Uluslararası Yerel Yönetimler Sera Gazı Salımları'nın Analizi Protokolü (IEAP) Nedir?

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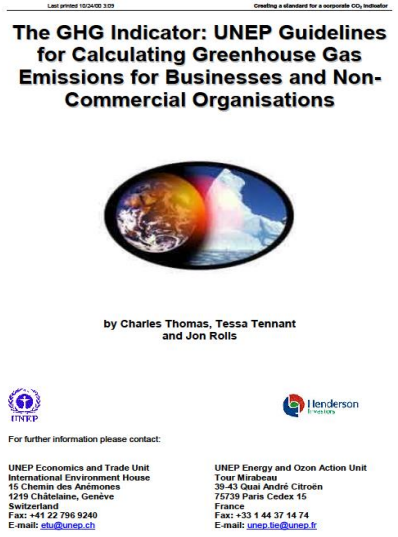
Anadolu Üniversitesi Ekoloji Anabilim Dalı Başkanı

Uluslararası Literatüre Hakim Olmak



The GHG Indicator: UNEP Guidelines for Calculating Greenhouse Gas Emissions for Businesses and Non-Commercial Organisations

by Charles Thomas, Tessa Tennant and Jon Rolls

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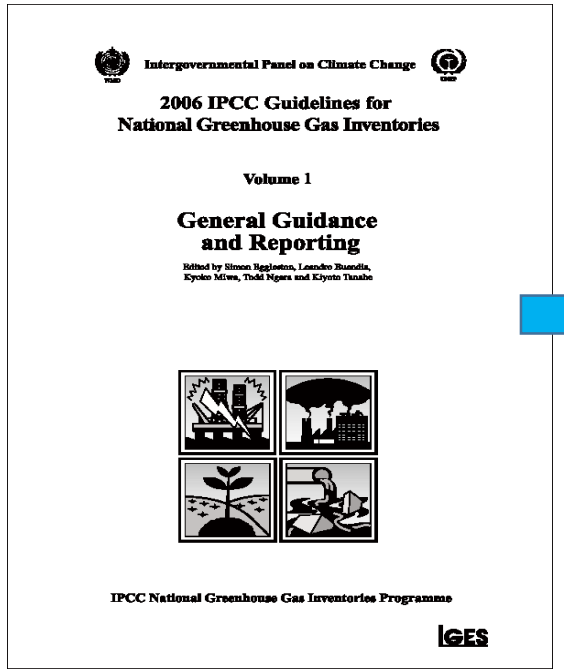


Intergovernmental Panel on Climate Change

2006 IPCC Guidelines for National Greenhouse Gas Inventories

Volume 1

General Guidance and Reporting

Edited by Simon Eggleston, Leandro Buendia, Kyoko Miwa, Todd Ngara and Kiyoto Tanabe

IPCC National Greenhouse Gas Inventories Programme

IGES

United Nations Framework Convention on Climate Change

GLOBAL PROTOCOL
FOR COMMUNITY-SCALE
GHG EMISSIONS
(GPC)

Version 0.9 - 20 March 2012

KYOTO PROTOCOL
REFERENCE MANUAL

ON ACCOUNTING OF
EMISSIONS AND ASSIGNED AMOUNT

UNFCCC

ISO 14000 - Environmental Management

ISO Standard on Greenhouse Gas Accounting

ENTITY (ORGANIZATIONAL) ACCOUNTING

Recent Developments and Next Steps

Report by ECOLOGIA (July 2003)

Background

In June 2002, the International Organization for Standardization (ISO) began creating a new international standard for the quantification, reporting and verification of greenhouse gas (GHG) emissions, usually called 'greenhouse gas accounting'. This report seeks to inform NGOs and other parties interested in climate change about the recent developments in drafting the ISO standard on GHG accounting at the **entity** ('organizational' or 'corporate') level.

This report has been prepared by **ECOLOGIA**, an international NGO that participates in ISO decision-making as an 'A-liaison' organization, and is a member of ISO Technical Committee 207's **'Working Group 5' (WG5),** which is responsible for the development of the GHG standard. ECOLOGIA seeks to work with NGOs to promote a GHG accounting standard that has **environmental integrity**, is **transparent**, based on **best practice** -- especially the WRI/WBCSD *GHG Protocol* -- and supports, rather than under international **initiatives for combating climate change**.

