

The Irish Hemp Co-operative Society Limited.

Trading as Hemp Cooperative Ireland.

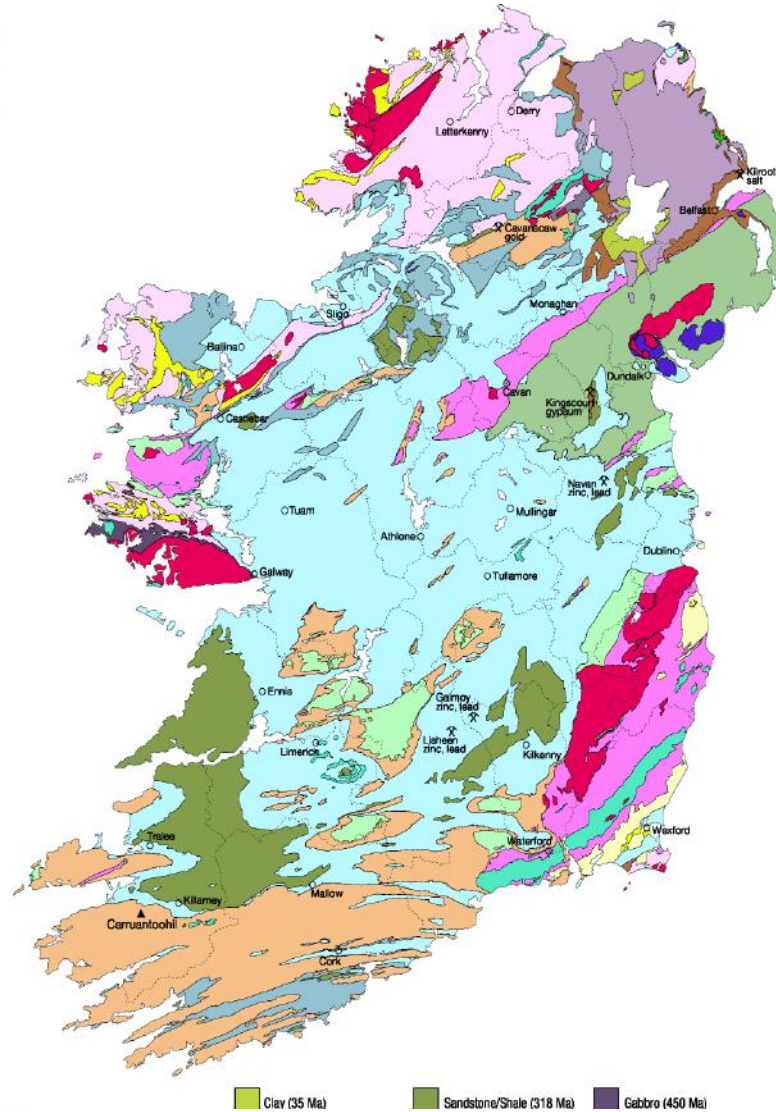
Presented by Kate Carmody -Chair

Irish Hemp Co-operative Society Limited

- Farmers first met in autumn 2016.
- Various business models discussed 2017.
- The Co-operative was registered May 2018.
- 100 + members at present.
- Set up to address the many issues facing small farmers.
- Already working with companies in the bio-economy.
- Addressing legislative and logistical barriers.
- Kate Carmody, Organic farmer, Biochemist/Biomedical Scientist.

Bedrock geology map of Ireland

2



Hemp as an ideal crop on marginal land

- Much of the land on the Western seaboard is difficult to farm.
- High rainfall.
- Small scale farms, 20 to 30 Ha.

The many uses of hemp – Ireland’s answer to climate change?

