CONSTRUCTION & DEMOLITON WASTE

WASTE ACTION PLAN FOR A CIRCULAR ECONOMY

The Construction Industry Federation through its internal C&D Waste Committee has prepared the following presentation at the request of the Waste Advisory Group under consultation for a Waste Action Plan for a Circular Economy

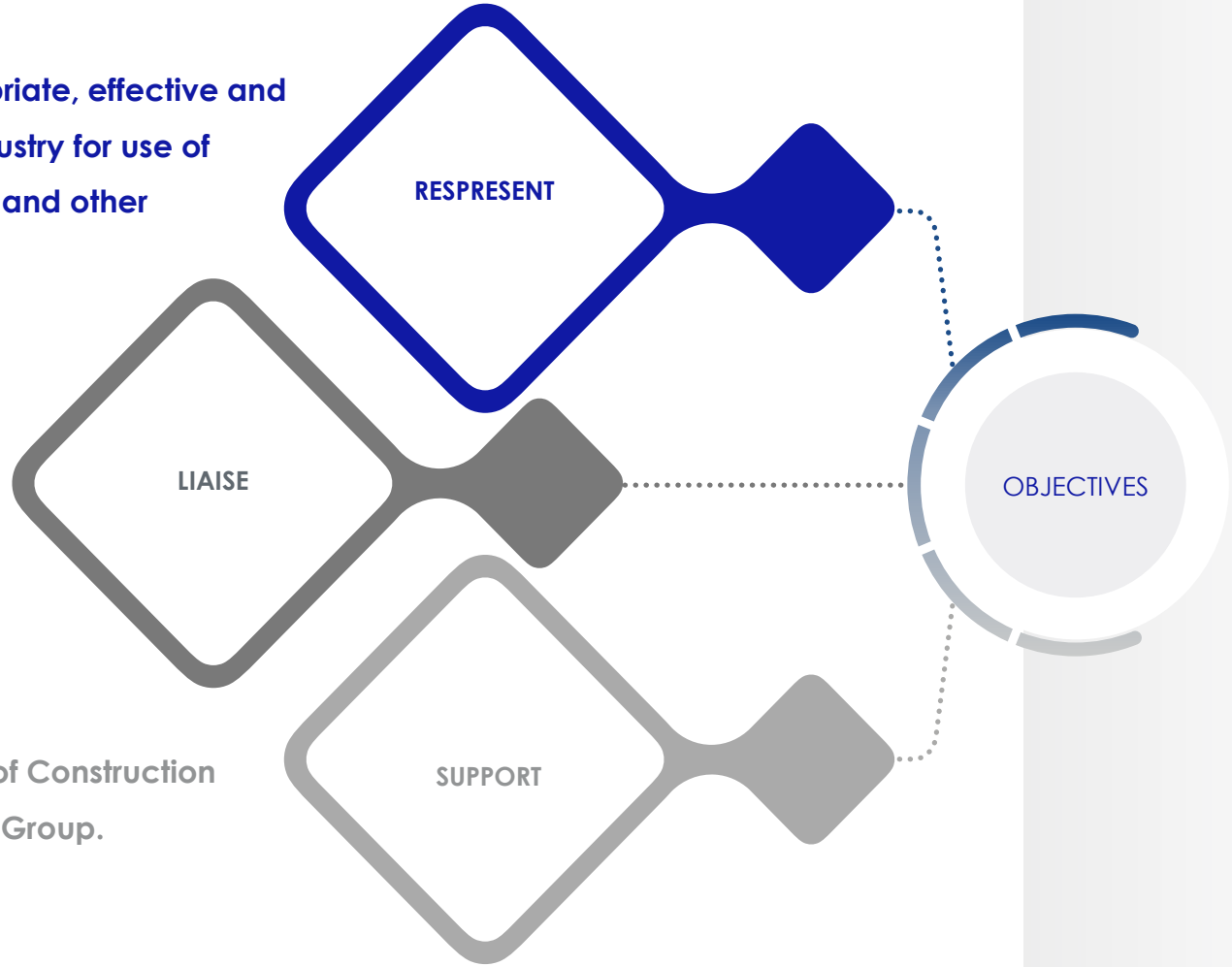
CONSTRUCTION INDUSTRY FEDERATION

C&D WASTE POLICY COMMITTEE – MANDATE

Represent the industry so that appropriate, effective and efficient facilities are available to industry for use of construction products, soil and stone and other construction and demolition waste.