This report is guided by the draft *NGO Position Paper* on the IS supplementary issue paper concerning the entity part of the stan identified by ECOLOGIA and its NGO allies for negotiation wi reference in this report to positions of "countries" should be und ISO procedural customs: WG5 officially is comprised of experts their individual opinions, but in fact they are nominated by their usually form positions as national expert groups.

Summary

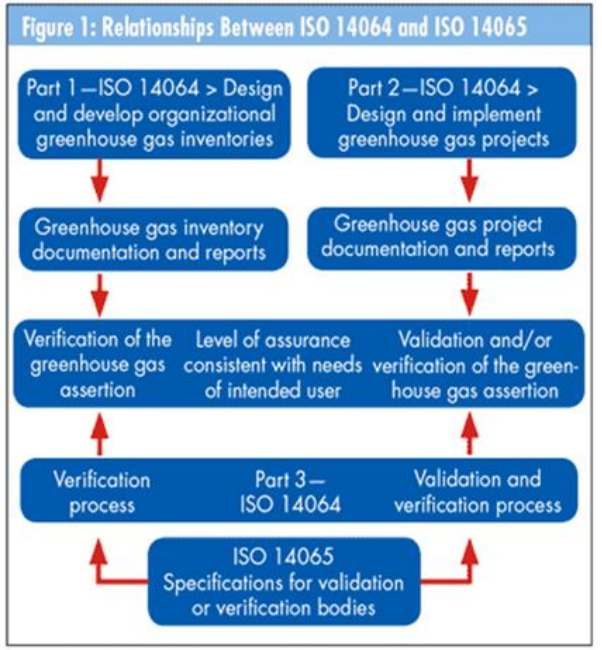
Recent developments

Working Group 5 met for 3.5 days in Bali, Indonesia in July 20(additions to the draft standard made there include:

- Quantification and reporting of GHG emissions associat heat, steam or other energy products is recommended in mandatory. Entities using the standard are recommende choice not to quantify such emissions. (-)

[1] Both documents are available from ECOLOGIA's Web site www.ecologia.

Figure 1: Relationships Between ISO 14064 and ISO 14065



Avrupa Birliği'nden Çevre Alanında İyi Uygulama Örnekleri

Greenhouse Gas Reporting Program: 2010 Data Publication

EPA ghgdata

In January 2012, for the first time, the U.S. Environmental Protection Agency (EPA) released greenhouse gas (GHG) data collected under the GHG Reporting Program. The data set shows 2010 U.S. GHG emissions from large industrial facilities, and from suppliers of certain fossil fuels and industrial gases. Reporting entities used uniform methods for estimating emissions, which enables data to be compared and analyzed. The data confirm that among large, direct GHG emitters, the sector with the largest emissions is power plants, followed by petroleum refineries. EPA will update the website regularly to provide the most up-to-date information available.

EPA developed an easy-to-use online data publication tool, accessible at http://epa.gov/climatechange/emissions/ghgdata/, that allows users to view GHG data in a variety of ways, including by location, facility, industrial sector, or state. In the coming months EPA will add more features to the data publication tool.

Data Uses

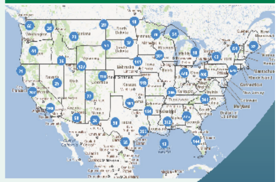
Data collected under EPA's GHG Reporting Program can be used to:

- ✔ Identify nearby sources of GHG emissions.
- ✔ Help businesses track emissions and find cost-savings efficiencies.
- ✔ Inform policy.
- ✔ Provide important information to the finance and investment communities.

The GHG data set for 2010 includes:

- GHG reports from over 6,700 entities.
- Information on GHGs including carbon dioxide, methane, nitrous oxide, and several types of fluorinated industrial gases.
- GHG data from facilities from specific industries that directly emit 25,000 metric tons of carbon dioxide equivalent or more per year, roughly equivalent to the emissions from burning 131 railcars of coal.
- A list of 2010 reporters can be found online at: http://epa.gov/climatechange/emissions/downloads11/documents/2011reporting.pdf.

