Carbon Accounting and Sustainable Designs in Product Lifecycle Management

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Week 09

Lecture 42

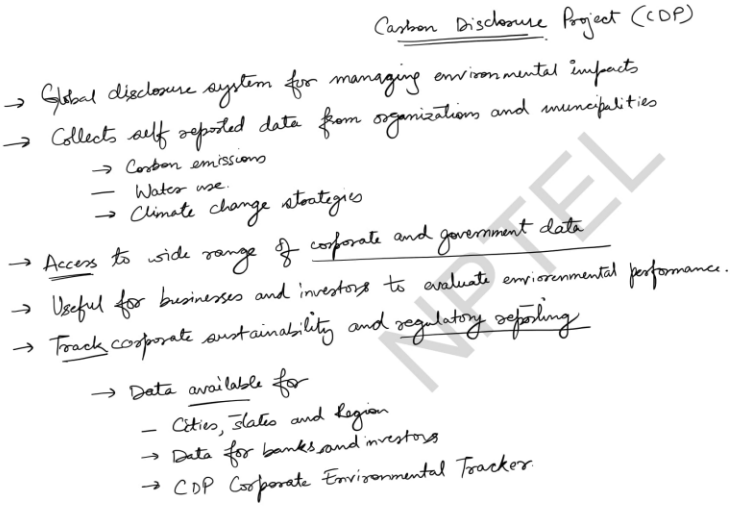
Carbon Accounting Databases (Part-2)

Hello, everyone. Welcome again, to the course on Carbon Accounting Sustainable Designs in Product Lifecycle Management. I am Dr. Prabal Pratap Singh and we are co-teaching this course with Professor Deepu Philip and Dr. Amandeep Singh.

In the last lecture, we were talking about Carbon Accounting Databases and we have completed the role of Carbon Accounting Databases. Today, we are going to learn about the Major Carbon Accounting Databases that are available in the global arena which are having regulatory compliance as well.

Also, we will try to cover also the Carbon Accounting Databases that are available in India as well.

Carbon Accounting Databases



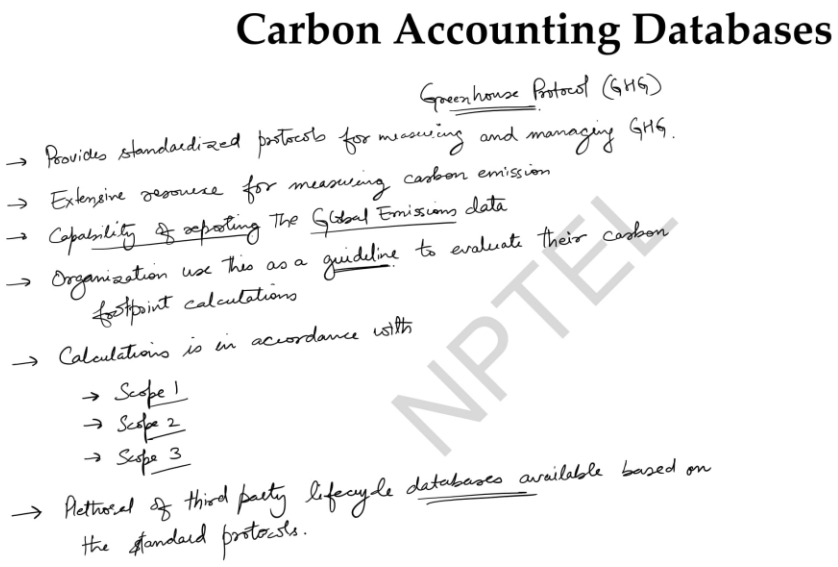
So, continuing our lecture, we will now discuss the different types of Carbon Accounting Databases. So, the first major Carbon Accounting Database that is available is Carbon Disclosure Project (CDP). So, this is a global disclosure system for managing environmental impacts. What it collects?

