

EXPANDING A BUSINESS FROM A DAIRY FARMERS PERSPECTIVE

A report for



**NUFFIELD IRELAND
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By Gerard Buckley

2008 Nuffield Scholar

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Introduction

My name is Gerard Buckley. I live near Macroom in mid county Cork. I am 42 years old and I am married to Grett, who is a news reporter with RTE. We have five beautiful children aged from eleven years down to four.

When I inherited the family farm in 1997, we were supplying 317,000 litres and my ambition was to expand and maximise the potential of the grazing block we had. Unfortunately, due to quota restrictions at the time, this was not possible. I found this extremely frustrating as I felt that we as a country did not manage our quota well. I felt that as farmers we were being left behind, by our contemporaries in other countries and by other professions in our own.

I applied for this scholarship because I believe that huge change is upon us in the dairy industry in Ireland. I believe that we should anticipate and prepare for this change. I will try to explain why I believe that we should embrace it and see it for the opportunity that it is. I will also point out some of the pitfalls along the way and how easy it is to fall off the log if we are not properly prepared for the volatility and uncertainty, which (if managed properly) can be easily turned into opportunity.

I am very interested in travel and meeting positive, interesting and ambitious people. Nuffield is full of people like this who have a can-do attitude.

At the start of my journey I had a very simple aim - to learn how to expand my business by talking to people who had successfully achieved this already. I planned to look at what they were doing now but more importantly look at what they did to get there and maybe what they stopped doing. I am very aware that it is important not to confuse activity with productivity.

I wanted to have a look at the wider economy and markets and try to understand global trends, how they affect me and the dairy industry in Ireland. What I have discovered has changed my thinking completely on how we live our lives and on the future of our planet. I suppose this is what Nuffield is all about. "It's not what you knew when you started, it's what you learned along the way."

This report is not just about dairy farming, because no business can stand alone in isolation from what is going on around it, in this country and around the world.

If I were writing this report in 2006, I would be saying that one of the biggest challenges facing dairying was getting good labour to work on our farms. Agricultural colleges were closing down and labour costs were rising rapidly. We could not compete with the building industry. Today the agriculture colleges are oversubscribed and unable to meet the demand for places. I want to outline ways these young people can and should be given the opportunity and support to achieve their true potential. These are the people who will grow and change our dairy industry.

I will talk about the changes and the trends that I believe are coming down the tracks towards us affecting everything including prices in the future. For example, trends in population growth, energy consumption and supply. I believe that many of these things are on the verge of tipping point. However, if planned for properly they can present us with golden opportunities. I have no doubt we will become victims of the chaos if we don't.

I believe this report will be of interest to policy makers in Irish agriculture, those who represent farmers' interests at national and at EU level, and to Irish dairy farmers hoping to expand, who face a particularly challenging future.

I will try to answer the question 'why expand?'

I will look at the factors driving demand for our product.

I will look at the risks and opportunities.

I will unveil my proposals to make more land available for expansion.

I will then look at the wider picture - at the whole question of energy (which is central to the future of farming in Ireland) and the environment.

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Most of all I would like to thank my wife Grett who looked after our five small children while I was travelling and Vicky Kelleher who managed the farm while I was away.

Executive Summary

This report is about the best way forward for Irish dairy farmers who want to stay in business after quotas are abolished in 2015. It outlines a template for a simple but very effective new scheme which would free up land for dairy farms to expand. It shows the potential – as yet untapped in Ireland – to make energy generation a new cash cow for dairy farmers.

It's targeted first and foremost at Irish dairy farmers, who are on the same journey of exploration and expansion as the author. It is also aimed at the many people who advise them, agricultural consultants in the private sector as well as those employed by Teagasc. Policy makers in Ireland and at EU level should find food for thought in this report too, as they seek ways to facilitate the enormous increase in milk production being heralded as a bright new dawn for Irish agriculture in the years ahead.

The objective was to examine different dairy farming practices around the world, establishing what tools were needed to succeed in the dairy farming business or any other business. It also set out to establish whether there would be a demand for extra milk if and when Irish farmers increased production. This report aimed to find out how other countries were responding to rising energy prices, with a view to finding opportunities for Irish farmers in that regard.

The Author visited the USA, Australia, South Africa, Germany and the UK, meeting farmers, farm consultants and agri-business experts wherever he went and the study established that a successful business has to be made up of several key elements: a constant striving for high efficiency levels, keeping a close eye on the key drivers (grassland, fertility and herd health), maintaining a manageable debt level, achieving scale, ensuring availability of land for expansion, keeping a good team in place for support and advice and of course ensuring a good work-life balance.

The author deduced that Irish farmers will be better off without milk quota if they can prepare their farms and their own mindset properly, and that there will be a demand for the extra milk that will be produced.

Another key finding was that Ireland needs to wake up and take on board the fact that there is an over reliance on fossil fuels, and that these will not be affordable as an energy source in the near future, and they need to come up with practical ways to encourage alternatives

Policy-makers need to see that stagnation of land use is a serious threat to Ireland's agricultural industry and that a new structure urgently needs to be put in place to change this. In order to do this, land needs to be made available through partnerships, leases or through new incentives. Landowners

should see the benefit of facilitating arrangements that will give existing efficient farmers the scale they need to bring their businesses to a new level after quotas are abolished.

The government should introduce a new scheme which the author has called 'The National Dairy Expansion Scheme' to make land available to farmers who want to expand and give security and an income to those who don't.

Irish farmers should be encouraged and incentivised to generate electricity on their farms, so that their own energy needs are met and they are in a position to benefit financially from contributing to the national grid. This is already happening elsewhere. It involves the introduction of a feed-in tariff for wind and bio digesters. In other countries where this already exists it gives farmers an opportunity to reduce their dependence on imported fossil fuels, help the environment, generate employment, create an investment opportunity for farmers, and protect them from future energy price rises.

Objectives

1. To establish what tools are needed to succeed in the dairy farming/business world and to see the systems that people have in place to run large operations simply.
2. To answer the question being asked by many dairy farmers at the moment: “Are we better off with or without quotas?”
3. To establish whether or not there will be a demand for the extra product if we increase production.
4. To examine what other countries are doing to respond to rising energy prices (or to exploit them) and to explore opportunities for Irish dairy farmers to expand their business by producing energy and food hand in hand.

Methodology

In the process of researching this report, I travelled to America, Germany, the United Kingdom, South Africa, and Australia.

I visited many farms and conducted numerous interviews with farmers, consultants and industry professionals.

I attended many conferences, read books and reports and researched trends on the internet.

I began my Nuffield journey by attending the induction course in London. It was great to meet all the other scholars and I met people that day that I know I will count among my close friends for the rest of my life.

I then travelled to Australia where water shortages were apparent everywhere and my eyes were opened to the concept of forward selling of product and. I also realized how expensive land was in Ireland compared to other countries.

From there I travelled to America where herd numbers were in the thousands, not hundreds, and farmers had a ruthless, business-like approach to their farms. Tradition didn't come into it. Many of the herds were indoors on high cereal diets. My first introduction to on-farm energy production was in America and it was becoming very popular.

My next trip was to Germany and it was similar to America using the indoor system but worlds apart in attitude. Germany was all about tradition and some farms even had charts on the wall giving the history of their farms and outlining landmark events over the years.

The biggest lesson to be learned from Germany was that farmers there have the extremely valuable opportunity to generate electricity. I believe that we urgently need to push for the opening up of a similar opportunity for Irish farmers. Without this, the future of our industry is at risk.

I made numerous trips to the UK. Farming systems there are very similar to Ireland but on a much bigger scale. Bigger blocks of land are available and there is a long tradition of leasing. There are two types of systems, the indoor American system and the grass-based New Zealand system. I concentrated on the farms that practiced the grazing systems. There were also good opportunities for farmers who wanted to produce electricity and I will give examples of this.

South Africa was one of the unexpected highlights. It was a mix of all the countries I have visited. They had a beautiful climate and irrigation was widely used. Water shortages were not as common as they were in Australia and the grazing systems were similar to those of New Zealand. However they did focus more on production and fed quite a lot of concentrate to their cows. Many of the farms were using what we in Ireland would regard as sophisticated technology, measuring milk production, live weights and constituents daily.