Whole stalk		Hemp seed		
Bast Fibre	Woody Core (Hurd)	Hemp Nut	Hemp Oil	Seed cake
Textiles <ul style="list-style-type: none"> • Clothing • Bags • Shoes • Socks 	Building products <ul style="list-style-type: none"> • Fibreboard • Insulation • Hempcrete 	Foods <ul style="list-style-type: none"> • Bread • Granola • Ice cream • Milk 	Foods <ul style="list-style-type: none"> • Salad oil • EFA Food Supplement • Margarine 	<i>(after pressing)</i> <ul style="list-style-type: none"> • Animal feed • Protein rich flour
Technical textiles <ul style="list-style-type: none"> • Cordage • Netting • Canvas • Carpeting 	Industrial products <ul style="list-style-type: none"> • Animal bedding • Boiler fuel • Mulch • Chemical absorbent 	<ul style="list-style-type: none"> • Cereal • Protein powder 	Bodycare <ul style="list-style-type: none"> • Soap • Shampoo • Hand Cream • Cosmetics • Lip Balm 	
New products <ul style="list-style-type: none"> • Geotextiles • Biocomposites • Nonwovens • Pultrusions • Compression Moulding 	Paper <ul style="list-style-type: none"> • Printing • Filters • Packaging • Newsprint • Cardboard 	Whole stalk uses <ul style="list-style-type: none"> • Biofuels • Ethanol • Erosion control blankets 	Technical products <ul style="list-style-type: none"> • Oil paints • Solvents • Varnish • Lubricants • Printing Ink • Diesel Fuel • Coating 	

1. 1 tonne of hemp reduces CO2 by 1.63 tonnes

2. 217,000 hectares of land would need to be used for hemp to reduce the CO2 emissions from the agriculture sector by 20%. This excludes the weight the stems and leaves left in or on the ground and moisture content but does use the average yield from the best performing hemp variety in the an Teagasc study(Kompolti) 12.5 tonnes per hectare. However this assumes that all of the hemp yield is used as a carbon sink i.e. insulation.

3. Estimates for the fines for not reaching our 2020 target are between 148-445 million.



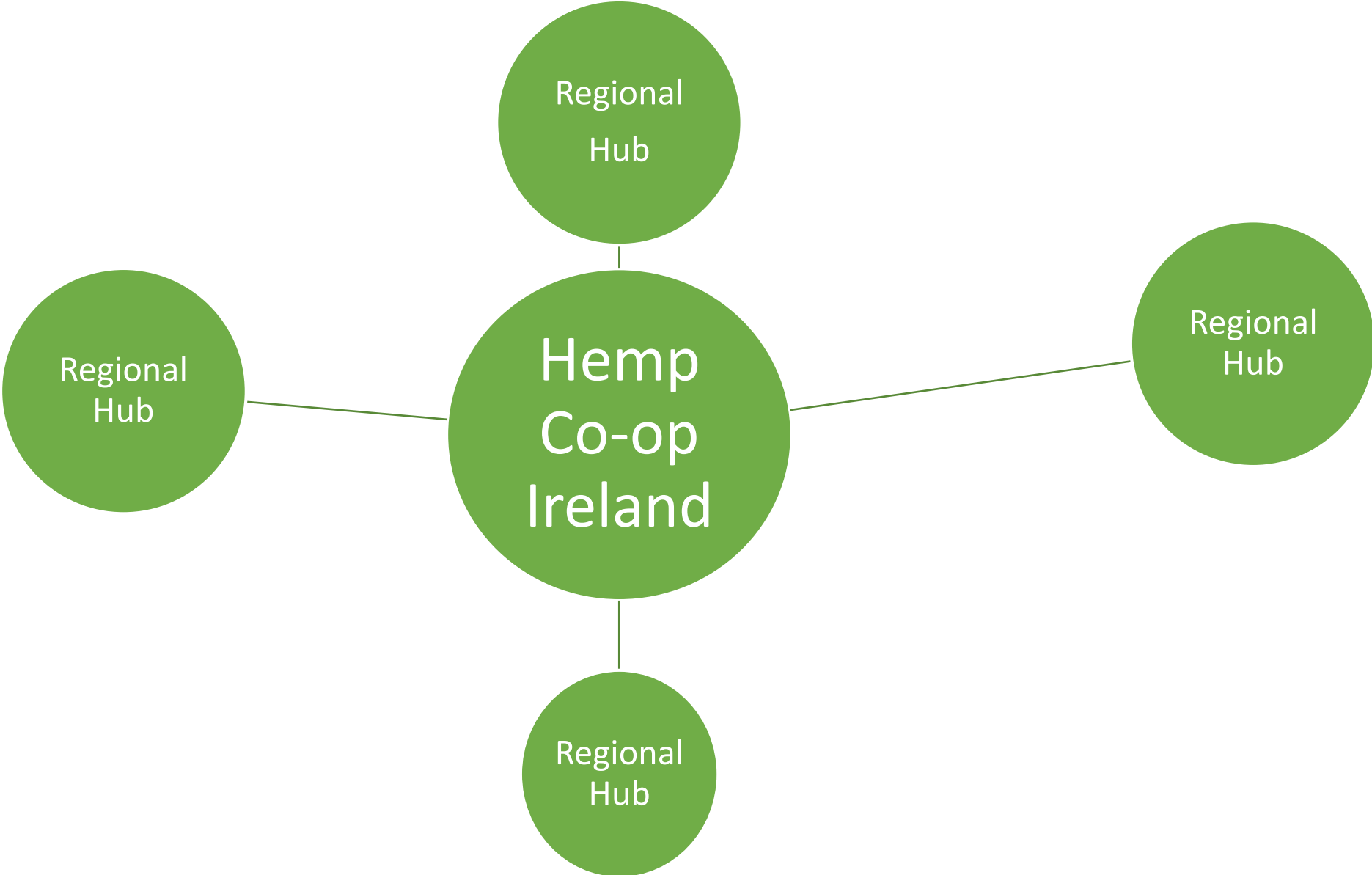
Hemp and Linseed/Flax potential.

