



Uluslararası Yerel Yönetimler Sera Gazı Salımlarının Analizi Protokolü (IEAP) Nedir?

Prof. Dr. Cengiz Türe

Türkiye Sağlıklı Kentler Birlięi Danışma Kurulu Üyesi

ve

Anadolu Üniversitesi Ekoloji Anabilim Dalı Başkanı

Uluslararası Literatüre Hakim Olmak

Last printed 10/2000 3/00 Creating a standard for a corporate CO₂ indicator

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



by Charles Thomas, Tessa Tennant and Jon Rolls



For further information please contact:

UNEP Economics and Trade Unit
International Environment House
15 Chemin des Anémones
1219 Châtelaine, Genève
Switzerland
Fax: +41 22 796 9240
E-mail: et@unep.ch



UNEP Energy and Ozone Action Unit
Tour Mirabeau
39-43 Quai André Citroën
75739 Paris Cedex 15
France
Fax: +33 1 44 37 14 74
E-mail: unep.oe@unep.fr



2006 IPCC Guidelines for National Greenhouse Gas Inventories

Volume 1

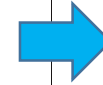
General Guidance and Reporting

Edited by Simon Tappin, Lennox Bland, Kyoto Miwa, Toshi Naga and Kyoto Tanaka



IPCC National Greenhouse Gas Inventories Programme

IGES



United Nations Framework Convention on Climate Change

KYOTO PROTOCOL REFERENCE MANUAL

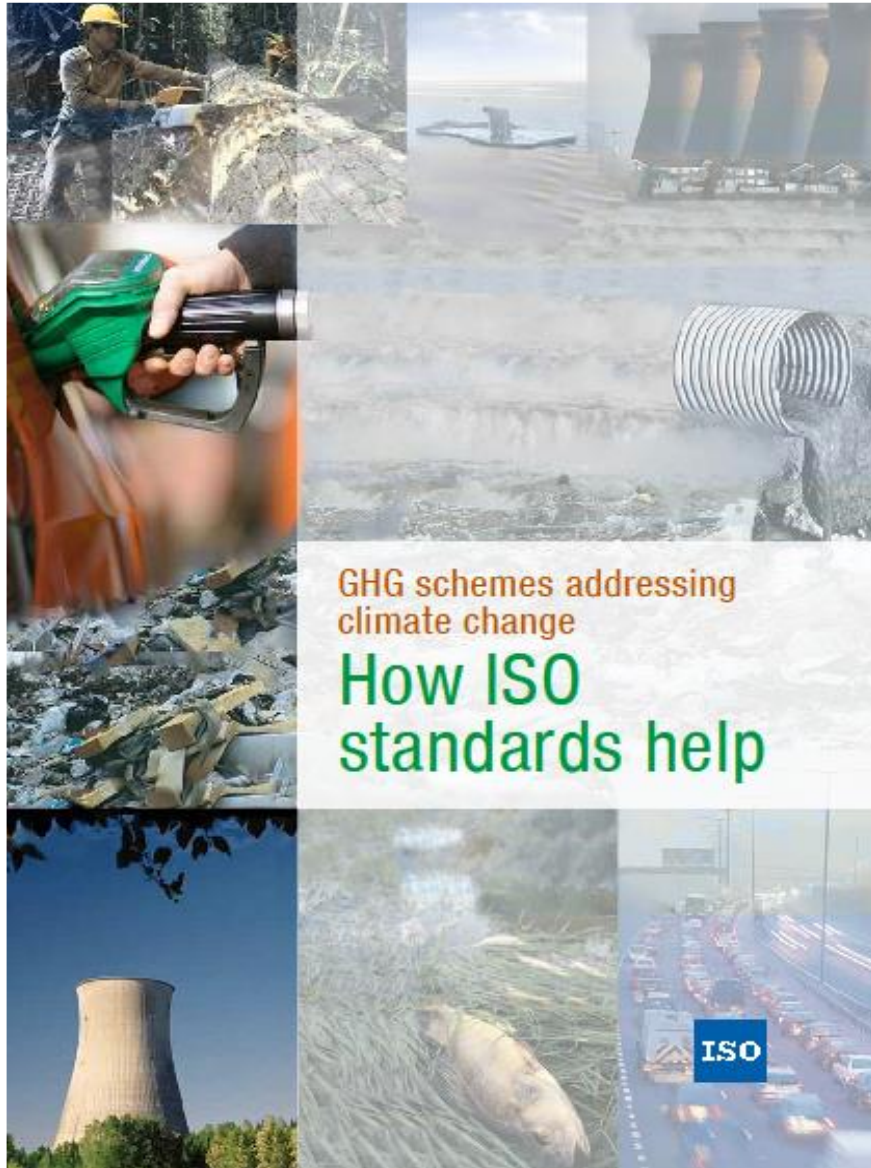
ON ACCOUNTING OF
EMISSIONS AND ASSIGNED AMOUNT