Liaise with other representative bodies and agencies in support of industry objectives.

Support establishment of Construction Sector Waste Resource Group.



Presentation Overview

The following presentation outlines C&D Waste relevant to Ireland, a review of the current status within the industry in Ireland together with a comparison at European level and finally recommendations for the short term and actioning of policy and recommendations.

Section	Item
Section 1	European Overview
Section 2	Irish Overview
Section 3	European & Ireland Comparison
Section 4	Linear Versus Circular Economy
Section 5	Common Barriers to a Circular Economy
Section 6	Recommendations & Action Plan
Section 7	Summary

EUROPEAN OVERVIEW

Approximately 374 million tonnes of construction and demolition waste was generated in 2016 making it is the largest waste stream in the EU by weight. Construction and demolition waste is defined as a priority area in the EU according to the Circular Economy Action Plan (EC 2015), while the revised Waste Framework Directive (WFD 2008/98/EC, amended 2018/851) sets a mandatory target for its recovery of 70 per cent by 2020.

The recent Circular Economy Package, launched by the European Commission, places a priority on waste management policy making, namely that of the transition to a circular economy.

However only with a circular economy-inspired action waste plan in the built environment will positively contribute to increasing the prevention, reuse and recycling of construction and demolition waste.

In a circular economy, raw materials are not taken out of their cycles, but remain in the economy for as long as possible through their efficient and smart use. Their value is preserved by optimising reuse or high-grade recycling. In the built environment, this mean buildings and construction elements being designed to be easily adaptable with limited end materials being demolished.

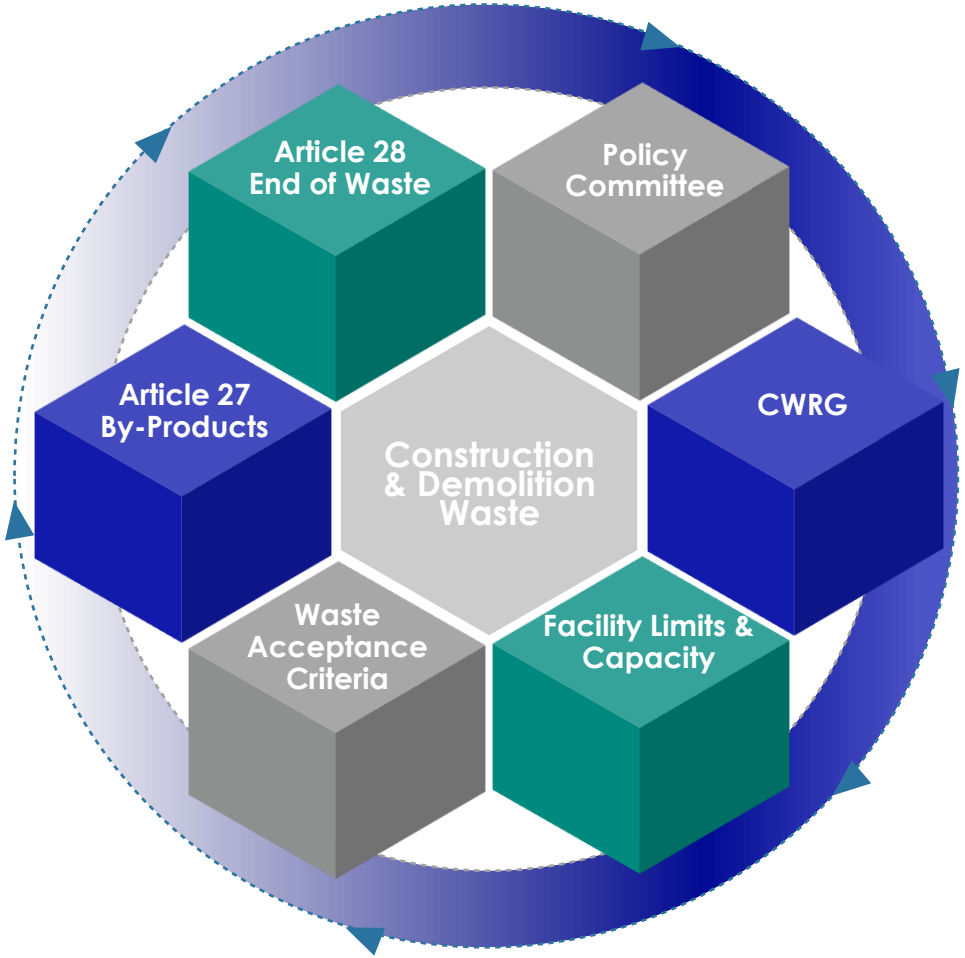
Building materials or building elements should be quickly and efficiently recovered, resulting in high-quality materials remaining in a closed loop. It is important to widen the scope of any action plan which can influence waste management to cover all stages of the lifecycle of buildings and other structures. A circular economy action made in the early stages of a building's lifecycle will affect the management of the building's waste significantly.

