

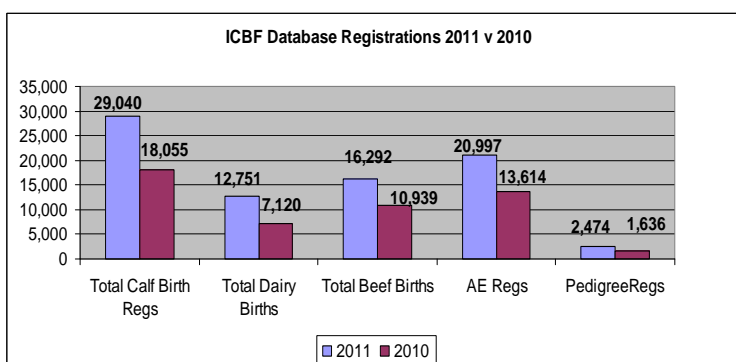
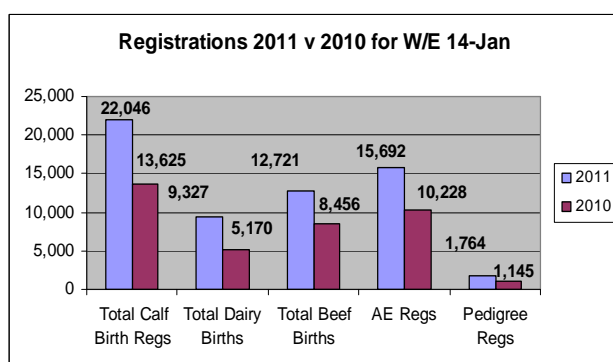
1 Important Dates

- ✚ **Wednesday 26th January** – HerdPlus[®] & GEN[®]IR[®]LAND[®] User conference plus EBI €100 discussion Group awards 2010 - Corrin Mart, Fermoy.
- ✚ **ICBF Board Meeting** – Thursday 27th January, 10:30 to 14:00 – Maldron Hotel, Portlaoise.
- ✚ **Sheep Ireland Board Meeting** – Thursday 27th January, 14:00 to 16:30 – Maldron Hotel, Portlaoise.
- ✚ **Tully Advisory Committee Meeting** – Friday 28th January, 10:00 to 14:00 – Tully.

2 Priorities for 2011

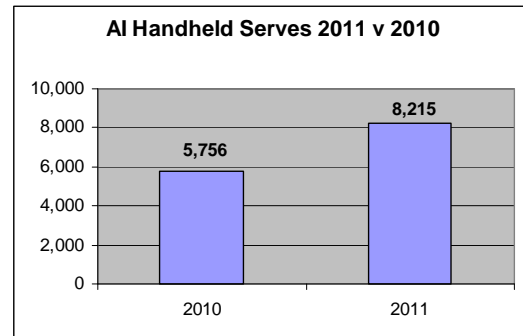
- ✚ One of the first tasks for 2011 has been to review our priorities in light of indicative DAFF funding. There has been some fine tuning and an additional focus on ensuring good value for every € spent. I believe the priorities for 2011, established during our budgeting process in 2010, will be largely achievable. This is reflected in ICBF's and Sheep Ireland's detailed priorities for 2011 which are attached as **appendix 1**. These include: genomics, making full use of suckler scheme data, increasing HerdPlus[®] uptake, enhancing our web services, supporting AHI's (Animal Health Ireland) initiatives and making better use of Irish bred cattle to accelerate genetic gains for dairy and beef breeds. Our sheep priorities have moved from system building in 2010 to growing the use of the LambPlus and helping sheep farmers to make better use of the new Euro-Star genetic evaluations for sheep.
- ✚ Our priorities reflect the marvellous opportunities that are created by the rapidly developing technologies in computing, genetics and statistics. Cattle and sheep breeding are in the middle of a technological revolution. It is at times like these that we have to be focused on our mission – farm profitability – and be prepared to change from systems and structures developed in a different technological environment. At the same time, we must be cautious and ensure the promising new technologies really are able to deliver the benefits that enthusiastic promoters claim.
- ✚ We have a very ambitious program for 2011. It builds on the breeding systems and extensive database built-up over the last few years. The ICBF team has become increasingly capable and is well placed to achieve our goals for 2011. We look forward to working with the breeding industry and Irish farmers and delivering increased value through our services and to overcoming the unexpected challenges that will inevitably arise in 2011.