UNFCCC

GLOBAL PROTOCOL
FOR COMMUNITY-SCALE
GHG EMISSIONS
(GPC)

Version 0.9 - 20 March 2012

ISO 14000 - Environmental Management



GHG schemes addressing
climate change
**How ISO
standards help**

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 undermines, international initiatives for combating climate change.

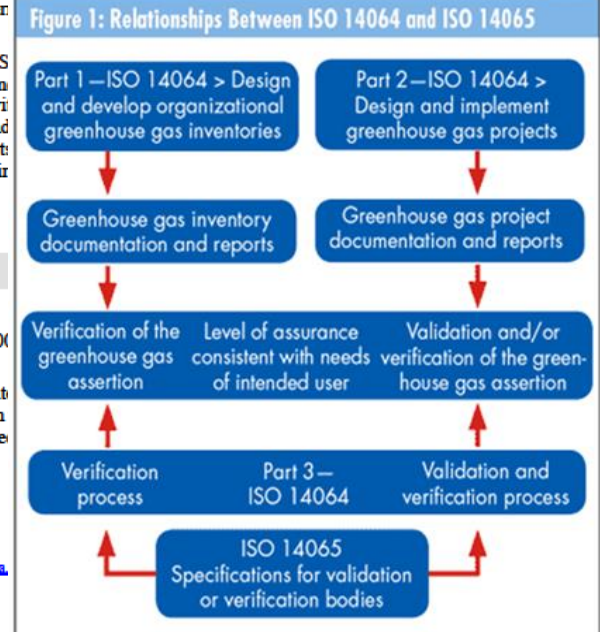
This report is guided by the draft [NGO Position Paper](#) on the ISO supplementary [issue paper](#) concerning the entity part of the standard identified by ECOLOGIA and its NGO allies for negotiation with reference in this report to positions of "countries" should be used under ISO procedural customs: 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 2003. Additions to the draft standard made there include:

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



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



Avrupa Birliği'nden Çevre Alanında İy Uygulama Örnekleri



ENVIRONMENTAL SCIENCE & TECHNOLOGY

Viewpoint

Environ. Sci. Technol. 2008, 42, 5859-5862

The Importance of Carbon Footprint Estimation Boundaries

H. SCOTT MATTHEWS,
CHRIS T. HENDERICKSON, AND
CHRISTOPHER T. 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 contribution 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 18% of the total supply chain carbon emissions (often called Tier 1 emissions), and direct emissions plus industry energy inputs are, on average, only 28% of the total supply chain emissions (often called Tier 1 and 2 emissions). Without a full knowledge of their own footprint, 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.



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Greenhouse Gas Reporting Program: 2010 Data Publication

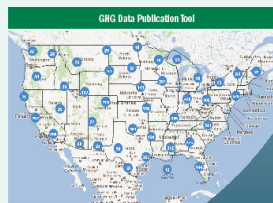


In January 2012, for the first time, the U.S. Environmental Protection Agency (EPA) released greenhouse gas (GHG) data collected under the GHG Reporting Program. The data set shows 2010 U.S. GHG emissions from large industrial facilities, and from suppliers of certain fossil fuels and industrial gases. 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 data. In the coming months EPA will add more features to the data publication tool.