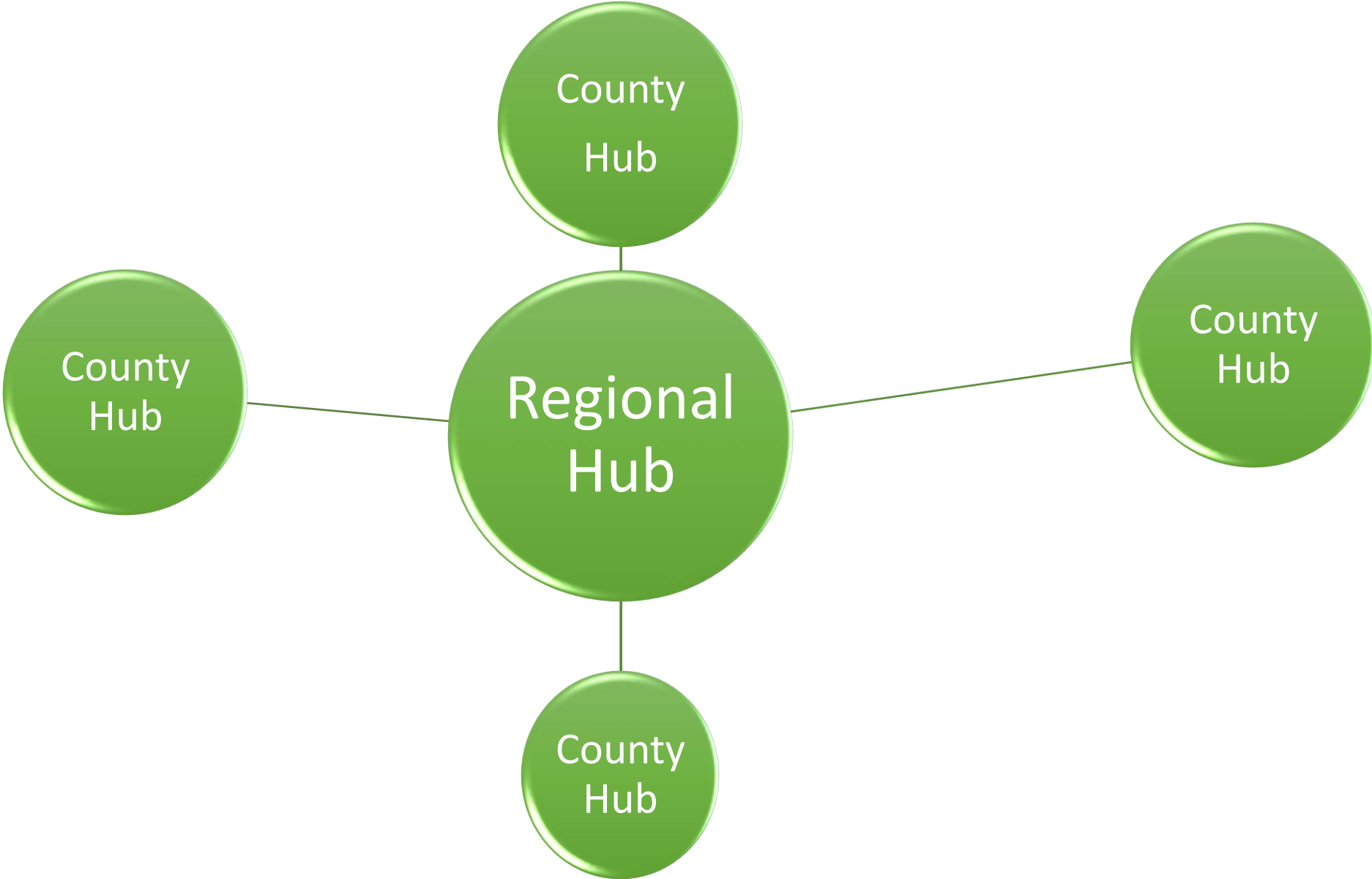
- Maximising organic production through integrated cropping systems.
- Remediating land for organic use.
- Valuable side-streams for industry.
- Weed suppression. No need for MCPA (Endocrine disruptor).
- 120 day growing cycle lends itself into rotational systems for all farmers.
- Cash crop for farmers.