GHG Data Publication Tool



January 2012

Greenhouse Gas Emissions Inventory

Volume 1: Fiscal Years 1990-2009

Published: October 2009

Washington University in St. Louis

Environ. Sci. Technol. 2008, 42, 5839–5842

Environmental Science & Technology Viewpoint

The Importance of Carbon Footprint Estimation Boundaries

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CHRIS T. HENDRICKSON, AND
CHRISTOPHER L. WEBER
Carnegie Mellon University

Because of increasing concern about global climate change and carbon emissions as a causal factor, many companies and organizations are pursuing "carbon footprint" projects to estimate their own contributions to global climate change. Protocol definitions from carbon registries help organizations analyze their footprints. The scope of these protocols varies but generally suggests estimating only direct emissions and emissions from purchased energy, with less focus on supply chain emissions. In contrast, approaches based on comprehensive environmental life-cycle assessment methods are available to track total emissions across the entire supply chain, and experience suggests that following narrowly defined estimation protocols will generally lead to large underestimates of carbon emissions for providing products and services. Direct emissions from an industry are, on average, only 14% of the total supply chain carbon emissions (often called Tier 1 emissions), and direct emissions plus industry energy inputs are, on average, only 26% of the total supply chain emissions (often called Tier 1 and 2 emissions). Without a full knowledge of their footprints, firms will be unable to pursue the most cost-effective carbon mitigation strategies. We suggest that firms use the screening-level analysis described here to set the bounds of their footprinting strategy to ensure that they do not ignore large sources of environmental effects across their supply chains. Such information can help firms pursue carbon and environmental emission mitigation projects not only within their own plants but also across their supply chain.

ISTOCKPHOTO

Introduction

After years of discussion, a fourth assessment report by the Intergovernmental Panel on Climate Change (*1*), and increasing requirements from retailers and shareholders, firms around the world are now considering the extent of their carbon emissions, often called their "carbon footprint," and the means to reduce these emissions (*2*). Companies increasingly understand that global carbon emissions regulation, likely in an emissions-trading system, is imminent. Because carbon footprinting is a new procedure, it is understandable that there is confusion about the appropriate means and boundaries to adopt for these impact analyses.

The definition of "carbon footprint" is surprisingly vague given the growth in the term's use over the past decade. The term itself is rooted in the literature of "ecological footprinting" (*3*): attempting to describe the total area of land needed to produce some level of human consumption. Because the land use to make most consumer products is fairly distant in time and space from the final consumer, the ecological footprint is inherently a full life-cycle calculation. However, this does not seem to be true for the term's new successor, the carbon footprint; Wiedmann and Minx (*4*) found a large variety of definitions that differ in which gases are accounted for, where boundaries of analysis are drawn, and several other criteria.

In the United States, the California Climate Action Registry (CCAR) and, more recently, The Climate Registry (TCR) are common resources for defining and calculating carbon footprints (*5*). CCAR/TCR require firms to report all direct emissions from their facilities and company vehicles as well as purchases of electricity, steam, heating, and cooling. They suggest reporting emissions for each of the Kyoto Protocol greenhouse gases (GHGs): carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6), although CCAR allows firms to begin with just CO_2 emissions. Similarly, the World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD) have developed a GHG protocol with a supporting Web site to help organizational footprint efforts (*6*).

Most protocols, including the WRI/WBCSD, define carbon footprint inventories in increasingly bigger scopes or "tiers". The "Tier 1" definition consists of the direct emissions of the organization itself (e.g., the CO_2 emissions coming out of a firm's factories and vehicles). "Tier 2" expands the boundary to include the carbon emissions of energy inputs used by the organization, given that the energy sector is a leading source of GHG emissions. An optional final tier expands the boundary to include "other indirect activities", which is vaguely defined in general but presumably suggests adding in other known sources of GHG emissions for an industry. In this analysis, we consider how inclusive the tiers as defined above might be for a firm. That is, if firms were to follow the guidance set by these protocols, how much of their total carbon footprints, i.e., total life-cycle emissions, would they capture? Do the Tier 1 and 2 estimates provide reasonable guidance for firms in managing their supply chains?