In each country I visited, I took notes and photographs but I brought home a lot more than these. By meeting fellow farmers and farm consultants face to face, I got a very clear impression of the attitude required to be a success in this business. The pragmatism, perseverance and determination I saw in the eyes of these people in 2008 have stayed with me and informed many of my professional and personal decisions since then.

Chapter One – Why Expand?

“We expect in the future what we have experienced in the immediate past.”¹

It is very difficult to predict the future but there is only one certainty at the moment and that is that the next twenty years are going to be very different to the last thirty.

Ireland was one of the world’s fastest-growing milk-producing countries in the 1970s. In the twelve years prior to the introduction of quotas in 1983 we had doubled our production. However, in the last thirty years we as a milk-producing nation have remained absolutely static. The only increases were the 1% annual increase allowed by the European Union in recent years.

It is amazing now to reflect on how many commentators believed that this small increase, coupled with the change in the calculation of the butterfat, would mean that Ireland would never again fill its milk quota. Of course we know that this was not the case, but it is important to realise that how easy it is and how damaging it is to under-predict the capability of Irish farmers to increase milk production.

One of the biggest dangers as we approach 2015 is that we will not be ready for the massive change that Ireland will experience in its dairy industry after the imminent removal of milk quotas. One of the key questions to be addressed at this stage is – ‘should we welcome this change or not?’ While many are welcoming the removal of quotas and the opportunity to become part of an increasing world market, others are resisting, claiming that expansion will lead to oversaturation of product and reduction of price to farmers. So the first question to be answered is ‘why expand?’

Fonterra, the huge New Zealand dairy co-op, is owned by about 10,500 farmers and controls around a third of the world's dairy exports, generating more than 7 percent of New Zealand's gross domestic product. Jim van der Poel, a member of the Fonterra Board of Directors, has said openly that they expect the world market for dairy products to grow by 160 billion litres

¹ Martenson, Chris: ‘The Crash Course’ – a seminar interweaving information about future trends in the economy, energy and the environment. It is published in book form and also on his website ‘Peak Prosperity – Insights for Thriving as our World Changes’.

over the next 10 years. They have also said that they will be able to supply only 4 billion litres of this. The much talked-about 50% increase we are aiming for in Ireland will supply about 2.5bn litres so where are the other 154 billion litres going to come from?

Huge increases are expected from America but they need a high milk price due to their cost of production and their exposure to grain and oil.

Large increases are unlikely in the rest of Europe because many of those countries are near optimum capacity already, or depend on expensive bought-in feed to produce milk. In fact Ireland did very badly in the allocation of milk quotas when quota is expressed as tonnes of milk per hectare. The Netherlands has nearly six times more milk quota per hectare than we do, as shown in table 1 below.

Table 1: EEC milk quotas (t/ha)by forage area and (t/ha) UAA²

Country	t/ha forage area	t/ha UAA
Ireland	1.07	0.97
Germany	3.69	1.77
France	1.37	0.79
Italy	1.04	0.47
Netherlands	8.9	5.76
Belgium	3.3	2.04
Luxembourg	2.93	2.22
UK	1.13	0.83
Denmark	5.71	1.68
Greece	0.08	0.05
EEC-10	1.62	0.98

Source: Farm & Food Research February 1986

² UAA - Utilised Agricultural Area

The exceptionally high quotas in the Netherlands, compared with forage area, is a reflection of a high level of non-forage feeding. When the quota is expressed as tonnes of milk per hectare of forage there are notable disparities between countries and Ireland is well below average. Aidan Cotter, CEO of Ireland's food board An Bord Bia, has said publicly that in his view Ireland will have to do thirty years of growing in the five years between 2015 and 2020.

Fonterra chairman, Sir Henry van der Heyden said during his visit to Ireland in October 2010 that the key message for all four of its businesses - brands, food service, consumer business and ingredients - was "growth, growth, and growth".

Under their free trade agreement, China and New Zealand declared their desire to double trade over the next decade. In Western Europe we are the only country which is on the cusp of major expansion and there is no doubt that we have the most potential to gain from a world without quotas.

So what is driving this demand?

I have chosen a few important dates in our history to track world population from an Irish perspective.

- 1798: rebellion in Ireland - world population was 980 million.
- 1916: rebellion again in Ireland - world population had doubled to 1.8bn.

It took 118 years to grow by 900 million

- 1970: world population was 3.6bn.

After only half the time (54 years) the population had doubled again

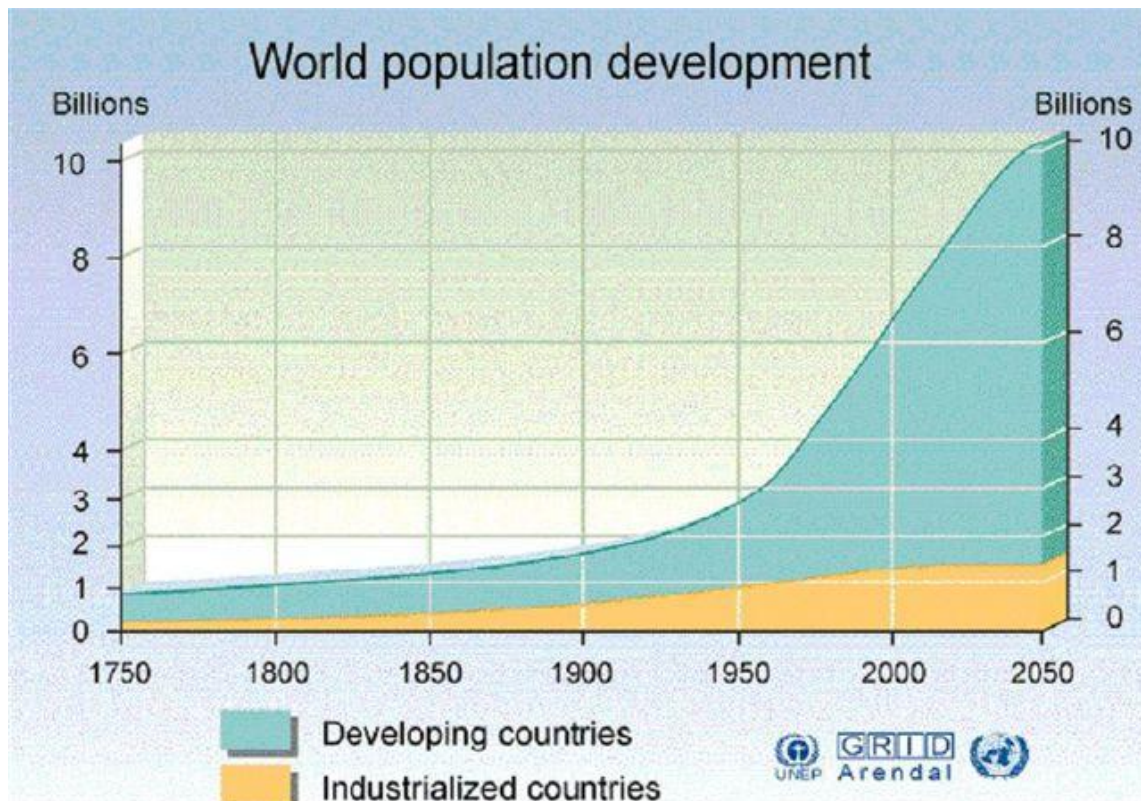
- When milk quotas were introduced in 1983 the world population was only 4.7 billion.
- 2011: world population reached 7 billion.

The population level doubled again in 41 years.

This is called exponential growth and this is what is driving demand.

So the next question and a very important one is where has this growth taken place?

Figure 1: World population growth 1750 to 2050



Source: GRID-Arendal is a collaborating centre of the United Nations Environment Programme (UNEP). Established in 1989 by the Government of Norway as a Norwegian foundation, its mission is to communicate environmental information to policy-makers and facilitate environmental decision-making for change.

