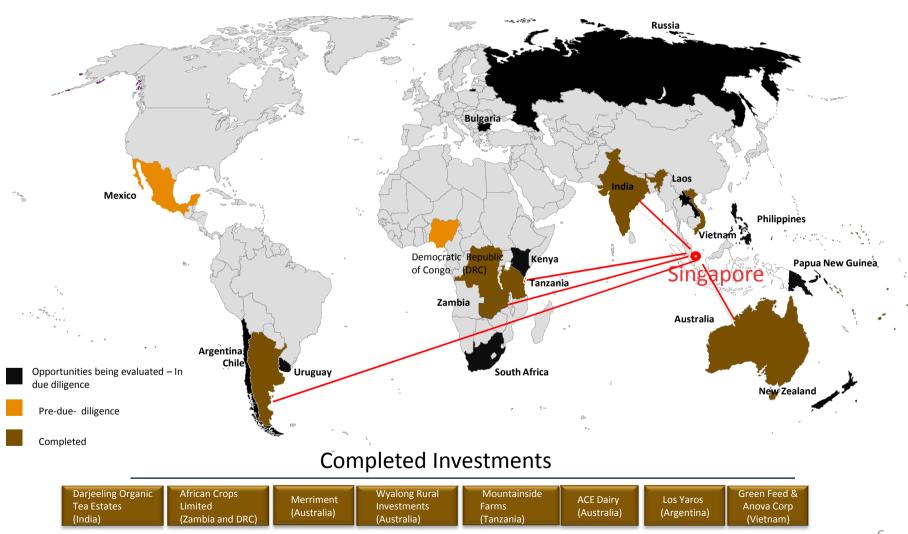
(Decrease Costs)

Agritechnology (Increase Yields)

 Adopt best agricultural practice and technologies, such as laser leveling, pedologic analysis (spatial analysis, aerial survey) that help to improve soil and water-use efficiency, thereby increasing yield.



## **Duxton's Agriculture Footprint**



## Table of Contents:

- I. Why invest in Agriculture and Soft Commodities?
- II. Why Invest in Farmland?
- III. Farming Asset Breakdown

## I. Why invest in Agriculture and Soft Commodities?

### Fundamental Balances in the Production of Food

### There are **80 million new mouths to feed** every year

- Population Reference Bureau (PRB) World Population Clock 2006 Datasheet

The amount of arable land per person that we had 40 years ago has reduced by half.

- United Nations Food and Agricultural Division: Dimensions of need: An atlas of food and agriculture. Rome, FAO, 1995. p. 16-98

### **Growing Demand**



#### **FOOD**



### **Constrained Supply**

- **Soaring Global Population** 
  - Rising Food Consumption
- Urbanization
  - Changing Diets
  - More Processed Foods
- **Rising Income** 3.
  - Better Food
  - Higher Protein Consumption
- **Alternative Uses** 
  - Bio-fuels



- 5. Land
- Urbanisation
- Degradation
- Decreasing farmland yield growth
  - 6. Water
  - Climate Change
  - Pollution & Salinity
  - Farm Management
  - Competing Vocations
  - 8. Transport & Logistics

**Infrastructure in Emerging Economies** 

- Energy costs

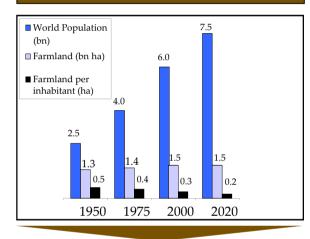


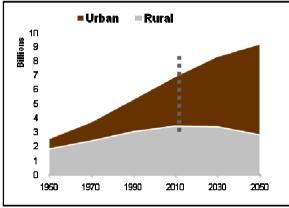
## **Expected Soft Commodities Price Appreciation**

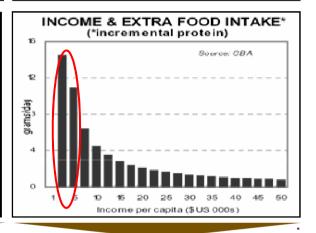
Growing Global Population & Static Growth in Farmland Area World Population & Farmland (area)

Increase in Population & Urbanization

Rising Income = Better Food: Higher Protein Consumption The Simple Income Food Formula







- Farmland per inhabitant is projected to decrease from 0.5 ha per inhabitant in 1950 to 0.2 ha per inhabitant in 2020.
- Population projected to increase to 9.2bn in 2050.
- Requires agricultural output to double by 2050.

(Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects, National Geographic June 2009)

- Unplanned urbanization is causing cannibalization of potential agricultural land.
- Increase in population is putting substantial pressure on the food supply chain.

(Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat)

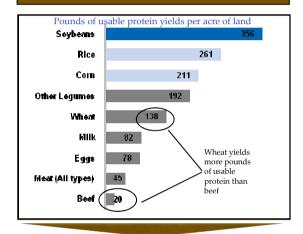
- Around 80% of the world's population still earns a low income (GNI < USD 3,466 per capita.)
- Increase in income increases people's protein consumption.
- These factors require substantial change & investments across the asset class.

(Source: Income Group Classification; World l USDA; FAO/WHO/UNICEF Protein)



## **Expected Soft Commodities Price Appreciation**

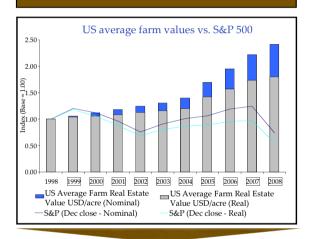
#### Feed conversion efficiency Meat is a resource-costly form of food



- Meat, which is high in protein is a resource costly form of food. In terms of usable protein yield per acre of land, wheat can feed approximately 7 times more people than beef
- World meat consumption is expected to double by 2050.
- It takes 100 times more water to. produce a kilo of beef than a kilo of wheat

(Source : USDA; FAO/WHO/UNICEF Protein Advisory Group, Diet for a New America. John Robbins.2004)

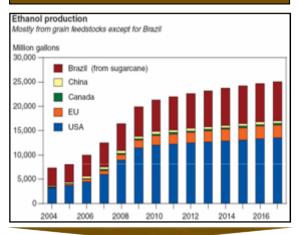
### Arable land as an attractive investment



- Farmland has shown low year-on-year volatility and a low correlation with other asset classes.
- In US, it has exceeded stock and bond market returns with less volatility.
- Inflation hedge: Inflation adjusted return on dollar per S&P 500 at the end of 1998 was worth USD 0.55 at the end of 2008, compared to 1.80 for land.

(Source: Bloomberg 2009)

## Long-term demand for Bio-Fuels Increase in ethanol production



- Federal mandates promoting the use of ethanol soaked up 30% of last year's corn production in the US, sending corn prices above USD 8 a bushel, almost triple its 2005 price
- As the United States is the world's largest corn exporter, increased U.S demand for corn leads to higher prices globally.

(Source: FAO, US Department of Agriculti National Geographic, June 2009)



## Ag assets vs. broader markets

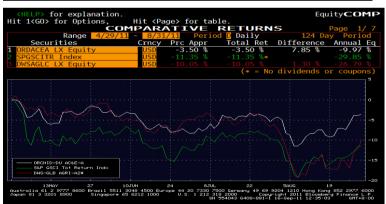
## ETF's have underperformed spot prices of commodities over the past 5 years

Annual returns	ETF	Spot	Cost of carry
Corn	9%	24%	-15%
Sugar	11%	22%	-11%
Coffee	11%	22%	-11%
Soybeans	21%	22%	-1%
Cotton	6%	17%	-11%
Wheat	-6%	11%	-17%
Lean Hogs	-20%	6%	-26%
Live Cattle	-7%	5%	-12%
Cocoa	-5%	0%	-5%
Average	2%	14%	-12%

The above table shows prices for a 5-year period ending September 2, 2011 Cocoa prices are shown for a 2-year period ending September 2, 2011 Source: Bloomberg.