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Published on Web 06/13/2008

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Ecological Economics
journal homepage: www.elsevier.com/locate/ecolecon

Analysis

Identifying important characteristics of municipal carbon footprints

Hogne N. Larsen*, Edgar G. Hertwich

ARTICLE INFO

ABSTRACT

Environ Monit Assess (2011) 178:135–160
DOI 10.1007/s10661-010-1678-y

Carbon footprint: current methods of estimation

Divya Pandey · Madhoolika Agrawal · Jai Shanker Pandey

Received: 7 April 2010 / Accepted: 23 August 2010 / Published online: 18 September 2010

Abstract Increasing greenhouse gaseous concentration in the atmosphere is perturbing the environment to cause grievous global warming and associated consequences. Following the rule that only measurable is manageable, mensuration of greenhouse gas intensiveness of different products, bodies, and processes is going on worldwide, expressed as their carbon footprints. The methodologies for carbon footprint calculations are still evolving and it is emerging as an important tool for greenhouse gas management. The concept of carbon footprinting has permeated and is being commercialized in all the areas of life and economy, but there is little coherence in definitions and calculations of carbon footprints among the studies. There are disagreements in the selection of gases, and the order of emissions to be covered in footprint calculations. Standards of greenhouse gas accounting are the common resources used in footprint calculations, although there is no mandatory provision of footprint verification. Carbon footprinting is intended to be a tool to guide the relevant emission cuts and verifications, its standardization at international level are therefore necessary. Present review describes the prevailing carbon footprinting methods and raises the related issues.

Keywords Carbon footprint · Direct emissions · Embodied emissions · Greenhouse gases