3 Database



- ✚ The stats above are compiled with the assistance of DAFF AIM systems.
- ✚ In the Suckler scheme, the number of 2010 born calves with meal introduced is 551,401 with the number of animals weaned at 449,208.

- ✚ The generation of a '5 Year Trend' report for suckler herds is continuing. This will be sent to all Suckler Scheme participants as part of the distribution of the 2011 Notebooks and return envelopes. The distribution will begin next week.
- ✚ The design of a new infrastructure to manage genotypes at ICBF has been largely completed and testing/tweaking of the solution is continuing.
- ✚ The testing of the solution to allow farmers' avail of the genotyping service will be finalised next week. It will be launched at the Herdplus[®] and GENEIRLAND[®] user conference on January 26th.
- ✚ A testing of the new process for the reporting to breeders of sire errors on calf registrations should be completed next week.
- ✚ The generation of the HerdPlus[®] packs to support the spring calving season is continuing.
- ✚ The graph shows Inseminations recorded on AI Handhelds in 2011 compared with 2010.



4 Tully

- ✚ The first live-weight on all bulls (n = 105) was obtained on Monday of this week (Table 1). Bulls were in pre-entry isolation up to now, where they were gradually built up onto ad-lib concentrates and also had blood samples taken weekly, testing for IBR. Live-weights will be obtained every 21 days from the initial weight, during the 90 day performance test, individual feed intake is being recorded on all bulls daily.

Table 1. Live-weight of bulls averaged by breed

| | AA | AU | BA | BB | CH | HE | LM | SA | SI | SP |
|--------------------------|----------|---------|---------|---------|----------|---------|----------|---------|----------|---------|
| Breed | (n = 20) | (n = 2) | (N = 2) | (n = 5) | (n = 31) | (n = 3) | (n = 24) | (n = 6) | (n = 10) | (n = 1) |
| Average Live-weight (Kg) | 521 | 432 | 574 | 450 | 552 | 473 | 518 | 500 | 555 | 408 |

- ✚ Bull owners and breed societies have received letters and e-mails, respectively, updating them on the performance of bulls to date. Also, AI companies have received the latest performance figures of bulls, along with all other relevant information.
- ✚ Bulls are being washed at present to help maintain and promote hair growth. They are also being treated with a product called tactic at the time of washing, which treats and discourages external parasites such as lice and mange.
- ✚ A Tully Advisory Committee meeting has being scheduled for Friday, 28th January and will run from 10.00am to 2.00pm. The meeting will take place at Tully and cover a number of topics such as the previous and current intake of bulls and an update on Genomics and the GENEIRLAND[®] program.

5 GENEIRLAND[®]

Dairy

- ✚ The Autumn programme is now complete. There were 8 bulls on the programme. 200 herds took part taking a total of 5,709 straws.
- ✚ Preparations are now being made for the Spring programme.

Beef

- ✚ The 2011 program is now up and running.

- ✚ 19 herds have signed up, taking a total of 324 straws.
- ✚ This is an average of 17 straws per herd.
- ✚ Work is continuing on identifying extra bulls for the Spring program.
- ✚ More details on the bulls are available in the GENÉIRÉLAND[®] section of the website.
- ✚ To order straws phone 1850 600900 or 045 521573.
- ✚ Approx total straws sent out per bull currently available are in the table below.

| BREED | AA | BA | BB | CH | CH | HE | LM | PT | SA |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| CODE | MLJ | KCE | KYR | GHX | CXY | GCT | CZH | CBQ | BHU |
| # STRAWS | 264 | 320 | 575 | 673 | 652 | 83 | 281 | 149 | 606 |

6 Sheep Ireland

- ✚ LambPlus Breeders are encouraged to update their flock inventories for 2011.
- ✚ LambPlus Users are starting to record lambing data for 2011 onto the database, other LambPlus breeders who have lambs on farm are encouraged to record their lambs onto the database as soon as possible.
- ✚ If breeders require a lambing note book, they should contact 1850 600 900 or query@sheep.ie
- ✚ New Breeder's interested in signing up to LambPlus should contact 1850 600 900 or query@sheep.ie
- ✚ New MALP rams DNA samples are being sent to the lab this week.
- ✚ Pregnancy scanning is occurring on CPT farms, exact conception rates will be confirmed following scanning.