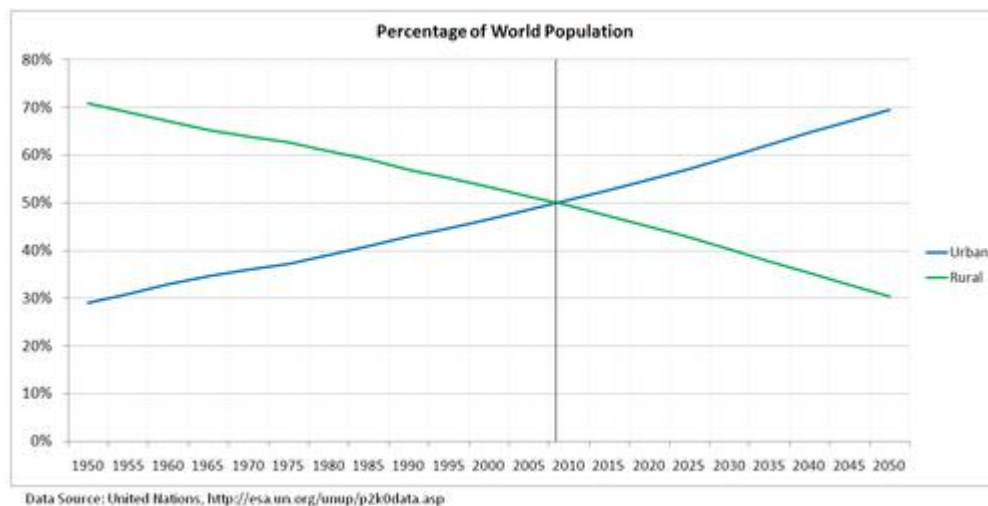
It is clear from the above graph that the main growth taking place is in the developing world. It is also well documented that not only are these countries growing in population but also in affluence.

Along with population growth, the world is getting more urbanized all the time. Figure 2 is a graph of population trends from 1950 to 2050, it shows that the percentage of world population has recently tipped in favor of Urban v Rural.

We now have more people living in urban areas than in rural areas. This is especially so in the developing world and an important consideration as it is a multiplier to growth. As people move to cities, they are becoming more industrialized, they are moving nearer to employment, increased opportunity and prosperity. People in cities consume a more western-style diet than those in rural areas, and this is all contributing to demand for dairy products.

The bottom line is that they are producing less and consuming more.

Fig 2 World population Urban v Rural 1950 to 2050



Source: The Population Division of the Department of Economic and Social Affairs of the United Nations has been issuing, since 1988 (every two years) revised estimates and projections of the urban and rural populations of all countries in the world and of their major urban agglomerations.

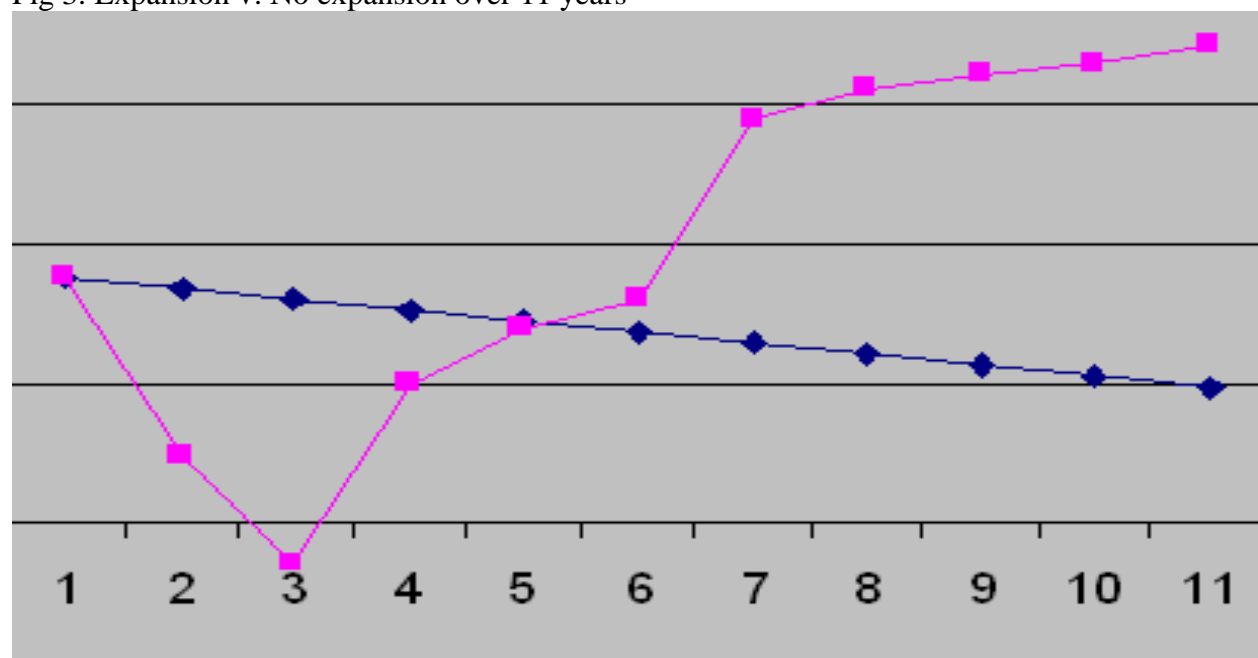
So the first reason to expand is that there will be demand for our produce and if we don't exploit this increase, someone else will.

So it is better for the world if we expand - but is it better for the farmer? Will we be doing twice the work for half the money?

Why should an Irish dairy farmer expand?

Figure 3 is a graph of cash flow over eleven years in an 'Expansion versus No Expansion' scenario.

Fig 3. Expansion v. No expansion over 11 years



—◆— **No Expansion** —■— **Expansion**

Source: Taken from a paper entitled 'My Cost Effective Farm Expansion Plans' by Cork dairy farmer Michael Bateman at the Teagasc Dairy Conference 2008.

It clearly shows that for the first five years, cash flow is greatly reduced in an expansion scenario. This is a very large risk and is something which will be referred to again later.

There is a lot of capital cost involved in expansion and for people of a certain age, with no successor, who will not be thinking about long term prospects, this is not the road to be going down.

If this was a five year graph it would be very easy to draw our conclusions now. It would be time to finish up the report, maintain the status quo - keep doing what we always did, getting the same results we always got. But it is not a five year graph and for anyone who is thinking about the long term, the rewards after five years are very clear.

The main conclusions from this graph are that the rewards for expansion are there in the long term but if it is not properly planned the business might not be around to enjoy it.

Another worry is that while successful farmers nearly always think long term, co-ops might think long term, but politicians and farm leaders rarely do, as it will happen after the next election and they might not be there to reap the rewards.

Even though after five years the farmer who is expanding his or her operation might not be better off from a cash flow point of view, he will of course have increased his net worth significantly. So expansion is good financially for the farmer long term, if carefully planned and executed.

There are also advantages from a lifestyle point of view. Operating a one-man show can be difficult. One person has to make all the long-term strategic decisions, while remaining completely responsible for the day-to-day management and also carrying out all the operational tasks on a daily basis. Often, the long-term planning suffers because farmers attend to the most urgent tasks and don't have time or energy to look at the big picture.

The physical work may be less onerous in farms where there are spouses, parents or teenagers available to milk cows, help move cattle etc but where this is not the case the work can be difficult, dangerous and lonely.

In larger farms the role of everyone involved is clearly defined. Managers are paid more than operators and owners usually take on a more strategic role. The bigger the business becomes, the more time the owner spends on strategic planning. This is the element of a business which reaps the greatest rewards in the long term.

This was very obvious in South Africa on the bigger farms that I visited. Unskilled labor in that country was very cheap (€150/month) and there is an abundance of it to be seen on many

farms. Contrary to this, a manager in South Africa could be getting a salary similar to a manager in Ireland. On the Walter & Wayne Partnership Farm I visited near Port Elizabeth, they had 80 cows per worker and a manager for every 600 cows. The roles were clearly defined and the rewards were very different. Very often we as farmers in Ireland on smaller units are so busy doing the day-to-day work that it is hard to get time to focus on the big picture.

Why should Ireland expand its dairy business?

The benefits to the country include the following: -

- Massive creation of employment. Long-term jobs on dairy farms (unlike construction jobs) don't go away at the end of the boom or when the new road is finished. It is smart green sustainable growth. We all hear reports of massive job losses when major companies close down plants in rural towns, causing a huge blow to the local economy. A thriving dairy industry can do the exact opposite for rural towns – and in a sustainable way.
- If the targets of the 2020 vision report are achieved they will increase the value of primary output by €1.5 billion. Value-added outputs are set to increase by €3 billion, and exports to €12 billion, representing growth of 42% over the period 2007-2009³.
- Every €100 increase in agricultural exports adds €50 to GNP. For every €100 of non-agriculture exports, it only adds €19 to GNP. This means that for every litre of milk we export, it's more foreign money being kept and spent locally in the Irish economy⁴.
- There is very little cost to the Irish exchequer and enormous potential gains.