Construction & Demolition Waste

Article 28: Declassification of material for further use as an aggregate i.e. crushed concrete.

Article 27: Consultation completed by EPA in 2018/2019 on new guidelines for determination of soil & stone as a by-product through Article 27.

Waste Acceptance Criteria: Consultation completed by the EPA in 2018/2019 regarding the regime and testing of appropriate waste acceptance. New measure sought to introduce a set of trigger values.



Construction & Demolition Waste Group: Federation internal policy committee with representatives from each Association & Sector.

Construction Waste Resource Group: Industry group with DCCAE as lead with representation from each sector & stakeholder with 4 sub-groups.

Waste Facility Permit Regulations: Came into operation on 11th September 2019 to allow WFP facilities a potential *License increase from 100,000-200,000 tonnes.

***License conditions apply**

Article 27: Soil & Stone as a By-Product

6. Planning Permission

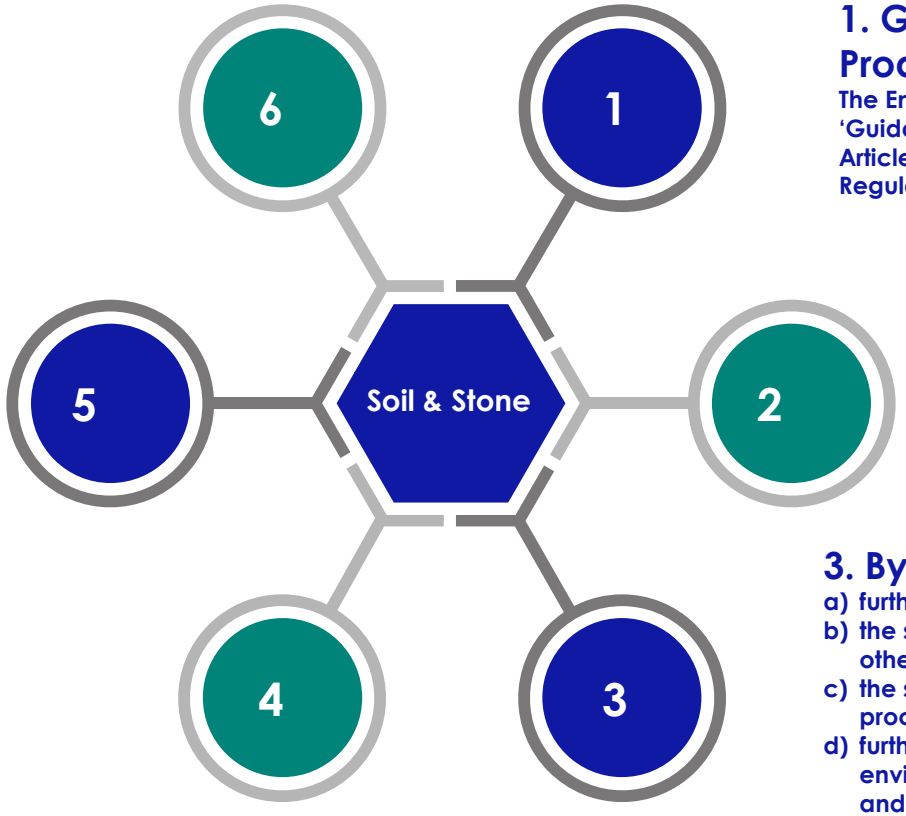
Industry is advised that all notifications made must contain relevant details and demonstration of planning permission at point of destination to allow approval of any Article 27 Soil & Stone notification placed on the EPA register.