7 Genetic Evaluations

Genomics – 3K SNP chip

- ✚ The first results using the 3k chip were released to the AI companies who provided the genotypes during the week. The reliabilities are comparable to that of the 50k chip due to the very high imputation accuracy obtained, and no problems are envisaged with the use of the 3k chip in place of the 50k chip.

Contribution of parent average and genomic information to a genomic EBI

- ✚ An analysis of the genomic results was conducted to determine the weighting that is given to the parent average and the genomic information in a genomic EBI. The contribution of both is determined by the amount of information that is in the system for individuals through its ancestors in terms of reliability of proofs, the amount of genotyping done in the back pedigree, and the genomic relationship between a bull and the rest of the population. The average contribution of genomics to a young bull genomic EBI is 30% (70% to parent average) with individuals varying from a minimum of 7% genomics to a maximum of 52%. In terms of individual traits the contribution also varies. For example production traits have an average of 35% genomic information (min 3%, max 57%), while fertility has on average 24% (min 2%, max 45%). This average contribution has increased from 19% in the case of EBI, and 20% in terms of production since the original proofs were published. The reason for the increase is due to the large increase in the amount of bulls in the training population. This will be increased further over the coming months with the addition of other genotypes received through bi-lateral sharing of genotypes.

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Registered Office: Sheep Database Ltd trading as "Sheep Ireland". Highfield House, Shinagh, Bandon, Co Cork. Registered Dublin, Ireland. Registration Number 465004, Companies Acts 1963 to 2006. Web: www.sheep.ie.

1 Cattle - ICBF

| 1. Genetic evaluations | Ensure ready availability of accurate genetic evaluations for all traits, breeds and animals (national & international) of significance to Irish farmers |
|------------------------------|--|
| 1.1 Common to beef and dairy | <ul style="list-style-type: none"> • Incorporate calving and birth traits from Interbull in national evaluations. • Implement and roll-out research findings for fertility evaluations to incorporate insemination data, all lactations and age at first calving as predictor traits. • Implement and roll-out use of carcass cut data as provided by mechanical grading machines in the genetic evaluation of beef performance. • Extend the genetic evaluation systems to make full use of extra maternal data as it becomes available from Marts and the Suckler Cow Welfare scheme. • Review and update methods of accounting for heterosis and recombination effects in dairy and beef evaluations. • Establish data sources for disease susceptibility (mastitis, lameness), milking speed, temperament (dairy), birth defects and gross abnormality traits and integrate with Vet diagnostic systems. • Roll-out genetic and phenotypic evaluations for male fertility utilizing relevant data (inseminations, pregnancy diagnosis etc) for reporting fixed effects, bull results, technician results and herd results. • Implement the use of calf price data from Marts for calves from dairy herds as a further element of the beef component in the dairy EBI and calf quality part of the SBV. |
| 1.2 Dairy | <ul style="list-style-type: none"> • Research & implement enhanced systems for incorporating genomic data in the EBI for domestic and foreign bulls. Includes development of international genomic data sharing systems (IGenoP). • Pilot the use of test day model for milk production traits. • Research the use of a culling index. • Research, develop and implement evaluations for new traits including; mastitis, lameness, milking speed and temperament. • Review the economic values in the EBI. • Consult with industry and implement enhancements to EBI. |
| 1.3 Beef | <ul style="list-style-type: none"> • Participate fully in the Interbeef project to ensure ready access to data and evaluations on beef cattle from other populations. • Support and participate in research by Teagasc and UCD into ways of improving the measurement of feed intake. • Research the value of an index for stock bull satisfaction. • Research the benefits of genomic data in the SBV. • Review economic values in beef €uro-Star indexes. • Consult with industry and implement enhancements to SBV and €uro-Star indexes. |
| 1.4 Knowledge & information | <ul style="list-style-type: none"> • Provide training and support, making good use of new low cost communications technologies, to advisors, veterinarians and breeding organizations so that they effectively provide genetic evaluation knowledge to cattle farmers. • Hold EBI competition for discussion groups and provide full publicity to enhance farmer understanding of the EBI and the benefits for farm profitability. • Develop a competition that enhances farmer understanding of the €uro-Star indexes and the benefits for farm profitability. |
| 1.5 Service quality | <ul style="list-style-type: none"> • Further enhance the ICBF website to provide easier to access and more comprehensive genetic evaluation information. • Publish annual timetable, in advance, for genetic evaluations and monitor performance against this timetable. • Three dairy evaluations to coincide with routine Interbull evaluations. • Monthly evaluations for beef linear traits. • Genomic evaluations according to agreed timetable. |