Long-term thinking increases the quality of short-term decisions. It's time we exported our food and not our young people. By expanding our dairy industry we will create much needed jobs for our young people who currently have to emigrate to find employment.

³ **Harvest 2020 A Vision for Irish Agriculture, Food and Fisheries.** Published by the Irish Department of Agriculture, Food and the Marine in July 2010.

⁴ Statistics from a paper entitled '**What can the Irish Dairy Industry do to Resuscitate the Irish Economy?**' given by Professor Gerry Boyle, Director of Teagasc, at the 2008 Teagasc National Dairy Conference. These figures were from research work carried out by Senior Research Officer at Teagasc Moorepark, Dr Laurence Shalloo.

So if we are happy enough as to why we should expand, the next question is ‘how do we do it?’

Chapter Two – Removing the Constraints

Some farmers believe that it is a good idea to expand but they believe it will never happen in a large way because Ireland is not like New Zealand or America or the UK where there are large tracts of land available for expansion. Ireland has traditionally had a large number of farmers with smaller, fragmented farms. In 2011 the average farm size in Ireland was 32.7ha⁵. We have seen a high percentage of older farmers who have always worked on their own and never considered joint ventures or partnerships. In 2011 there were 54% of farmers over 55 years of age and 5% under 35 years of age⁶. There were as many farmers over 80 years as there were under 34 years.

So as we face into radical change we will have to identify and remove some of the obstacles which - if not tackled - will impede our progress. We have to find our own solutions for our own unique challenges.

Two of the biggest obstacles are:

- availability of land
- the mindset of those who control it.

Nobody could blame a landowner for not leasing out land at the moment when you consider the way the single farm payment has been calculated in the past. Rumours of future reference years (i.e. 2014) have thrown cold water on the whole rental market. To move out of this situation, we will have to identify the bottlenecks and remove them.

There is a lot of talk in Ireland at the moment about ghost housing estates. There are 2800 such estates in the country⁷. But there is very little talk about all the thousands of acres of ghost agricultural land that is lying idle or underutilised out there. Making this land available is the key to large-scale expansion in this country. I am not referring to building land, but agricultural land that is not being farmed to anywhere near its potential.

⁵ Source: Department of Agriculture Analysis of 2011 Single Farm Payment applications

⁶ Source: Department of Agriculture Analysis of 2011 Single Farm Payment applications

⁷ Source: one of Ireland's largest property websites, www.myhome.ie

While highly productive dairy farmers are struggling with limited land availability, large tracts of land are grossly under-utilised. Up until now, milk quota was the main factor restricting farm growth. But with the removal of quotas in 2015, land will be the new quota.

There are several ways for a farmer to acquire land. One is to buy it. The other ways come under the broad heading of a lease/rent/partnership option.

Buying land

If you borrow to buy land at €10,000/ac (after all costs and stamp duty), the repayments will be about €950/ac per year over 15 years.

In 2010, the average profit per acre before labour cost was €250 and the top 10% were making €450/ac⁸. If you buy land to expand your operation, but borrow to do so, you will not be in the top 10% due to higher costs. Consider also that the profits per acre quoted are the results from the farmers who completed the Teagasc Profit Monitor, who would be the more efficient farmers. There is also a tax implication on buying land as the capital aspect of the repayments is not eligible for income tax relief.

For example one of the farmers I visited in the UK, who had expanded from 100 cows to over 2000 cows said that the return on capital that he was getting from his purchased land was 5% while the return he was getting from his leased land was 16%. He was very happy with both investments but he would not be able to pay for the purchased land if he did not have the cashflow from the rented Land.

So paying out €950 every year to make a return of €250 is not sustainable on a large scale unless you have cash flow coming from other areas of the business. In the past ten years, the price of land in Ireland was driven by the price of development land and not what income it could generate through farming.

The price of something and the value of something can sometimes diverge greatly. The price of something is what someone is prepared to pay for it, where the value of an asset is usually

⁸ Source Teagasc Profit Monitor figures 2010

a multiple of its earnings. An average farmer in the Teagasc profit monitor making a profit of €250/ac could repay a loan of €2700/ac. Farmers in the top 10% could repay a loan of €5,000/ac before labour. So the real value lies somewhere between these two figures. (Of course there is always added value in sites, buildings or yards.) This is close to what farm land is making in many parts of the UK and Europe.

So considering that only 0.2- 0.4%⁹ of Irish farmland is sold every year even at hugely inflated prices, it is most unlikely that this percentage will increase at lower prices. It is also a fact that the average acre of land in Ireland is sold once every 400 years. The only plausible means of expansion in the future will be through leasing, renting or some form of joint venture or partnership.

Currently in Ireland the main means of land transfer is renting. This is more suitable for beef farming as there is little requirement for infrastructure (roadways and paddocks). In order to get a return on rented land in dairying it has to be productive and it is not possible to do this without some kind of security of tenure, there has to be an incentive for land owners to enter into long term arrangements with active farmers, conacre is the enemy of the expanding dairy farmer.

Partnership has been actively promoted in this country over the last ten years. The take-up has been remarkably low. It has been popular within families i.e. father/son partnerships. Four hundred intra-family partnerships have been put in place, however there have only been 150 inter-family partnerships put in place¹⁰. Partnership has a role going forward, but there is a lot of unnecessary cost and complexity involved and many of the partnerships are just leasing by another name. In a world without quotas, leasing is a far more simple and straightforward option and one that many of the older farmers and non-active landowners who control much of the under-utilised land would be more comfortable with.

⁹ Source Dept of Agriculture Analysis of Single Farm Payment applications 2010

¹⁰ Source: Dept of Agriculture Farm Partnerships Reference Paper, published November 2011.

Chapter Three: My Proposal – A Dairy Herd Expansion Scheme

I propose that the government should set up a scheme which would help progressive dairy farmers to expand their herds. Under current regulations, there are several impediments which stand in the way of this expansion. All over the country, thousands of acres of underutilised land will continue to be unavailable for lease or rental unless this situation changes. Much of the focus has been on expanding farmers but freeing up of land will only happen if landowners are incentivised.

For example, landowners who enter into long term agreement as part of this dairy expansion scheme should not lose their Single Farm Payment or Area Based Payment. They should be allowed to avail of the usual tax benefits associated with leasing – up to €20,000 per annum tax free on leases of 10 years or longer. Crucially, farmers agreeing to lease out land for dairy expansion should continue to be treated as an active farmer, and should be entitled to benefit from retirement relief when he or she eventually retires which is currently not the case.

I believe that owners of land that is currently being underutilised would be far more comfortable with the word ‘scheme’ than ‘partnership’. Farmers have had positive associations with different schemes over the years (for example, the Special Beef Premium Scheme, different pollution grant schemes, headage scheme etc). According to a study carried out by the Deise1250 discussion group in September 2011 many older people have a negative association with partnerships. They don’t understand them, they don’t trust them and they are afraid to enter into them.

A new Dairy Herd Expansion Scheme, which I am proposing the government should establish, has to be simple to understand with templates available online and at all Teagasc offices. It has to be a win-win situation for all parties involved.

Benefits to the primary stakeholder (the person expanding)

- **Security of tenure:** If this land is to be productive a farmer has to know he has the land for a reasonable length of time. I would suggest a 10 year lease with a roll over every five years. Basically he has it for ten years. After the first five years, he finds out whether if he will have it for another ten or only for five.
- **Stock relief:** The first five years of expansion are extremely difficult for cash flow (see Figure 3). Young farmers have always enjoyed stock relief for the first 5 years after commencing farming. However without quota, it couldn’t be utilised fully. I believe that the Government should give support at this time through stock relief. It might be short term pain for everyone, but if the government took a long term view it would have huge benefits long term for all. I see every reason to give this relief to

someone who is creating employment. Every other sector gets it. The government will get it back again in income tax when the farm becomes profitable.

What I am looking for is something similar to the relief given to pension investments. I believe that a farmer investing in cows is better than any pension.