It collects self-reported data from organizations and municipalities. What are the different kinds of data that they are self reporting? These could be carbon emissions, water use, or the climate change strategies. This global urban disclosure project has access to a wide range of corporate and government data. These kinds of data available with the carbon disclosure process project make it very important.

They are useful for businesses as well as investors to evaluate environmental performance. Also, it can track corporate sustainability and regulatory reporting. This project has data available for cities, states, and regions, which may include multiple cities or states. They have data for banks and investors. Further, they have their CDP has corporate environmental tracker.

So, these are available. Now, based on what we studied in the last lecture, we can see that major terms related to the role of Carbon Accounting Databases, such as regulatory reporting and tracking, are available in this project. So, these are the things that we were

discussing in the last lecture. So, every project tries to include these kinds of features of the Carbon Accounting Databases, right.

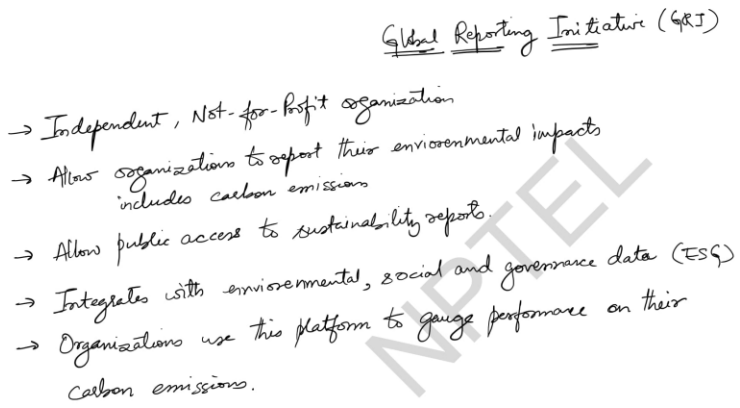


So let us talk about the next major database it is known as GHG (Greenhouse) protocol. So it provides standardized standardized protocols for measuring and managing greenhouse gases. This is an extensive resource for measuring carbon emissions worldwide also it has the capability of not just measuring. It also has the capability of reporting. The global emissions data so this is important the capability of reporting the global emissions data further organizations use this as a guideline. Guideline for what to evaluate their carbon footprint calculations.

Now if we are trying to calculate the carbon footprint calculations, then we should be regulatory compliant, right? So, this project is regulatory compliant. So, how they are calculating? These calculations is in accordance with scope 1, scope 2, and scope 3 emissions. So we have already talked about what are these scope 1 which is direct emissions scope 2 is indirect emission and scope 3 is other indirect emissions, right.

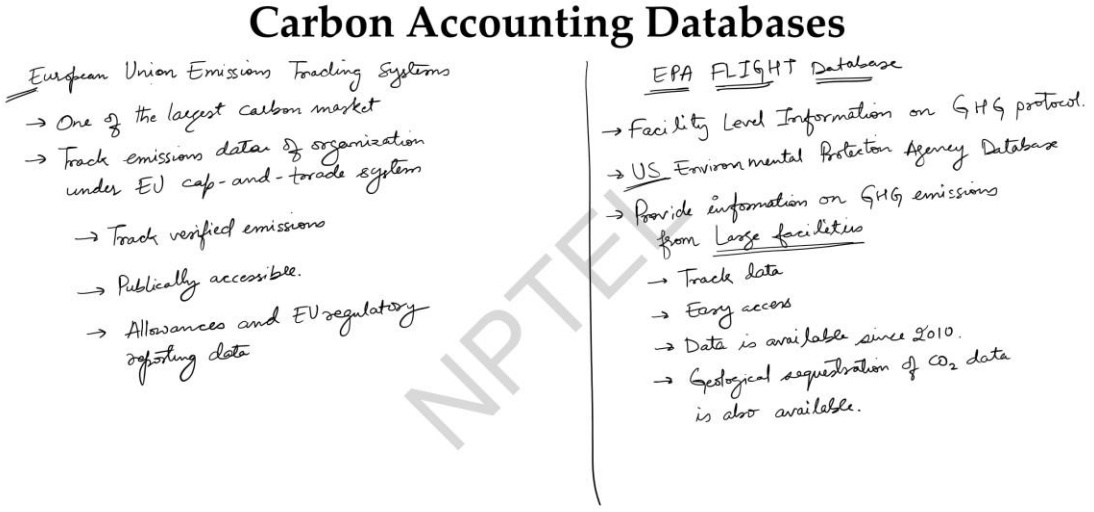
So we have already talked about these now another good thing about this project is that there are plethora of third party life cycle databases available. So these databases are also available on their website and they are based on the standard protocols right.