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| 1.6 Suckler Scheme | <ul style="list-style-type: none"> • Establish and implement strategy for ensuring the large majority of participants in the scheme receive sufficient benefits to ensure they become regular users of HerdPlus®. • Provide rapid turnaround of reports. • Ensure DAFF requirements are fully met. • Engage with DAFF on planning for future of SCWS. |
| 1.7 Dairy Efficiency Program | <ul style="list-style-type: none"> • Provide technical support for dairy efficiency program. |
| 2. Uptake & cost of services | Increase participation and substantially reduce unit cost of cattle breeding services to farmers. |
| 2.1 Data Collection | <ul style="list-style-type: none"> • Provide a high quality animal events recording service to cattle herds engaged in cattle breeding and herd health activities. • Grow the uptake of electronic animal events recording through collaboration with software providers and provision of web services. • Extend service to incorporate “on-line” calf registration facility. • Maintain interfaces with DAFF systems for calf registration and animal movements ensuring accurate animal location information. • Develop and operate interfaces with Mart, Meat Factory, Laboratory and Milk Processors to facilitate access to data relevant to cattle breeding, herd health and farm management. • Operate a high quality database and web access service for all users. |
| 2.2 Milk Recording Services | <ul style="list-style-type: none"> • Maintain a high quality milk recording information processing service to MR service providers. • Maintain a high quality service to support the EDIY milk recording system. |
| 2.3 AI Services | <ul style="list-style-type: none"> • Revise the Handheld software as required in order to continue to add value as part of the technician service to farmers including: capture of semen batch information, and recording of pregnancy scanning results. • Expand use of web-based information services for AI companies (active bulls, AI codes, GENEIRLAND®, genomic services). |
| 2.4 Herd Book Services | <ul style="list-style-type: none"> • Support and enhance web based herd book processing service. • Ensure services to herd books are maintained in accordance with established service levels. • Extend embryo transfer recording to field operators to ensure as much ET data as possible is captured at source. • Promote pedigree catalogue service. |
| 2.5 HerdPlus® Service | <ul style="list-style-type: none"> • Review marketing of HerdPlus® services to farmers and implement findings. • Expand usage of HerdPlus® services. • Enhance service features to ensure customers are highly satisfied with service value and the service is very attractive to new customers. • Review GROW® service in light of developments in genomics, breeding scheme design changes, and data recording. Implement findings. • Promote trading of animals on basis of available genetic merit information. |
| 2.6 Farm Advisor service | <ul style="list-style-type: none"> • Review marketing of services to advisors and implement findings. • Target markets for service to include Teagasc dairy and beef advisors, private consultants, Veterinarians, Dairy and Meat factory field service providers. • Enhance services to “Discussion Groups” by extending range and relevance of group reports and other features. • Continue to develop services to assist organizations that provide farmer services. |