- **Capital allowances:** Expansion involves big capital expense; this puts further pressure on cash flow. This can also be eased through capital allowances instead of grants. Allowances are cheaper to administer. All this capital expenditure will give significant employment to a bewildered building sector.
- **Bureaucracy:** Any scheme would have to be simple: no changes in herd number, minimum need for solicitors. A lot of older people are afraid of partnerships and the red tape that surrounds them. The word out there is that partnership is like a marriage - the breakup can be costly. 'He might think you're a grand fellow but he might not want to marry you!'
- **Simple template:** There should be a simple template available on the Department of Agriculture website or in Teagasc offices. It should be easy to complete, and then get a solicitor to sign off on it.
- **Environmental incentive/ safeguards:** Tree and hedge planting could be included. This can be done on the home ground by the primary stakeholder. I think the environment has to be protected in any expansion plan.
- **Chattel Mortgages:** Pressure has to be put on banks to accept stock as security. This is common practice in New Zealand other countries. This is the only way young people with no land can get access to capital for expansion.
- **Pollution control** Any farmer in such a scheme would have to commit to have adequate slurry storage but the terms of the scheme should allow a short time scale to put it in place. Putting slurry storage in place before having the turnover to pay for it could be detrimental to the long-term viability of the project.

- **Increase land availability:** as already outlined, this is vital for expansion.
- **Exit strategy:** Many farmers don't have a successor. After a number of years of building up the business, they may decide to take the opportunity to release some of their equity, let new blood in, take a back seat and let someone else drive on the business while maintaining a good income from it.
- **Herd health:** Obligatory participation in a herd health scheme should be a condition of the Dairy Expansion Scheme being proposed. This would be done through 3 bulk milk samples a year and a blood sample taken every second year from every adult animal. With one simple blood test, the full herd can be checked for brucellosis, BVD, IBR and even TB, Jones etc. This would involve very little extra cost to the farmer and no stress to the animals.

Benefits to the Secondary Stakeholder or Landowner

- **Income relief continued:** At the moment, if you lease out your farm for up to 10 years you can get up to €20,000 rent per year tax free. This should be continued.
- **Retirement relief:** (treated as an active farmer) At the moment many people refuse to lease out their farms because this will mean they are treated as inactive farmers, so they will lose out on retirement relief. Farmers in this scheme should be treated as active farmers and this will no longer be an issue.
- **Option to provide labour:** There should be an option to provide labour. Many farmers don't want to retire because they fear they will have nothing to do. These people could bring valuable skills and experience to the table.
- **Option to provide machinery:** Often when a farmer expands there is a requirement to purchase extra machinery. The machinery owned by the secondary stakeholder could be included in the lease.
- **SFP secure 2014:** If the Single Farm Payment is not protected, nobody will enter the scheme. My proposal is that they should stay with the land owner.

- **Guaranteed income:** They will have a guaranteed income. Many beef farms are losing money and are eating into their Single Farm Payments. This is not sustainable going forward.
- **Headage continued:** They should still continue to receive headage payments, as they are seen as active producers. If this clause is not included, these farmers will still claim the payments but the land will remain idle. All these payments should be geared towards land that is productive, and not the land which is not productive.
- **Environmental aspects:** Many of the environmental schemes at the moment are encouraging extensification. It would be far more useful to encourage biodiversity and pollution control. These payments should go to productive land and not land that is lying idle.

This scheme has to be a win-win situation for everyone concerned, otherwise it won't work.

Chapter Four: Expanding Your Farm

The things you can't control

There are two things to be aware of when undertaking expansion: there are things you can control and things you can't, and it is very important to know the difference. Very often we focus on milk price or weather, over which we have absolutely no control. While there is no doubt there are a lot of positives, there are also a lot of uncertainties coming down the tracks that lie ahead.

Fig 4 The things you can't control



We have to accept that in this business there are plenty of factors over which we have no control - price volatility, interest rates, weather, currency exchange, and WTO. Any of these things on their own won't put a farmer out of business, but failing to anticipate them might.

- If it could happen, and it could put your business in jeopardy, insure against it. For example, if you are highly borrowed and exposed, look at fixing rates or 'caps and collars'.
- In a sustained low milk price environment, overheads will break you. Find ways to reduce your overheads or dilute them.

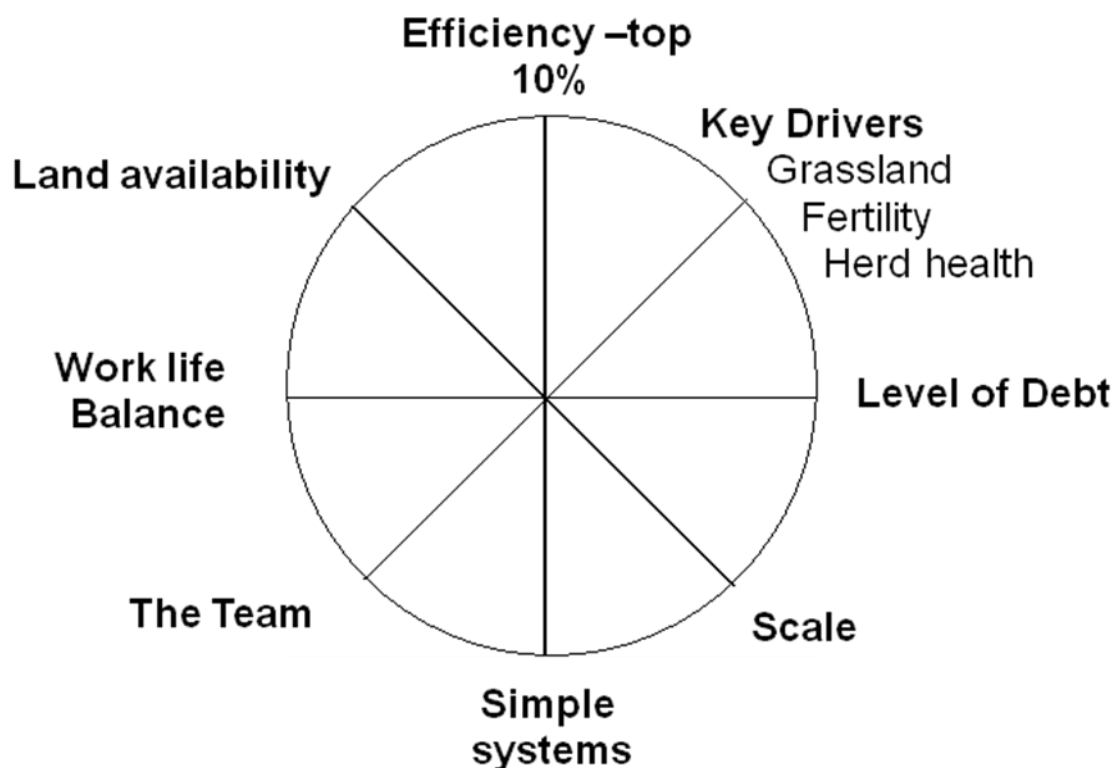
- Study ways to minimize the risk of disease in your herd. Pay for good advice. It will pay for itself immediately.

On the other hand it's important to be aware of the risks, but not to focus on them too much. Keep a close eye on changing trends. As business people in an ever-evolving marketplace, we have to be able to monitor change, adapt to change quickly, even enjoy change!

Things within your control

As we face our journey into the future of Irish agriculture, we must make the right preparations. Figure 5 illustrates the key factors that will shape a farmer's level of success¹¹.

Fig 5 Components of a successful dairy farm



¹¹ I compiled this pie chart myself based on the many conversations I had with successful dairy farmers in the different countries I visited.

Get to the Top:

The pattern that emerges from other countries is that the bulk of the expansion will be done by farmers in the top ten percent in terms of efficiency. For example in Australia there are 170,000 farmers, with 27% of them producing 87% of gross output.¹² Teagasc profit monitor research shows that the difference between the average and the top 10% is 7 cent per litre – that's an extra €39,000 a year if you have 100 cows. There was a difference of €50,000 per annum for a 450,000 litre producer between the top 1/3 and the bottom 1/3 of producers in the 2010 teagasc profit monitor¹³.

This is how a large-scale American farmer I visited described this:

“You are very vulnerable when you are expanding at a large scale with high borrowings.