## Agricultural commodities and equities have a strong co-relation to broader markets

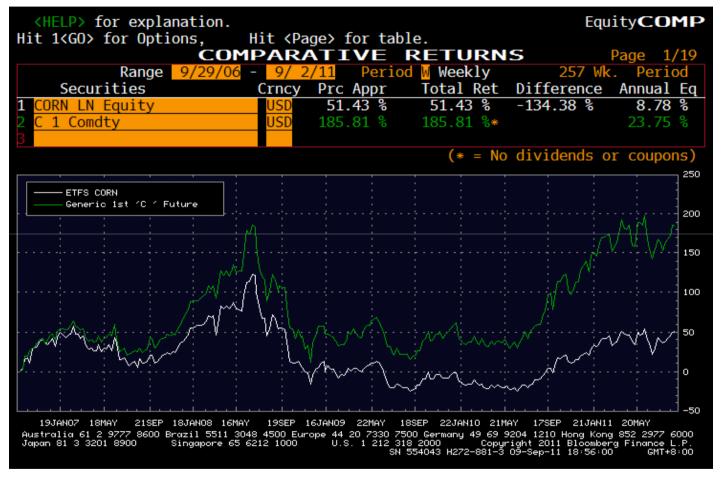
Security	DACE	GSCI	MSCI	DWS AG
DACE	1	0.738	0.666	0.485
GSCI	0.738	1	0.555	0.449
MSCI	0.666	0.555	1	0.639
DWS AG	0.485	0.449	0.639	1



•The above table shows co-relation between the Duxton Agricultural Commodities and Equities Sub Fund and the S&P GSCI index, the MSCI World Index and the DWS Agribusiness fund (equity focussed)

<sup>•</sup>The chart shows the comparative returns of DACE compared with DWS Agribusiness fund, DACE and the S&P GSCI Index Source: Bloomberg.

## Corn ETFs vs. spot prices over the past five years



The chart above shows prices for a 5-year period ending September 2, 2011 Source: Bloomberg.

## II. Why Invest in Farmland?



## Investment Thesis: Two Phase Value Creation ( $\alpha \& \beta$ )

While investors wait for the expected future soft-commodities price appreciation to materialize ( $\beta$ ), Duxton's investment approach of investing in farmland gives investors the additional benefit of alpha exposure (increasing cash yield through farming efficiencies).\*

### **FARMLAND**



### **SOFT COMMODITIES**

Beta (β) Exposure



## Why Invest in Farmland?

Historically, farmland investments have been less risky and less volatile relative to other asset classes.

### **Average Annual Nominal Returns, 1926 - 2002**

Asset	Mean Return	Risk Premium	Standard Deviation
Small Company Stocks	16.90%	13.10%	33.20%
Large Company Stocks	12.20%	8.40%	20.50%
Farm Real Estate	10.50%	6.70%	8.20%
Long-Term Corp. Bonds	6.20%	2.40%	8.70%
Long-Term Govt. Bonds	5.80%	2.00%	9.40%
Intermediate-Term Govt. Bonds	5.40%	1.60%	5.80%
U.S. Treasury Bills	3.80%	-	3.20%
Inflation	3.10%		4.50%



## **Average Returns Of USA Farmland\***

Year	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Annual
1992	1.36%	1.84%	0.76%	2.25%	6.21%
1993	1.41%	2.13%	1.07%	3.64%	8.25%
1994	1.77%	2.84%	1.31%	3.13%	9.05%
1995	1.02%	4.25%	1.20%	2.88%	9.35%
1996	1.21%	3.23%	1.10%	3.96%	9.50%
1997	1.22%	3.58%	0.63%	3.12%	8.55%
1998	1.04%	2.62%	1.21%	2.18%	7.05%
1999	1.20%	1.41%	0.79%	3.39%	6.79%
2000	1.07%	1.33%	1.55%	2.87%	6.82%
2001	0.68%	1.31%	0.03%	-0.01%	2.01%
2002	0.65%	1.68%	0.84%	3.55%	6.72%
2003	1.21%	1.74%	0.95%	5.51%	9.41%
2004	1.69%	2.61%	0.74%	14.63%	19.67%
2005	2.08%	3.66%	3.06%	22.78%	31.58%
2006	4.02%	2.44%	1.93%	11.55%	19.94%
2007	2.13%	2.33%	2.76%	7.92%	15.14%
2008	1.17%	4.50%	2.09%	7.33%	15.09%
2009	1.32%	1.15%	1.01%	2.71%	6.19%
2010	1.11%	0.67%	1.03%	5.79%	8.60%
2011	2.40%	1.48%	NA	NA	NA