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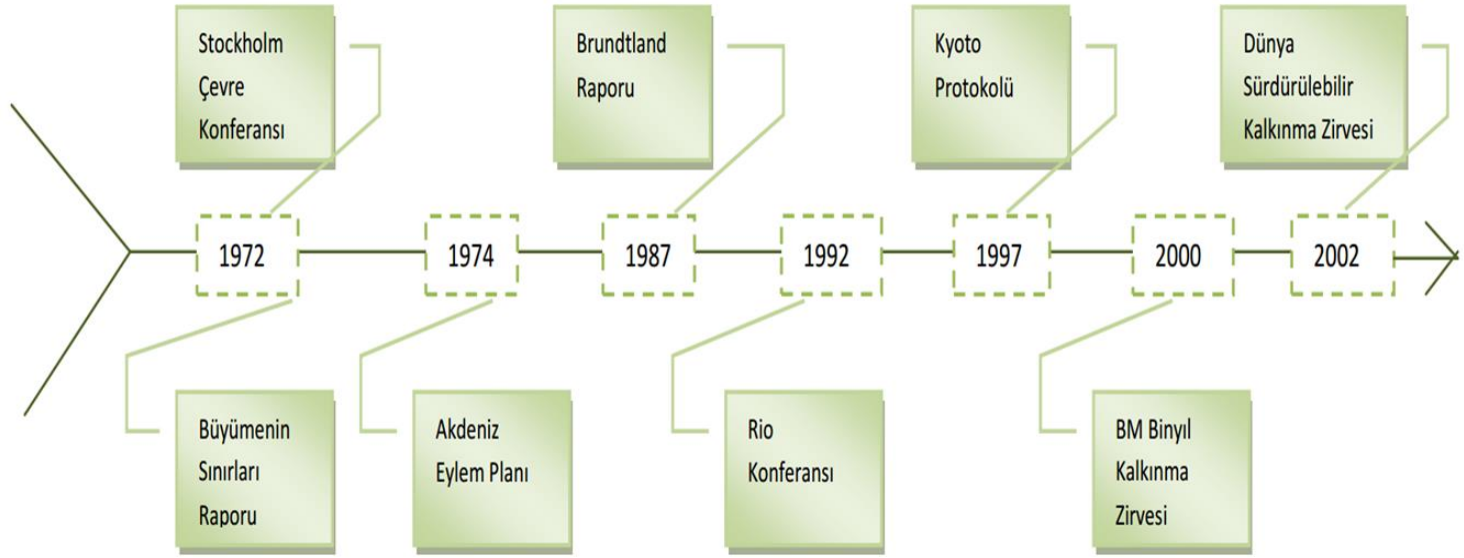
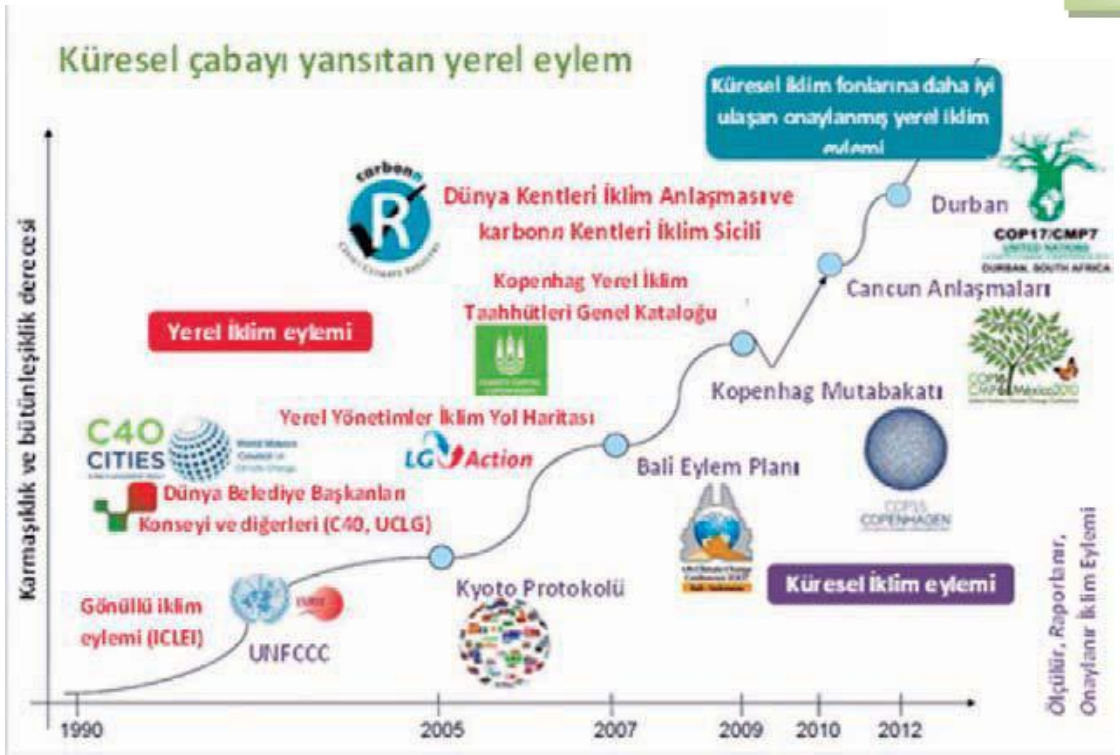
Introduction

The Intergovernmental Panel on Climate Change (IPCC) in its fourth assessment report has strongly recommended to limit the increase in global temperature below 2°C as compared to pre-industrial level (i.e., measured from 1750) to avoid serious ecological and economic threats. A rise in temperature by 0.74°C has already been recorded and hence climate scientists are focusing on an urgent action to curb global warming (IPCC 2007; Kerr 2007). The imbalances caused in natural systems due to warming are already being signaled in the form of extreme weather events and climate change. The mountainous snow cover, permafrost, and glaciers are melting and Greenland, Antarctic, and Arctic ice packs are experiencing a


Stockholm Çevre Konferansı
Brundtland Raporu
Kyoto Protokolü
Dünya Sürdürülebilir Kalkınma Zirvesi
1972
1974
1987
1992
1997
2000
2002
Büyümenin Sınırları Raporu
Akdeniz Eylem Planı
Rio Konferansı
BM Binyıl Kalkınma Zirvesi