When the milk price drops, it is like an escalator filling with water. The high-cost producers are at the bottom and go under first. If you are in the top ten percent of producers, the water never reaches your level. Also, you know that when it empties, some of the competition will be gone so there will be more opportunity.”¹⁴

We know that cost of production is the main driver of profit. It's vital to control costs while driving production/ha and working to expand the number of hectares.

Recognizing the Key Drivers:

As we expand, we need to focus on the key drivers affecting dairy herds in Ireland.

It is clear from talking to people who successfully run large businesses that they are completely in touch with the main drivers affecting their outcomes, and they focus most of their time on getting these right. Grassland management, fertility and herd health are the main drivers in a grass-based dairy farm. Very often farmers spend too much time doing less profitable tasks like machinery work, rather than focusing on the important things. The most

¹² Source Australian 2010 census

¹³ Teagasc profit monitor figures 2010 Dairy open day Moorepark 2011

¹⁴ From an interview with Al Reistrom, Michigan, September 2009.

urgent job might be something you could pay somebody else to do, freeing you up to work at something much more beneficial.

One of the big differences I discovered from visiting the bigger grass-based units in South Africa and Australia and from talking to people from New Zealand is that the more successful farmers know where they get their highest returns and they focus on this. On the farms I visited in Germany, the scale was smaller, there was no potential for growth and more time was spent on less-profitable tasks.

On one farm I visited in South Africa they milked 1000 cows in a 60 unit herringbone parlour. They calved in 8 weeks and apart from the parlour there were very few buildings and very little machinery. The focus was completely on grass, fertility and herd health.¹⁵

Sometimes, to be successful, you have to stop doing things the way you always did them. It's about putting in the maximum effort where you can reap the maximum rewards.

Level of Debt

High debt levels will prove devastating if interest rates increase, especially when milk price is poor. An acceptable level of debt during expansion (according to many Irish farmers I discussed this topic with) is €3,000 per cow. Some agricultural consultants claim that the most efficient farmers can even sustain borrowings of €4,000 euro/cow. However, it is crucial (as far as possible) to borrow for things that will increase in value.

In any investment, it is always tempting to estimate your repayment potential based on the good times. But you always have to think: what are the things that could 'knock you off the log' in bad times? Experience in New Zealand and elsewhere has shown that when farmers have expanded and are operating at a much higher scale, their cash flow has not shown much improvement because of high debt levels.

¹⁵ Based on notes from an interview with Derek Johnson, Port Elizabeth, South Africa, July 2010.

I asked some of the farmers I visited how to manage level of debt in expanding a dairy business. In Germany they took a longer term view and were investing in solar panels that were low risk and guaranteed return every over twenty years.

In contrast at the Walter & Wayne partnership in South African farmer who were milking 1720 cows said the best way to keep down debt levels was not to buy the land.¹⁶

Expansion via the proposed Dairy Expansion Scheme would minimize this risk as it would give farmers access to land without having to buy it.

Scale

The aim is to increase efficiency first and then add scale – it will seriously increase returns. Those who are not efficient will not be able to grow. Increasing scale without the proper skills and knowledge is like trying to pilot a high speed plane. You need better instruments, more skill, better training and less room for error. It is more rewarding if done correctly, but fatal if it isn't.

Simple systems

Any fool can make things complicated but it is difficult to keep things simple. Simple systems with minimum capital requirements – easily worked and easy to duplicate – are always the best way forward in expansion. This is what I really liked about South African farming as opposed to what I saw in the confined systems in America. It was extremely simple.

On Derek Johnson's farm in Port Elizabeth, South Africa, there was very little machinery. He used tail-paint to record cows that had calved, changing the colour daily and grouping accordingly. He also used tail-paint to mark cows vaccinated, and a similar system for AI and breeding. This was extremely cheap and simple and easy to explain. I thought the indoor systems in America were very capital intensive and were extremely complicated to operate. They operated on the basis of large volume and a small margin. Maintaining profitability in

¹⁶ Walter&Wayne, Port Elizabeth, South Africa

this system is very dependent on cheap cereals which are unlikely to be available in the long term.

The Team

Farming at a larger scale is all about relationships. These include relationships with good contractors who know the farm, come on time and do a good job. There are relationships with staff that are loyal, they won't let you down and you don't let them down either. It's about relationships with neighbours and other farmers who you will be working with, to expand and partner with, or lease from. As already mentioned, there is a crucial relationship with your support team – vet, advisors, discussion group and mentors. But the most important relationship of all to nurture is the one with your family. Without that, the rest is worth nothing.

First of all – look at the team captain. The most important person in your business is you. You have to expand your mind before you can expand your business. Invest money in yourself. Find your niche. Know what you are good at. Know what you are most effective at. Know what is important and learn how to achieve it. Spend more time at what you are good at and give up the other things - or get someone else who is better than you to do them.

One of the advantages of growing a business is you don't have to do everything yourself. One must learn how to delegate, build a team around you as you move from the one-man show (where much of your time is spent in operational activity) to a role of management and most importantly strategic activity. This is a slow metamorphosis. You have to build skills and technology. The more experience you have, the better cockpit and instruments you have, the faster you can go. But to become successful and wealthy is a slow process that compounds over time, not by making a fast buck.

You need good staff, a strong discussion group, good financial, veterinary and nutritional advisers. Remember that “you become the average of the five people you spend most of your time with”¹⁷ so choose your friends carefully.

¹⁷ Source: Jim Rohn, farm boy turned American business philosopher.

One of the biggest obstacles to expansion is believing that nobody can do it better than you. Some people are afraid to invest in their staff in case they leave and get a better job. As they say in New Zealand: “There is one thing worse than educating staff and them leaving, and that is not educating them and them staying!”

The shortage of properly-trained young farmers available to work is a serious issue for Irish dairy farmers hoping to expand. Even though the numbers of young people entering agricultural colleges has increased, the standard of education (both practical and theoretical) that they end up with has to be improved. Agriculture has to be promoted as a worthwhile career and opportunities have to be created for those with the right capabilities.

Work-life balance

In spite of ambitious expansion goals, a farmer should never let the important things be at the mercy of the unimportant. At the end of the day, a person’s success is measured by the amount of time he spends with his family and not the number of cows he has.

Some of the most successful farmers are the ones who finish earliest in the evening, spend most time with their families, and take plenty of time off. The farm is there to make a living for you. You are not simply living for the farm. If expansion means that you have to work longer hours, away from your family, and won’t have the time to enjoy the real pleasures in life then it is too big a price to pay.

Land availability

One of the things the Fianna Fáil government 2007 – 2011 can be complimented on is the publication ‘Food Harvest 2020 - A Vision for Irish Agriculture Food and Fisheries’. It contains a target of 50% expansion in milk output by 2020. One of the biggest limiting factors is land availability. While 50% in five years might appear ambitious, if productive farmers had better access to land (through the proposed Dairy Expansion Scheme, for example) this would be easily surpassed. The following is an example of a farmer with 50 cows on a 100 acres/40ha, breeding everything to dairy bulls and keeping all replacements.

Fig 6

Year	Cow no start	Replacements	Culls	Cows end
2015	50	+20	-10	60
2016	60	+20	-12	68
2017	68	+24	-14	78
2018	78	+28	-16	90
2019	90	+34	-18	106
2020	106	+39	-21	124
2021	121	+42	-23	140

This is 142% growth in 5 years. This involves keeping cows only on the milking block at 3 cows /ha, growing to 3.5 cows/ha after Year Six. All silage and replacements are off the grazing platform. This is a conservative growth figure with no increase in the grazing block, no stock purchases and no use of sexed semen. With an expansion scheme in place to release land, it would make farmers like this sustainable going forward, create employment and create income for all land owners. We need our farm leaders to believe in the potential of farmers to expand. How much we will achieve is determined by how much we think we can achieve.

Chapter Five: Milking the Farm's Full Potential – The Energy Crisis/Opportunity

From 2008 to 2010 was a great time in world history to research the topic of expanding a dairy farm because it offered the opportunity to see how some great business people were steering their ships through a major financial storm. Here are some of the key lessons learned from this process:

- Protect yourself first: if you are not strong, you can't help anyone else.
- Protect the core business, your main source of income, in every way you can.
- In order to survive, you must be open to adapting to changing demands and needs. If you can anticipate some of these changing trends, that's the best way to prosper.