5. Waste Management Plans

Members are advised to ensure that all options for waste and by product management are listed and included within any waste management plans submitted at planning permission stage. Failure to include all options at this stage for waste and by products could result in viable Article 27 use at development stage being restricted.

4. Advisory Timeframe for Determinations

The EPA will take a risk-based approach to making determinations and will endeavour to make determinations in all cases by either agreeing with the economic operators' decision or determining that the notified material is a waste.



1. Guidance on Soil & Stone By-Products

The Environmental Protection Agency (EPA) issued 'Guidance on Soil and Stone By-products in the context of Article 27 of the European Communities (Waste Directive) Regulations 2011' on 19th June 2019.

2. The Producer

The notifier of the material is either the material producer or makes the notification with the express (written) consent of the material producer.

3. By-Product Conditions

a) further use of the soil and stone is certain;
b) the soil and stone can be used directly without any further processing other than normal industrial practice;
c) the soil and stone is produced as an integral part of a production process; and
d) further use is lawful in that the soil and stone fulfils all relevant product, environmental and health protection requirements for the specific use and will not lead to overall adverse environmental or human health impacts.

ARTICLE 28: END OF WASTE

Declassification of material for further use as an aggregate.

CURRENT APPLICATIONS

The CIF is aware that an individual application has been approved by the EPA for the 'End of Waste Status to Crushed Concrete for Road Planning'. The full extent and details of the application and conditions are currently unknown.

APPLICATION APPROVAL

It is known that the timeline from initial consultation through assessment, application, submission, clarification and ultimate decision can take 12 to 18 months, depending on the application.

To bring forward and seek approval for a National Application would require the above as a minimum plus an additional three-month European consultation timeline in addition to the national judgement.