Küresel çabayı yansıtan yerel eylem
Karmaşıklık ve bütünleşiklik derecesi
Küresel iklim fonlarına daha iyi ulaşan onaylanmış yerel iklim eylemi
Dünya Kentleri İklim Anlaşmasıve karbonn Kentleri İklim Sicili
Durban
COP17/CMP7
Kopenhag Yerel İklim Taahhütleri Genel Kataloğu
Cancun Anlaşmaları
Yerel İklim eylemi
Kopenhag Mutabakatı
Yerel Yönetimler İklim Yol Haritası
C40 CITIES
LG Action
Bali Eylem Planı
Dünya Belediye Başkanları Konseyi ve diğerleri (C40, UCLG)
Gönüllü iklim eylemi (ICLEI)
UNFCCC
Kyoto Protokolü
Küresel İklim eylemi
Ölçülür, Raporlanır, Onaylanır İklim Eylemi
1990
2005
2007
2009
2010
2012

ICLEI International Council for Local Environmental Initiatives (Sürdürülebilir Kentler Birliği) ve Uluslararası Yerel Yönetim Sera Gazı Emisyon Analizi Protokolünü – IEAP International Local Government GHG Emissions Analysis Protocol

- İklim çalışmaları için yerel yönetimlerin hem kendi faaliyetlerinden kaynaklanan hem de coğrafi yetki sınırları içinde yer alan tüm bölge halkının oluşturduğu sera gazı salımlarını sayısallaştırması gereklidir.
- Bu çalışmaların belirli standartlar çerçevesinde yapılması çalışmaların ortak bir payda çerçevesinde toplanması ve karşılaştırılabilmesi açısından önemlidir.

Devam ediyor…

- ICLEI (Sürdürülebilir Kentler Birliği) bu amaçla 2009 yılında, kolay uygulanabilir bir kılavuz olan ve yerel yönetimlerin salımlarını somut olarak belirleyip karşılaştırılabilir azaltımlar yapabilmeleri için belirlenen ortak kurallar ve standart yaklaşımlar içeren **Uluslararası Yerel Yönetim Sera Gazı Emisyon Analizi Protokolünü – IEAP** geliştirmiştir.
- IEAP sayesinde, salım denetimi süreçleri kolaylaştırılmış, farklı toplulukların faaliyetleri sonucu elde edilen kazanımların bir araya getirilip raporlanabilmesi sağlanmış ve güvenilir bir veri tabanı oluşturulmuştur.

Bu proje Avrupa Birliği tarafından finanse edilmektedir.

Uluslararası Yerel Yönetimler Sera Gazı Salımlarının Analizi Protokolü (IEAP)