As part of my Nuffield travels in America I had the privilege of visiting the Chicago Board of Trade where I met a very interesting man called Ben George, a commodities trader who specialises in grain and oil seed. He had an amazing knowledge and experience of commodity trading over many years. I asked him if he thought we would be able to feed the world in the future. His reply was: 'Will you be able to feed the world and make a profit?'

I asked him where he saw milk price going for the next ten years. He said that there were too many variables for even the biggest computer in the world to calculate, not to mention a mere human being. The variation between supply and demand is so marginal and changing up and down all the time. A little surplus or a little shortage seems to have a huge effect. Throw in extreme weather conditions around the world, economic forces, food scares like the melamine scare in China and currency exchange swings...

That put everything in perspective for me. I made a decision to focus on the factors I could control.

Much of this report up to now has been about the changes and the trends that I believe are coming down the tracks towards us, affecting milk price in the future. However, one could not travel around Europe, America or Australia and not notice another trend developing.

The world is staring energy shortages in the face, but we are failing to recognise the crisis/opportunity this could bring to our own doors.

A glance at statistics on population growth, energy consumption and energy supply will show that we are approaching a tipping point. However, if planned for properly this crisis can present us with golden opportunities. If we don't anticipate the problem, we will become victims of chaos.

Many farmers I visited in America and Germany are erecting bio-digesters. Many Irish farmers would say: 'That's fine for countries with indoor feeding systems, but it wouldn't work in Ireland'. I would have shared that opinion, on the basis that it wouldn't make sense to put ten to fifteen percent of your land base aside to feed the digester, in a country where cows are out for six months of the year.

I expressed this view to farmers abroad, but it was quickly pointed out to me that I was the first generation on my farm in thousands of years not to have land put aside for a similar purpose. Even in my father's lifetime, land was put aside to feed horses, which provided the energy for transport and the farm.

If I was to take one thing from my trip to Germany it was an awareness of our vulnerability to fossil fuels. It was apparent at farm and Government level that in Germany, they are light years ahead of us in this regard. German farmers can generate electricity and sell it to the national grid, saving themselves their own fuel costs and making (in some cases) more profit from this than from any other aspect of their farming business.

On my return from Germany I wanted to have a better understanding of why I represented the first generation in my family to be able to farm without having to produce the energy to do so and what was the likelihood of this continuing.

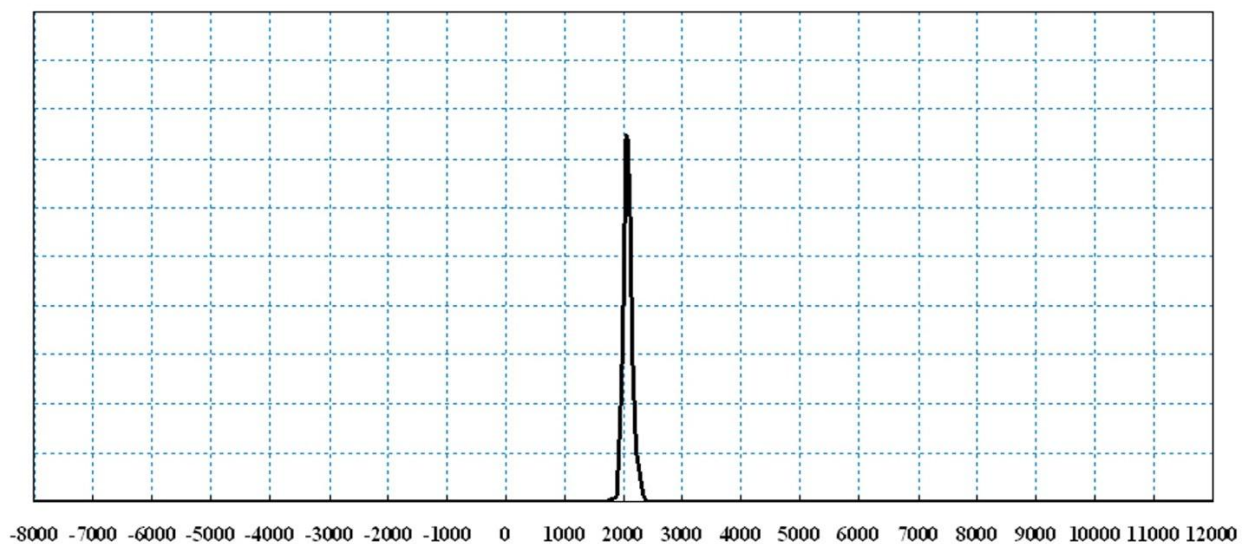
The answer I found was the discovery of oil at the beginning of the last century changed the way we live forever.

'We expect in the future what we have experienced in the immediate past.'

I have mentioned this quote from Chris Martenson already but it is clear from my travels that the Governments and farmers in Germany, America and the UK believe that the very thing that has driven our production to historic levels over the last century may well be one of our biggest barriers to growth in the decades ahead. It's clear we will no longer be able to get oil cheaply enough to rely on it as a major energy source.

Fig 7 is a graph of the world from 8,000 BC to 12,000 AD showing the amount of fossil fuel consumed, it is apparent from this that the fossil fuel era can only be regarded as a useful but very brief period in human history. What is happening in the world at the moment is a classic case of exponential growth versus finite resource. That resource is energy.

Fig 7 The oil age in years



We use two thirds of our total energy consumption on food production or transport. 75% of this total comes from oil and natural gas. When oil was discovered 150 years ago the world changed in a way that was unimaginable before that, and this change is gathering pace. The world has enjoyed growth and prosperity based on one simple thing. That is a surplus of cheap oil.

How do you put a value on this magical substance? Before oil was invented if you wanted energy to light a bulb you would need one person pedalling furiously on a bike to generate enough power. If you wanted a shower, you would need 100 people pedalling to generate

enough power. Imagine if you put one gallon of petrol into your car and drove until it finished and then had to push the car home. It is estimated that if you had to pay enough men to push your car home, and pay them the minimum wage it would cost €7500.

There are two graphs to measure oil reserves left in the world. One shows oil discoveries and the other shows oil production. Oil discoveries peaked in 1970. Despite rising demand and price, oil production hasn't increased in the past 7 years. Many believe we are past peak oil production. One thing is for certain - the era of cheap oil is gone forever. We have unlimited demand with limited resources. We have to invest in a future without cheap oil.

Climate change is a reason why we should change. Peak oil is a reason why we **must**. Every day the world population grows by a quarter of a million. In the US alone, the population is expanding by 2.7 million a year. Assuming that one third of these are working, a million extra jobs must be created before there will be any reduction in the number of people out of work. This is all based on the false belief that consumption can grow and the world will continue meet our demands. Steady growth in the rate of consumption of a non-renewable resource very quickly leads to the early expiration of that resource¹⁸.

Of course you don't have to be concerned about climate change or peak oil to appreciate the other benefits of weaning ourselves off fossil fuels. When the global economy recovers, we can expect to see higher oil prices again in the longer term. Simply crossing our fingers in the hope that oil won't run out or cost us over 100 dollars a barrel would be foolish to say the least. It would be more useful to liberate ourselves from energy dependence on regimes that may not have our best interests at heart.

Massive change is already upon us. Positive and overwhelming change is possible, we can shape the future, and we don't lack any technology or understanding. We only lack the political will.

The German government is awake; it sees what is ahead and is starting a new industry. The farmer gains because (s) he is getting a good return on his or her investment, guaranteed for

¹⁸ Martenson, Chris: 'The Crash Course' – a seminar interweaving information about future trends in the economy, energy and the environment. It is published in book form and also on his website 'Peak Prosperity – Insights for Thriving as our World Changes'.

twenty years. The German agricultural industry gains because it is developing a new income stream for farmers, establishing a thriving business in a growing market. They will have a strong infrastructure in place by the time the rest of us wake up. The whole community benefits as the new industry is providing employment and security of energy supply.

The picture below is of a dairy farm I visited near Munich in Germany. The farmer was milking 60 cows and as the pictures shows he had PV solar panels on the roof of his shed (the black shaded area). He was being paid a 20-year fixed price of 46 cent/kw to produce electricity, even though they only pay 16 cent/kw for what they consume. He told me that he had made more from the electricity than his milk, even though there was absolutely no work involved in the production of electricity. If a farmer or any individual in Germany produces electricity, the electricity company is compelled to buy it from them.