What is Hemp?

- Industrial Hemp contains less than 0.2% THC.
- Cannabis Sativa.
- EU approved seed.
- Contains many bio-actives. CBD, CBG, CBA.







Local hub supplying agronomy knowledge.

- Shared equipment for setting and harvesting the crop.
- Local knowledge for appropriate value chains to suit area.
- Researching appropriate varieties.
- Securing markets for products.
- Initial products identified- Fibres, shives, Seeds, leaf and flower.
- Mobile refinery for producing high value bio-actives.

Local hub design- a shared resource.

Harrison Spinks mattress manufacturers - 2600 mattresses a week, 600 staff.

- ❖ Grow 280 acres, 98 onsite. Offer farmer €216/mt.
- ❖ 3 products, Dust(60p/kg), Fibre(60p/kg), Shiv(30p/kg).
- ❖ Capable of handling 5-6 ton per day
- ❖ 13,500sqft building.
- ❖ Cost:
 - £160k - stripper
 - £48k - rag puller
 - £15k - Opener & Cleaner
 - £70k - Ducting
 - £66K - Briquetting
 - £100k - Electrics
 - £2200 - per week on 5 staff

Three products produced by Harrison Spinks:

1 | Briquettes -
€660/mt



2 | Fibre - €660/mt



3 | Shiv - €330/mt



Development issues for the Co-op.

- Development and marketing plan needed.
- Fundraising, through a share issue, to create capital for processing facilities.
- Ongoing applications to EU funding schemes for research and innovation.
- Solidarity, integrity and trust to grow the co-operative, into a life changing body for rural Ireland.
- New website to give a forum for all members.
- Competition should not be a major problem as the co-operative structure lends itself to economies of scale.

*If life in little places dies,
greater places share the loss.*

Brendan Kennelly, Irish Poet and Novelist.