

System and method for simulating and predicting forecasts for carbon emissions

Abstract

The present invention discloses an integrated and comprehensive carbon accounting system **(100)** for simulating and predicting forecasts for carbon emissions of an emission entity of urban development projects, real estate assets and buildings, characterized by: a data collection module **(108)** for collecting a plurality of data; wherein the plurality of data comprises a plurality of activity data (AD) **(104)**, a plurality of emission factors (EF) **(106)**, data relating to a plurality of observed dependent variables and a plurality of observed independent variables for prediction; a carbon accounting module **(102)** for calculating carbon emissions **(105)** of the plurality of emission entities based on the plurality of activity data (AD) **(104)** and the plurality of emission factors (EF) **(106)**; wherein the carbon accounting module **(102)** comprises a carbon emission sub-module, a carbon-off setting sub-module and a carbon avoidance sub-module; wherein the carbon accounting module **(102)** covers a plurality of Scope 1, Scope 2 and Scope 3 emissions; a predictive analytical modelling module **(110)** for generating simulation and predictive forecast models based on a plurality of observed dependent variables and the plurality of observed independent variables; a simulative forecast module **(112)** for predicting and forecasting a level of future carbon emissions and emission pathways and trends over timelines based on the data collection module **(108)** and the predictive analytical modelling module **(110)**; wherein the level of future carbon emissions and emission pathways and trends over timelines are predicted and forecasted according to a plurality of predetermined scenarios for the plurality of emission entities with respect to pre-set mitigation measures, target amount, target years which are defined by users; and a key performance indicators and metrics module **(114)** for evaluating performance of the simulative forecast module.

FIG. 1