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| 2.7 Health and disease service | <ul style="list-style-type: none"> • Support the AHI initiative to establish whole herd health scheme(s) in Ireland. • Support research initiatives (incl. Teagasc) for improving dairy and beef herd health by providing database services, access to data and investigating future services. • Lead with AHI in the development and provision of herd health information services for beef and dairy farmers. • Finalize pilot and roll-out integrated health testing information system to support sample collection, laboratory testing and result analysis service for use by herd owners and specialists (Veterinarians, Technicians, Consultants...) working with herd owners. • Finalize pilot and roll-out integrated web based herd health monitoring and diagnostic reporting system for use by herd owners and their advisors (Veterinarians, Teagasc, service providers, ...). • Finalize pilot and roll-out information service for farm advisors (Veterinarians, Teagasc, service providers) to service herds participating in herd health programs. |
| 2.8 Promotion of best practice in cattle breeding | <ul style="list-style-type: none"> • Implement a “Profit through Breeding” promotion campaign to: <ul style="list-style-type: none"> ○ Ensure enough high EBI replacements for the dairy herd – to support expanding industry for when quota goes. ○ Ensure enough high SBV replacements for suckler herds to achieve most profitable levels of meat production. ○ Increase uptake of HerdPlus[®] ○ Maximum use of GENEIRLAND[®] procurement. ○ Optimal uptake of GENEIRLAND[®] progeny testing. ○ Farmers make well informed choice between use of AI & stock bulls. ○ Farmers using AI increase use of heat detection aids – tail painting. ○ Farmers maximize their use of data gathering and information services provided by ICBF and ICBF’s milk recording and herd book members. • Ensure farmers understand and make good use of genomic information on breeding stock. |
| 2.9 Promotion of ICBF information services | <ul style="list-style-type: none"> • Provide education of key stakeholder staff who deal with farmers of ICBF developments to help them do their jobs more effectively and efficiently. • Develop and provide ICBF website demonstration and learning system that covers all key electronic services available to farmers and services users. |
| 3. Breeding Schemes | Ensure cattle breeding industry delivers optimal economic returns for Irish cattle farmers from genetic improvement. |
| 3.1 GENEIRLAND [®] Optimal Genetic Gains | <ul style="list-style-type: none"> • Adherence to three key principles: <ul style="list-style-type: none"> ○ Identification of high index, genetically diverse males & females annually ○ Involvement of committed farmers (good data, performance recording, use evaluations in breeding decisions, high health status). ○ Ensure elite females are mated to most appropriate elite bulls for long term genetic gain. • Establish optimal size progeny test, best use of genomics and collection of relevant performance data. • Provide support structures – animal health, procurement, matings, progeny test, funding, and information. |
| 3.2 GENEIRLAND [®] Elite Animal Information Service | <ul style="list-style-type: none"> • Develop and implement information service for the breeding industry participating in GENEIRLAND[®]. • Implement prototype herd health service for breeders supplying bulls to Tully, breeders supplying bulls for use in AI and breeders providing stock bulls. |
| 3.3 GENEIRLAND [®] Progeny Test Service | <ul style="list-style-type: none"> • Launch and operate modified GENEIRLAND[®] progeny test in 2011 according to agreed design, operating procedures and funding. • Operate ongoing phases of 2007, 2008, 2009 and 2010 GENEIRLAND[®] beef and dairy progeny test schemes. |

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| 3.4 Funding of GENE IRELAND® | <ul style="list-style-type: none"> • Complete review of GENE IRELAND® funding in light of available funding from NDP and outcome of breeding scheme design study. • Given the long term nature of the benefits of the breeding scheme ensure all appropriate sources of funding are utilized. • Ensure funding mechanism is fair and equitable to all participants and that the program covers all costs in accordance with ICBF policy. |
| 3.5 Genomic Selection | <ul style="list-style-type: none"> • Provide active leadership to the cattle industry in the harnessing of DNA technologies for the benefit of farmers and the breeding industry. • Maintain research and operational collaborations with other countries to ensure Ireland is able to implement efficient genomic selection programs. • Establish DNA testing and integrated genetic evaluation systems required to enable the Irish breeding industry and Irish farmers to benefit from the application of genomic technologies. • Secure DNA samples (or 800K chip results) for use in genomic research from all beef bulls with accurate genetic evaluations in Ireland. • Secure a facility for DNA storage, extraction and genotyping on a long term basis to underpin both research and the provision of DNA based services. • Maintain the ability of the ICBF database to support research into genomic selection and the provision of DNA technology based services to the breeding industry. • Periodically review the optimal breeding scheme for beef and dairy for utilizing DNA technologies and use the results as the basis for decisions on the 2011 and subsequent GENE IRELAND® schemes. • Develop and implement genomic services for the cattle breeding industry. |
| 4. Service development and other services | Develop and market a range of information services that make effective use of the cattle breeding database, compliment the services provided by members and spread the overhead cost of maintaining and operating the ICBF database and genetic evaluation systems. |
| 4.1 Research and technical services | <ul style="list-style-type: none"> • Promote facilities that ICBF can provide to support research and education. • Provide support, facilities and research material to researchers (including but not limited to Teagasc & Universities), including research on; <ul style="list-style-type: none"> ○ Genetic variation in disease resistance. ○ Genetic aspects of production efficiency in cattle. ○ Genetic aspects of reproduction in dairy and beef cattle. ○ Potential role of genomic technology for the Irish dairy & beef industries. • Contribute expertise and support to EU funded FP6 & FP7 projects: Eureca, OptiMIR, RobustMilk, GreenHouseMilk, and EuroEval. • Maintain mechanism for industry good and national good benefits of database and genetic evaluation system to be funded in longer term. • Support initiatives for use of HerdPlus® in education. • Support genetic conservation programs. |
| 4.2 Information | <ul style="list-style-type: none"> • Review website design to facilitate access to information. |
| 4.3 Member business growth service | <ul style="list-style-type: none"> • Encourage members to actively engage in enhancing information services and reports available to Irish farmers. • Facilitate member services to herds by providing access to relevant HerdPlus® reports. • Provide screens and reports that facilitate customer relationships between service providers and farmers. |
| 4.4 Other | <ul style="list-style-type: none"> • Promote use of code EFFABAR. • Explore options for development of a Breeders Code. |