Photo: A Dairy Farm near Munich in Germany



The same incentives are also available in the US and the UK. More and more farmers are now not only expanding their production of food but also starting to produce electricity and fuel as well. In these countries, though not yet in Ireland, it is a common belief now that in the future farmers not only have to produce all the food for the world but a large percentage of the energy as well.

Imagine putting up a building to house cows and the solar panels on the roof providing enough income to pay for the whole building. This is a good use of government and European funding.

In an area I visited in Germany, eight farmers entered into a partnership where they built a biodigester plant. The slurry was collected from the farms which meant they didn't need much slurry storage capacity. It was processed in the digester and the electricity generated was sold.

The by-product which was left after the digestion was taken back out to the farms and spread as a fertiliser by the partnership. This reduced the need for fertiliser. This is an example of a partnership working well. It also demonstrates how European funding can be put to good use in a sustainable way.

It shows that we should not fear environmental measures but should be proactive and creative in our approach. Instead of having repayments for a loan for building slurry storage (like thousands of Irish farmers) they have a cheque for electricity sold and their free fertiliser spread for them.

This happened because farm organisations in Germany lobbied the government to allow any farmer who had planning permission and who had been approved for generation to connect to the electricity grid. This is a major obstacle to micro generation here. The 'gate' (that's the term used for grid connection) has been completely blocked by applications from major developers.

Farming organisations in this country should lobby to create a level playing field. This has been done in England also and is creating employment and opportunity to generate electricity for individual farmers.

Figure 8 is a graph comparing the difference between a farmer investing in a 50 KW wind turbine in Ireland and the UK.

It shows that a farmer in the UK gets a 21% return on his investment and has a 4.8 year payback. In contrast the farmer in Ireland only gets a 5.6% return on investment and a 17.8 year payback. The farmer in the UK has also the security of having an alternative source of electricity that is green and sustainable and is cushioned from any major future electricity price increases. The difference is that the UK government pays a feed-in tariff of 30.94 cent to the farmer for every unit that is produced, regardless of whether it is sold or used on farm. If it is used on the farm there is a further 15 cent a KW saving on not having to buy electricity and this is likely to rise. What he has not used he can sell to a number of electricity suppliers in the UK currently for around 4 cent/ KW. Currently in Ireland there is no feed-in tariff.

Fig 8 WIND TURBINE COMPARISON SHEET UK V IRELAND

All figures in Euro conversion 1GBP=1.22 Euro

	UK	IRELAND
Turbine Size in KW	50	50
Mast Height	36.5m/24m	36.5/24m
All inclusive package price	324,000 euro	324,000 euro
Assume wind speed	6 M/S	6 M/S
Annual output in KW	168,900	168,900
50% used on site	84,450	84,450
Feed in Tariff levels Euro cents/kwh	30.94c	0
Feed in Tariff Income	52,257 100%	0
Savings on own use @ 15c/kw on 50%	12,667	12,667
Export Tariff to grid income @ 4c/kw In UK and 6.8c'kw in Ireland	3378	5742
Total Annual financial Benefit	68,302	18409
Annual % Return	21%	5.6%
Payback in years	4.8	17.8

Source: Irish figures: Dept of Communications, Energy and Natural Resources Refit 2 Terms and conditions 2012 feed in tariffs. English figures: Bowlerenergy.co.uk

There has never been a better time to upgrade the grid in Ireland. It was designed many years ago to send electricity out to the countryside and not to bring it in. Now is the time to spend money on rebuilding our infrastructure. It's time for long-term thinking to influence short-term decisions. This is an opportunity to have a two-way bet on the biggest race the world has ever seen.

As well as being an open economy we can be a local, indigenous, sustainable economy. The natural resources of the last century were oil, coal, gas and minerals, of which we had none. The new resources are our people, the wind, the waves, the sun, biomass and tidal power and grass. We have plenty of all of these.

We need to be innovative. This process has suffered from over-conservative people who are in positions of power with vested interests. They believe that if we keep doing what we always did, we'll continue to get what we always got. However, a constant power supply does not equal consistent prosperity. Are we going to let our energy supply go the same way as our beef and retail industries and let a few big operators control the market?

A number of the Nordic countries will be fossil fuel free by 2030. Germany and other countries are not far behind. We are over 90% dependent on imported fossil fuel. We are one

of the worst offenders for carbon omissions per capita in Europe.¹⁹ We are also the most exposed to rising fuel prices, entering an era where oil may become unaffordable or unavailable.

In order for us to grow, let us grow first in wisdom and understanding. Let us grow in our ability to meet the challenges of developing new technologies to help achieve better lives for our people. Unless we do this, I fear we will not see the light until we feel the heat.

¹⁹ Taken from a paper by Senator Dan Boyle, Green Party, at the Féile na Bealtaine Political Symposium, Dingle, May 2010.

Conclusions

- There will be opportunity for efficient dairy farmers to increase their wealth by increasing scale. Growth is not without risk and should be carefully planned, improving efficiency first and then adding scale.
- The tools that are required to be a successful dairy farmer are scale and efficiency, low debt levels, simple systems easily replicated, a good team, access to land, knowing what the key drivers are i.e. (Grass land management, fertility and herd health) and most of all maintaining a good work life balance.
- With the abolition of quotas in 2015 farmers in Ireland will be in a much better position, providing expansion can take place efficiently without significantly rising debt levels on farm we need to address the amount of land that is underutilised and make it available to active producers, while protecting the interests of the land owners. The country will also be in a better position with an increase in exports and an increase in employment.
- There will be strong growth in demand for dairy products in the next decade, due to a big increase in the world population. Most of this growth is taking place in Asia and Africa and they are becoming more urbanized and westernized in their taste for food which means they are consuming more milk and beef. Ireland will be in a strong position to exploit this opportunity and will have to do 30 years growth in the five years to 2020.
- While I was travelling many of the farms I visited were now producing their own electricity. We are on the verge of huge change in the supply of our energy. This can be an opportunity or a crisis depending on how we manage it. Irish farmers do not have the opportunity to produce energy which would generate an income and reduce the risk of rising electricity in the future.

Now as my Nuffield journey of learning is coming to an end it is clear we are at a new beginning.

Since the introduction of quotas in the early 1980s, a lot has changed.

The developing world has grown in population.

New Zealand and America have grown in production.

The EU has grown in paperwork ...

The new era we are entering should be a golden age for farming, and particularly so for Irish farmers. There is huge potential, enormous opportunity, but farmers need the support of political leaders in order for this potential to be exploited.

We have a unique resource in our safe, high quality food. It is no accident that two thirds of the world's baby formula is produced here. If we can generate a cosmic shift in people's thinking, expand their minds and create the right vision, dairying in Ireland could expand three- or four-fold in the next 20 years. Similar growth is eminently possible in the micro-energy sector, with the right political support.

I share the view articulated by Fonterra chairman Henry van der Heyden when he visited Ireland in 2010: "I have no doubt, there is no better industry to be in for the future than the dairy industry."

Recommendations

- The government should introduce a new scheme which the author has called ‘The National Dairy Expansion Scheme’ to make land available to farmers who want to expand and give security and an income to those who don’t.
- Irish farmers should be encouraged and incentivised to generate electricity on their farms, so that their own energy needs are met and they are in a position to benefit financially from contributing to the national grid. This is already happening elsewhere. It involves the introduction of a feed-in tariff for wind and bio digesters. In other countries where this already exists it gives farmers an opportunity to reduce their dependence on imported fossil fuels, help the environment, generate employment, create an investment opportunity for farmers, and protect them from future energy price rises.

Promotional Summary

- This report is an assessment of the rationale behind expanding an Irish dairy farm, the key international trends which would suggest this is the right course of action, and the steps that an Irish farmer needs to take to harness these trends and make them work for his or her farm.
- It points out the dairying opportunities that Ireland can take advantage of in the next decades.
- It claims that our industry is poised on the cusp of enormous change, and that it needs visionary leaders to bring this change to fruition.
- It proposes the establishment of a new government scheme – the National Dairy Expansion Scheme – which if implemented, would release land for progressive dairy farmers to expand their holdings and greatly increase milk production.
- It gives examples of farms abroad where dairying has been successfully married with the generating of electricity, and it urges Irish farm leaders to lobby hard for a feed-in tariff to be introduced to make sustainable energy production on farms more attractive.