Farmland Index Return	Annual
Last 15 YEARS	11.54%
Last 10 YEARS	13.43%
Last 5 YEARS	12.99%
Last 5 YEARS (EXCLUDING	
2010)	17.58%



\* Includes both capital appreciation and cash yield.

Past performance is not indicative of future returns



## III. Farming Asset Breakdown



## **Farming Asset Breakdown**

- Most types of farmland assets can be broken down into 4 broad parts:
  - Land (Appreciating)
  - Machinery such as Plant and Equipment (Depreciating)
  - Other Related Assets Livestock, Inventory (Volatile)
  - > Improvements (Long term depreciating)



Cattle Farming



Vineyard



Vegetable Farming



Dairy Farm



Broad acre



## **Large Scale Cattle Operations**

- The typical assets of Cattle Operations can be broken down into 3 parts:
  - ➤ Land ~ 40%
  - ➤ Machinery Plant and Equipment ~ 20%
  - ► Livestock and others ~ 40%
- Cattle operations are dissimilar to broad acre farming, in the sense that they have a much less significant portion of their assets tied up in land.
- Typically we find 40-50% of its assets in land, 10-20% in Plant and Equipment and the remaining 40-45%% in the animals themselves.
- In terms of balance sheet that gives you 45% appreciating assets. 15% depreciating & the bulk open to short term fluctuation. A much less attractive model than one's instinct would expect.



Source: Google Images



## A Full Operating Vineyard

- The typical assets of Winery can be broken down into 4 parts:
  - ► Land ~ 25%
  - ➤ Machinery Plant and Equipment ~ 35%
  - ➤ Land Improvements (Vines) ~ 25%
  - ➤ Inventory (Wine) ~ 15%
- As such, the raw agricultural land component is small. And a significant component of its assets is comprised of Plant, Property and Equipment.
- That said, the total package if done right as per Chateau Margeax can lead to very interesting returns but dependant on branding.



Source: Google Images



### **Dairy**

- The typical assets of Dairy Operations (Pasture based model) can be broken down into 3 parts:
  - ► Land ~ 75%
  - ➤ Machinery Plant and Equipment ~ 5%
  - ➤ Livestock and others ~ 20%
- The livestock component, which comprises a small portion of its balance sheet, generates the bulk of its revenues.
- The final produce of the livestock, such as cheese and milk solids, is what generates the revenue for the business
- The relatively small land component contributes indirectly to the bottom line by reducing feeding costs required.
- As such, pasture based dairy farms are highly attractive investment cases, given that the model is a steady state cash flow business.



Source: Google Images



## Market Garden- Vegetables

- The market garden assets can be broken down into 2 parts:
  - ➤ Land ~ 25%
  - ➤ Machinery, Plant and Equipment, Inventory and others ~ 75%
- Market gardening is characterised by small-scale production of fruits, crops, vegetables and flowers, sold directly to consumers and restaurants.
- Crops are generally grown on relatively small parcels of land and as such have a very small land component tied up in assets.
- It is distinguishable from other types of farming by the diversity of crops grown on a small area of land, typically, from under one acre (0.4hA) to a few acres, or sometimes in greenhouses.



Source: Google Images



### **Broad Acre Farm**

- The assets of a large Broad Acre Farm can be broken down into 2 parts:
  - > Land ~ 70%
  - Machinery , Plant and Equipment ~ 30%
- Large broad acre farms have a very significant portion of their assets in land.
- They also tend to have exposure to a very wide basket of crops, providing diversification.
- Broad acre farms roughly constitutes half of all human caloric intake and three-fourths of the world eats grain products as an important food source.