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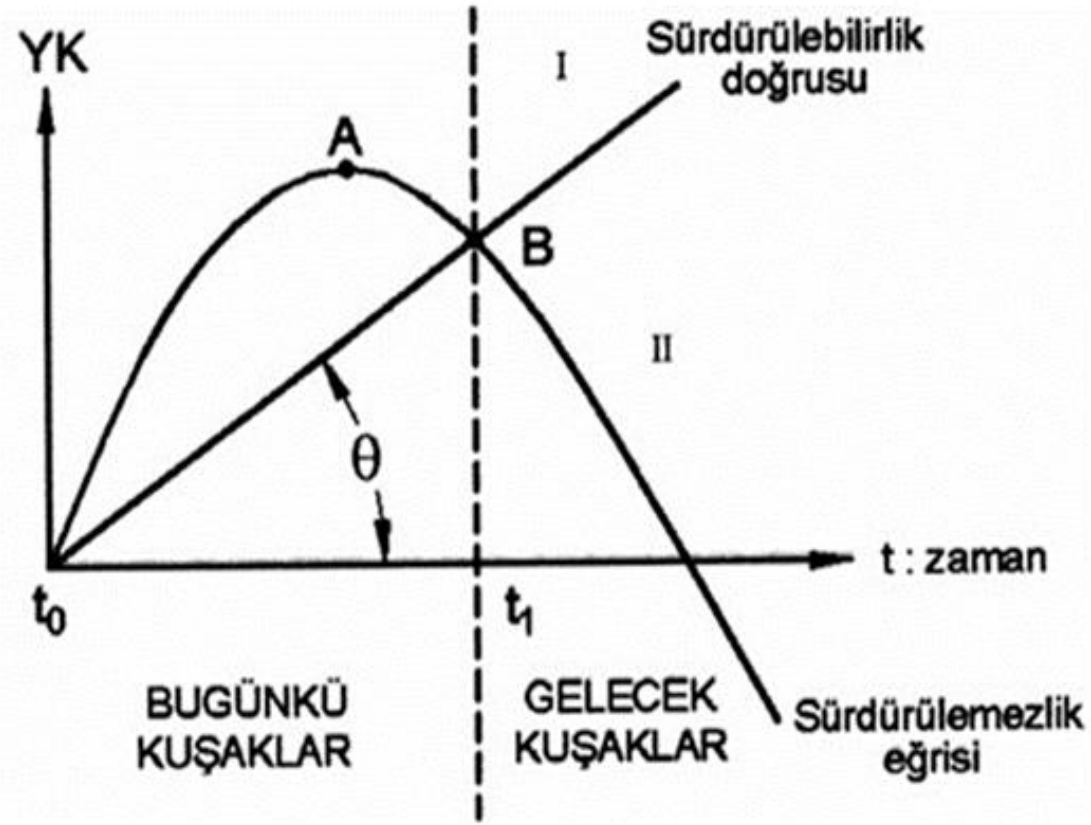
The Covenant of Mayors is the mainstream European movement involving local and regional authorities, voluntarily committing to increasing energy efficiency and use of renewable energy sources on their territories. By their commitment, Covenant signatories aim to meet and exceed the European Union 20% CO_2 reduction objective by 2020.

Read more

ICLEI- Sürdürülebilir Kentler Birliği'nin Araka Planı

- ICLEI, hem **küresel iklim değişikliğinde** hem de **hava kalitesinin azalmasında** etkili rolü olan sera gazı salımlarını azaltmak amacıyla yerel yönetimlerin çabalarına destek olur.
- Bu amaçla ICLEI, **yerel yönetimlere salımları ölçmeleri için analitik araçlar ve yöntemler sunar.**
- **Böylece yerel yönetimler, salım azaltım hedeflerini belirleyebilir ve hedeflerine ulaşabilirler.**
- ICLEI sera gazı salımları düşürülmesiyle, **bölge halkının tamamının hayat kalitesinin iyileştirilmesine odaklanan faaliyetleri destekler.**

Sürdürülebilirlik Doğrusu (YK: Yaşam Kalitesi)



Sera Gazı Yönetiminin Çerçevesi

- **Sera Gazı Salım Envanterinin Yürütülmesi**
- **Azaltım Hedeflerinin Oluşturulması**
- **Salımların Azaltılması için Stratejinin Geliştirilmesi**
- **İzleme Süreci ve Sonuçların Raporlandırılması**

Sera gazı salım analizi protokolünün amacı nedir?

- Yerel yönetimin ve bölge halkının, iklim değişikliğinin kent üzerindeki etkilerinin farkına varmalarını sağlamak ve bu etkinin azaltılması için gerekenlerle ilgili farkındalık yaratmak,
- Uygulayıcıların toplum düzeyinde mümkün olan en doğru şekilde tam ve doğru analizleri geliştirebilmelerini sağlamak,
- Farklı kentler arasında tutarlı, detaylı ve politika ile ilgili bir şekilde kıyas yapılmasını desteklemek,
- İklim hedeflerine yönelik ölçüm yapmayı sağlamak,
- Geniş kitlelerce kolay anlaşılabilen bir ölçümleme sağlamak,
- Diğer birlik ve kuruluşların IEAP kapsamındaki özel raporlama gereksinimlerini belirlemek,
- Mevcut veya potansiyel yasal düzenlemeler ve salım belgeleme olanaklarını eş zamanlı yürütebilmek.

BAZI ÖRNEKLER