2 SHEEP – Sheep Ireland

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| 1. Industry engagement - Enhancement of performance recording culture. | Sheep Ireland strive to increase the awareness of commercial sheep farmers and sheep breeders as to the value of and opportunity from performance recording in sheep, both for genetic improvement and farm management purposes. |
| 2. Industry engagement - Breed societies. | Sheep Ireland investigates opportunities to develop services of interest to pedigree breeders and breed societies. |
| 3. Industry engagement - Focus on MALP results in industry publicity. | Sheep Ireland develops and implements a plan with a concrete timeframe for promotion of Sheep Ireland based around the MALP flocks. |
| 4. Industry engagement – meat processors. | Sheep Ireland actively engages with as many meat processors as practical in the development of commercial farmer services. |
| 5. Technical - Development of commercial farm services. | Sheep Ireland develops commercial farm services over the next 2 to 4 years based on the G Potterton report in anticipation of demand from progressive farmers to capture spin-off benefits from their EID tagging investment. |
| 6. Technical - Improved phenotypic recording methods. | Sheep Ireland facilitates research by partner research organisations within Ireland and internationally into phenotypic recording of traits including disease traits as well as maternal (ewe) and feed efficiency (including methane yield) traits. |
| 7. Breeding Scheme Structure - An evaluation of options for more extensive recording. | Sheep Ireland undertake a study to evaluate the anticipated cost per phenotype captured through either more extensive MALP recording, more CPT flocks, or on-farm recording for commercial benefit. |
| 8. Breeding Scheme Structure - Evolution of MALP flocks. | Sheep Ireland undertakes a restructure of the MALP program, with a view to dividing flocks into second generation MALP flocks which perform a linkage and genetic evaluation role, plus a set of test flocks for commercial farm services |
| 9. Provision for Genomics - Sampling and inventory of DNA. | Sheep Ireland develops a tissue sample and DNA inventory for sheep, along with a protocol and calendar to ensure that all relevant DNA is collected and stored. |
| 10. Provision for Genomics - International co-operation on genome wide selection. | Sheep Ireland encourages and engages in international research collaboration efforts in partnership with relevant research institutions in Ireland. |
| 11. Provision for Genomics - Genomics research direction. | Sheep Ireland encourages and engages in research efforts that are of specific relevance to development of options and tools for implementation of genomic technologies in sheep. |
| 12. Provision for Genomics - Gene test validation. | Sheep Ireland recorded sheep resources be the preferred source of phenotyped individuals for validation of potential commercial tests, and Sheep Ireland closely monitor claims made by commercial interests in relation to test efficacy prior to testing within Ireland. |
| 13. Provision for Genomics - Genomic breeding strategies. | Sheep Ireland keep a watching brief on implementations of genomic technologies in New Zealand and Australia and encourage a research project at post graduate student level to model suitability of options for use within Ireland. |