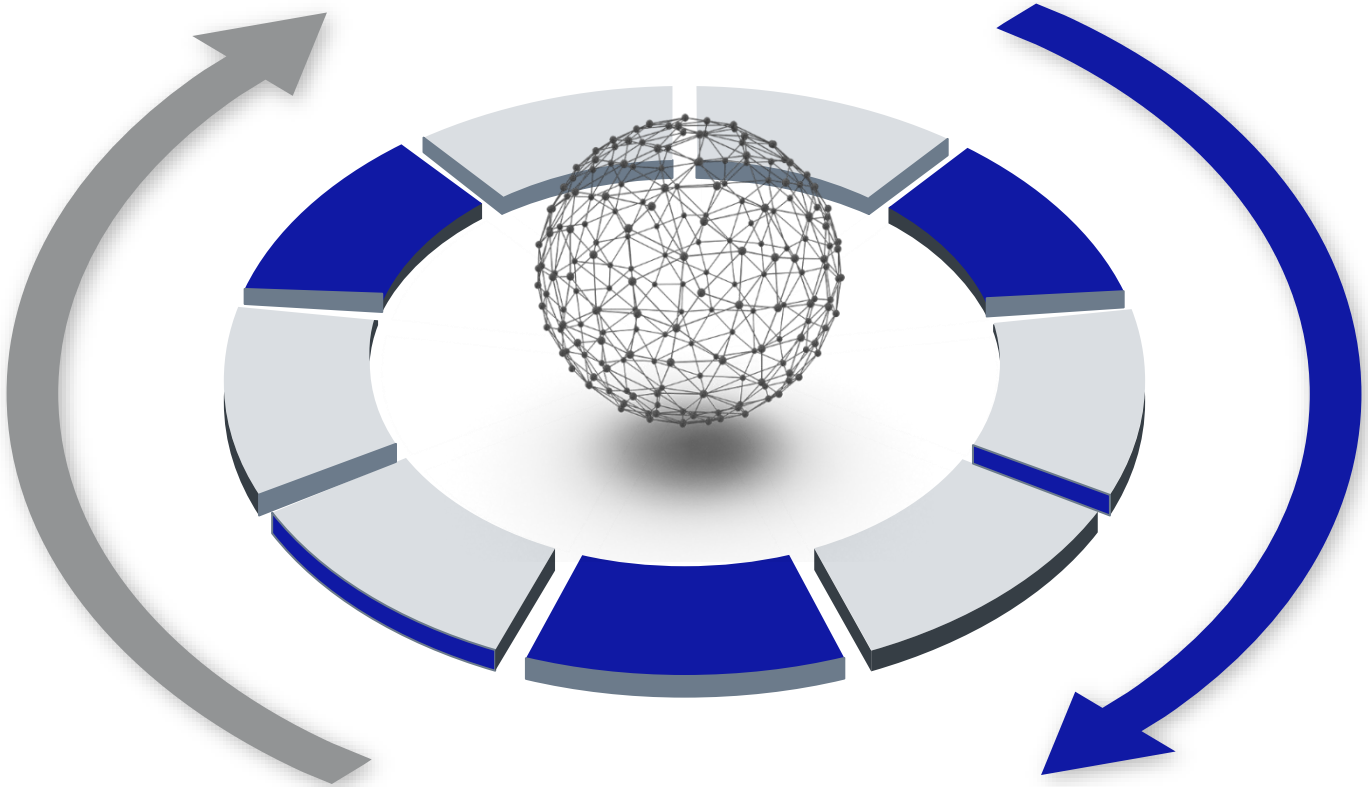
ROADMAP

Any individual approved applications are positive for industry and could provide a roadmap ultimately for a potential national application for crushed concrete for industry.

LINEAR VS CIRCULAR ECONOMY

LINEAR ECONOMY

A circular economy represents a fundamental alternative to the linear 'take-make-consume-dispose' economic model. The linear model assumes that natural resources are available, plentiful, easy to source and cheap to dispose of. However, the linear model is not sustainable, as evidenced by the limited capacity available to the Irish Construction Sector.



CIRCULAR ECONOMY

The circular economy is restorative in nature, and it aims to maintain the utility of products, components and materials for as long as possible while also retaining their value. It minimises the need for new inputs of virgin materials and energy, while reducing environmental pressures linked to resource extraction, emissions and waste management.

COMMON BARRIERS TO A CIRCULAR ECONOMY

Manufacturing processes using waste as input material will only work when production costs are lower than the cost of using virgin materials and market uptake can be assured. In the future, a shortage in primary resources may change these market conditions in regions with limited mineral resources. Policy measures may have a strong influence on these market conditions through for example taxes of virgin materials, green procurement, taxes on landfilling, end of waste etc.

MANUFACTURING

In addition to the economic factors, the quality of building products and materials is crucial for the uptake of circular economy solutions. Lack of available documented information regarding the origins of waste and data on the composition of construction products can create doubts about their quality. The use of traceability systems for recyclables and reusable products is integral to a future successful end of waste outlet i.e. reuse of crushed concrete to a national standard for an approved aggregate.

ECONOMIC

INFORMATION

The importance of building information modelling (BIM) as a tool for material inventories and traceability as it carries information on construction products during their whole lifecycle up to the demolition stage. Passports for building materials can also be created to include information for maintenance, reuse and recycling. Traceability systems, BIM and materials passports can all support pre-demolition audits for identifying reusable and recyclable construction products. Policies can promote these system and technologies through above examples.

The delay in measurable circular economy gains in the construction industry may discourage stakeholders from acting on new material or product management solutions. A successful implementation of circular economy concepts requires support from all stakeholders in the production and supply chain.

PROSPECTS

Standardisation will play an important role in the assessment of performance of secondary materials / aggregates in products replacing virgin ones and in the design of construction products. Standardisation is often the base for certificates which our national standard body will seek. Some standards include overspecification to secure performance, but this can lead to the increased use of raw materials. When standards are revised, attention could be paid to the evaluation of whether experience in construction performance and the introduction of tools to track material quality, including non-destructive testing methods, could support changes in material requirements.