Carbon Accounting Databases



So let us move to the next database global reporting initiative. So this is also a database so known as GRI so it is an independent not for profit organization. So what they do they allow organizations to report their environmental impacts, and that includes carbon emissions.

The good thing about this database is it allows public access to all the sustainability reports. It can also integrate with environmental, social and governance data. So we have already talked about this ESG data in the course and this global reporting initiative integrates this kind of database also. Further, organizations use this platform to gauge performance, on their carbon emissions, right.

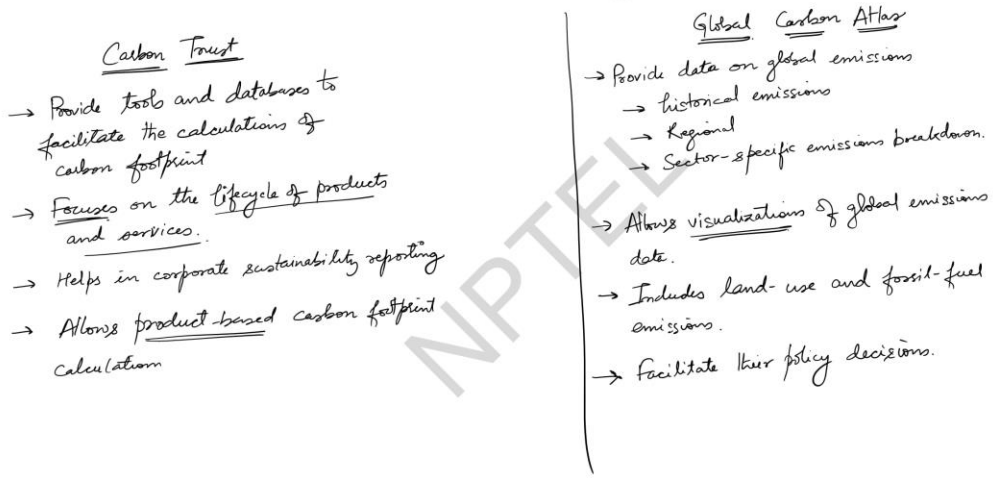


So the next database is European Union emissions trading. So this is based in the European Union and this is one of the largest carbon markets. So, Professor Deepu Philip has already talked about carbon trading in the course and this system provides one of the largest carbon market and it is the oldest also. So, this system can track emissions data of organizations under EU that is European Union cap and trade system.

Further it can track verified emissions and the data is also publicly accessible. And it includes allowances and EU regulatory reporting data. So, this is another system that is available for the European Union. Another system is EPA flight database. So, flight is nothing but facility level information.

And this information is on what on greenhouse gases protocol, right. So this is a United States environmental protection agencies database. And this can provide information on GHG emissions from large facilities. So, this is an important thing important feature of this database that it provides the information of all the GHG emissions from large facilities across United States. So, what do they provide?

They can track data for all the major industrial sources or they provide easy access. And the data available in this repository is data is available since 2010, further the geological sequestration geological sequestration of CO2 data is also available. So, we have seen one database from European Union and others from the US.