Source: Google Images



### **About Duxton**

- Duxton Asset Management ("Duxton") is a joint venture between Deutsche Asia Pacific Holdings Pte Ltd ("DAPH") and Duxton Capital Pte Ltd. DAPH owns 19.99% of Duxton, and the management owns the remaining 80.01% via Duxton Capital. As at 5 September 2011, Duxton is regulated by the Monetary Authority of Singapore ("MAS") as a holder of a Capital Markets Services License ("CMSL") to conduct the regulated activity of fund management for accredited investors and institutional investors.
- Duxton is led by Mr. Ed Peter, former Head & CEO of Deutsche Asset Management ("DeAM") Asia Pacific, Middle East and North Africa, former Head of Asian and Emerging Equities and former member of Deutsche Bank's ("DB") Group Equity Operating Committee and Asset Management Operating Committee.
- Other key management of Duxton include: Mr. Desmond Sheehy, former Head and Managing Director of DeAM Asia, Complex Asset Investments Group and Mr. Stephen Duerden, former Chief Operating Officer (COO) of DeAM Singapore and the Complex Asset Investments Group.
- The investment professionals, who previously worked in DeAM's Complex Asset Investments Group have also joined Duxton, and all together Duxton employs 24 staff members.
- Duxton focuses on long-term strategic, direct investments in the agricultural sector, emerging markets and wine sectors.
- Duxton upholds strict compliance standards. As it is a joint venture with DAPH, and is the delegated fund manager for a number of the DWS funds managed by DeAM Asia, Duxton complies with DB based compliance policies. Duxton also has a dedicated in-house compliance/legal team. DeAM Asia has appointed KPMG as an independent auditor for the past 3 years for the DWS funds currently managed by Duxton.
- Duxton's assets under management as at end of June 2011 are ~ USD \$ 620 MN across a number of mandates

## **Duxton's Agricultural Investment Expertise**

- Duxton is a leading international player in the agricultural investment space. As at end of June 2011, Duxton's AUM was ~ USD 620 MN, of which ~ USD 400 MN comprised listed and unlisted global agriculture investments, segregated into two big pools. The first is the DWS Global Agricultural Land & Opportunities Fund ("GALOF")\*, of which we are the delegated manager looking after both the listed and unlisted agricultural assets. The second pool is a non-discretionary institutional mandate from one of the top 10 global pension funds for ~ EUR 150 MN
- Duxton currently manages ~ 100,000 ha of farmland spanning 4 continents, managed by 60 on the ground senior farmers. We have operating investments in Argentina, Australia, India, Tanzania, Vietnam and Zambia, and are currently working on live projects in Latin America and Eastern Europe. Duxton uses the information from its direct investments in agriculture to stay in front of the markets. Our farmers feed "on the ground" information back up to our fund managers who assimilate this with information gleaned from the public markets, to construct a broad view on the markets. As an example, when the storms hit Australia in 2010 within hours, we got information back about its impact on the grains in our fields, allowing us to make decisions on the whole hard wheat complex well before the markets reacted
- Our ability to look beyond traditional information sources such as broker research and conventional news gives us an important in-house edge. We use our sizeable on-the-ground presence across continents, countries, and different farming sectors to measure the pulse of the soft commodities market
- Duxton's 21 investment executives have worked at institutions such as Deutsche Bank, Credit Suisse, ABN AMRO, Ernst & Young, Credit Lyonnais Securities, International Finance Corporation, AIG Investments, Rabobank, Nomura Securities, I ODH and Vontobel. As such, Duxton's investment professionals are able to leverage their global networks to source capital identify lucrative investment opportunities for their clients

### **Contact Information**

#### **Duxton Asset Management**

1A. Duxton Hill, Singapore 089587 Company Registration Number 200903054G DID +65 6511 0351 (Ed Peter), +65 6511 0359 (Arush Chopra) P +65 6511 0350 F +65 6220 7956

Email (fund related enquiry): <a href="mailto:arush.chopra@duxtonam.com">arush.chopra@duxtonam.com</a>

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