STANDARDISATION

C&D WASTE POLICY COMMITTEE

C&D WASTE ACTION PLAN RECOMMENDATIONS

1. Coordinate a deliverable action plan to target the specific challenges presented above relating to C&D Waste Management

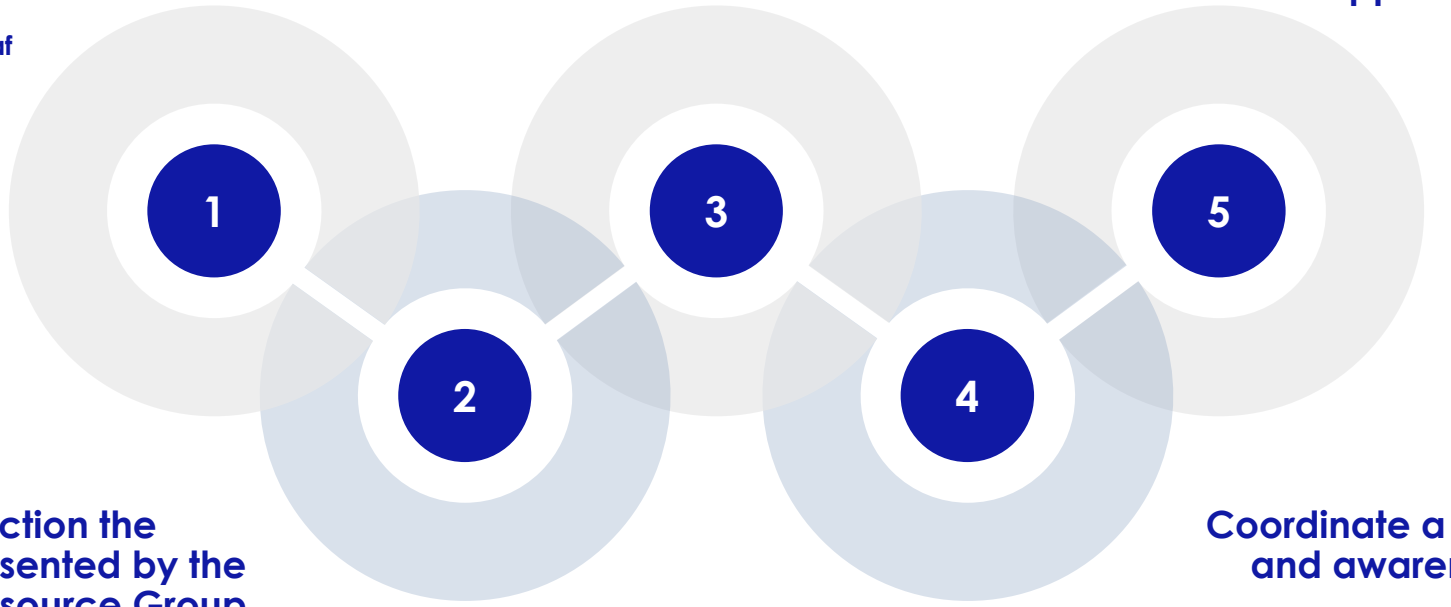
*Action Plan Overleaf

2. Implement and action the recommendations presented by the Construction Waste Resource Group and associated Thematic-Groups. Report and recommendations of Waste Flow and Enforcement Sub-Group

3. Implement and action the recommendations presented by all sub-groups of the Construction Waste Resource Group.

4. Coordinate a state led education and awareness programme.

5. Establish a concentrated technical working group of industry professionals and stakeholders to coordinate a national End of Waste application for aggregates.



ACTION PLAN FOR A CIRCULAR ECONOMY

	BARRIER	CHALLENGE	PATHWAY
A	Price competition with virgin alternatives	Stakeholders preference to more economical and credible proven solution. The processing costs required for secondary material use is prohibitive over virgin material use.	A competitive secondary material market would create demand for both quantity and quality of waste material, thus directly increasing circularity
B	Confidence in quality and structural properties of secondary materials	Stakeholders tend to choose virgin materials that are quality assured through warranties and standards and as approved by the relevant standards bodies.	Engaging in the development of standards for secondary raw materials would increase the trust in their properties and quality
C	Hazardous substances content	Polluted materials are not suitable for recycling, and removal of the hazardous content is costly	Develop technology for efficient removal of hazardous substances and reduce use of hazardous materials in new construction
D	Lack of data on existing construction / buildings	The composition of material streams from demolition activities is not easily achieved	Pre-demolition audits and, in the future, material passports help register the type and volume of materials in the existing building stock
E	Time delay	The time delay between implementing a circular action and tangible benefits are difficult to measure	A clear roadmap and achievable timelines are required

Contact

Should you have any questions or queries on any of the content of this presentation please feel free to contact me through the email below.

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