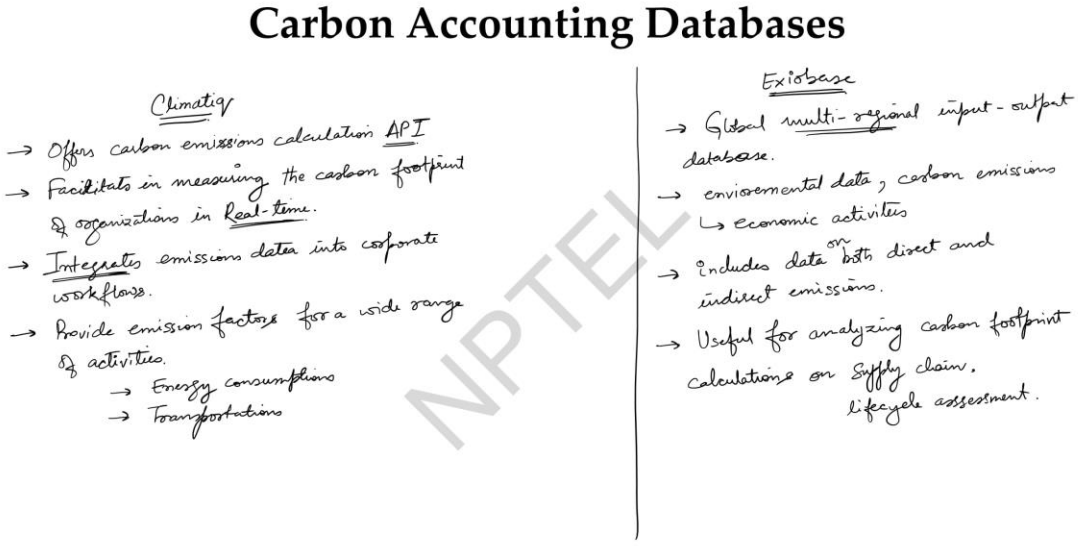


Another database is Carbon Trust. So, they provide tools and databases to facilitate the calculations of carbon footprint.

For all the organizations that they are using this facility and they also focuses on the life cycle of products and services. So their focus area is this life cycle of products and services. They helps incorporate sustainability reporting. Also they allows product based carbon footprint calculations. So, they are details about product and they have specific carbon footprint calculations.

Also, the next database is global carbon atlas. So they provide data on global emissions which includes historical emissions, regional emissions or sector specific emissions breakdown. So, every database has their own capabilities and features. Now, this global carbon atlas also allows visualizations of global emissions data.

So, this visualization is another feature. We have already talked about the role of carbon content databases where one of the role is analytics. So, this visualization could be a sub part of that role of the Carbon Accounting Database right. So it includes land use and fossil fuel emissions also emissions and how organizations are using it they are using it to facilitate their policy decisions.



Another database is climatiq, so the differentiating feature of this database is they provides application programming interface that is api access.

So they offers Carbon Emissions Calculation API. API is Application Programming Interface. So, developers can directly use this Application Programming Interface to create another product, sub-product for their own particular organization that has subscribed to this climatiq Now, they facilitate in measuring the carbon footprint of organizations in real time. So, one of the distinguishing feature of Carbon Accounting Database was the real time monitoring of the data, right.

So, this climatiq provides the real time monitoring of the data as well with the application programming interface. So, another thing is it integrates emissions data into corporate workflows. So this integration can be direct feedback for the organization workflow and it will facilitate the carbon footprint calculations and the mitigation strategies. It can also provide emission factors for a wide range of activities. So, these activities could be emission factors for energy consumption.

Or the emission factors for transportation etc. We have talked all about these earlier as well another database is exobase so this is a global multi regional input output database. So this is multi-regional and this also includes environmental data environmental data carbon emissions. And these things are tied to economic activities right now other thing

with respect to other databases. This database can includes data on scope 1 and scope 2 that is both data on both direct and indirect emissions.

It is useful for analyzing carbon footprint calculations on supply chain of the organization or the life cycle assessment. So, till now we have discussed about various kinds of databases that are available globally. In the next lecture, we are going to talk about Carbon Accounting Databases that are available in India.

Thank you.