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 million of coal.
- A list of 2010 reporters can be found online at: <http://epa.gov/climatechange/emissions/downloads/2010reporting.pdf>.



January 2012

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Analysis
Identifying important characteristics of municipal carbon footprints
Hogne N. Larsen^{a,*}, Edgar C. Hertwich^b
^aIndustrial Ecology Programme, Department of Energy and Process Engineering, Norwegian University of Science and Technology (NTNU), Høgskolgt. 7, NO-7471 Trondheim, Norway
^bUniversity of British Columbia, Vancouver, Canada

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1. Introduction
A rising interest in sub-national climate governance has resulted in a number of campaigns such as the "Cities for the Climate Protection" (CCP) (Boswell and Ballington, 2006; Winkler, 2006; Frick, 2006) and the development of local GHG inventories (Dobson, 2006; Kates, 2006). This shift has also led to the introduction of consumption-based methodologies (Wiedema et al., 2008; Hammond, 2007; Wiedema and Minx, 2007). Focusing on the footprint of consumption shifts the responsibility of GHG emissions to the consumers of products and services. This has proven to be a more useful way of considering GHG emissions inventories, compared to focusing on production processes within local geographical boundaries (Larsen and Hertwich, 2008; Hertwich and Peters, 2009; Peters, 2008). Including all GHG emissions (related to energy, scope 1 (direct), scope 2 (the purchase of electricity) and scope 3 (other indirect) (World Resources Institute, 2004)), scope 1 is the most common. The most being consumption-based inventories enable per capita indicators to measure the performance of municipalities and improve the potential policy implications to be drawn from the calculation. Further, inclusion of scope 3 emissions is essential to capture shifts in the provision of services, e.g. the purchase of transportation services instead of fuel for use in municipality's own vehicles.

In this paper, we calculate the Carbon Footprint (CF) (Wiedema and Minx, 2007; Winkler et al., 2008) from the provision of public services conducted by all 429 Norwegian municipalities. Second, even in cases where public services were not included, local GHG inventories have traditionally

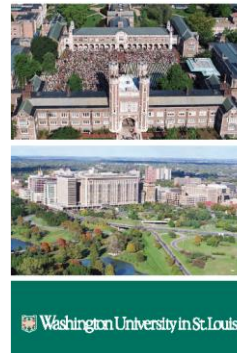
for comparability to enable us to examine the characteristics of low carbon cities. The municipalities range from Utsira (234 inhabitants) to Oslo (548,117 inhabitants). We investigate the variation of CF with the following key variables: population, density and wealth (measured by GDP). Further, we investigate more specific variables that explain variation in elements of the CF. The most values for the study is to investigate the most important factors influencing the CF of municipal services. A statistical test is provided in order to examine the significance of the variables influencing the CF of municipal services. Discussions on policy implications are kept to a minimum; however, we discuss upon the debate surrounding the potential effects of merging smaller municipalities, and discuss policy implications future work might have.

In Norway, local authorities have the responsibility to provide public services for their citizens. These services include the provision of preschool, elementary and secondary schooling, healthcare (mainly nursing homes and inpatient healthcare services), old age and nursing homes, waste supply, sewerage/garbage collection, cultural and sports facilities, and the maintenance of municipal roads and buildings. Full detail on the municipal responsibilities is provided in Appendix A. With a concentration of 18% of GDP, this is a significant part of the Norwegian economy.¹ However, climate action plans, even at the local level, carry little with environmental impacts resulting from public services. The reason is twofold. First, using a production-based perspective will not identify municipal services as significant because of low direct emissions (scope 1) emissions. Second, even in cases where public services were included, local GHG inventories have traditionally

Greenhouse Gas Emissions Inventory

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Fiscal Years 1990–2009

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Carbon footprint: current methods of estimation

Divya Pandey · Madhoolika Agrawal ·
Jai Shanker Pandey

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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.

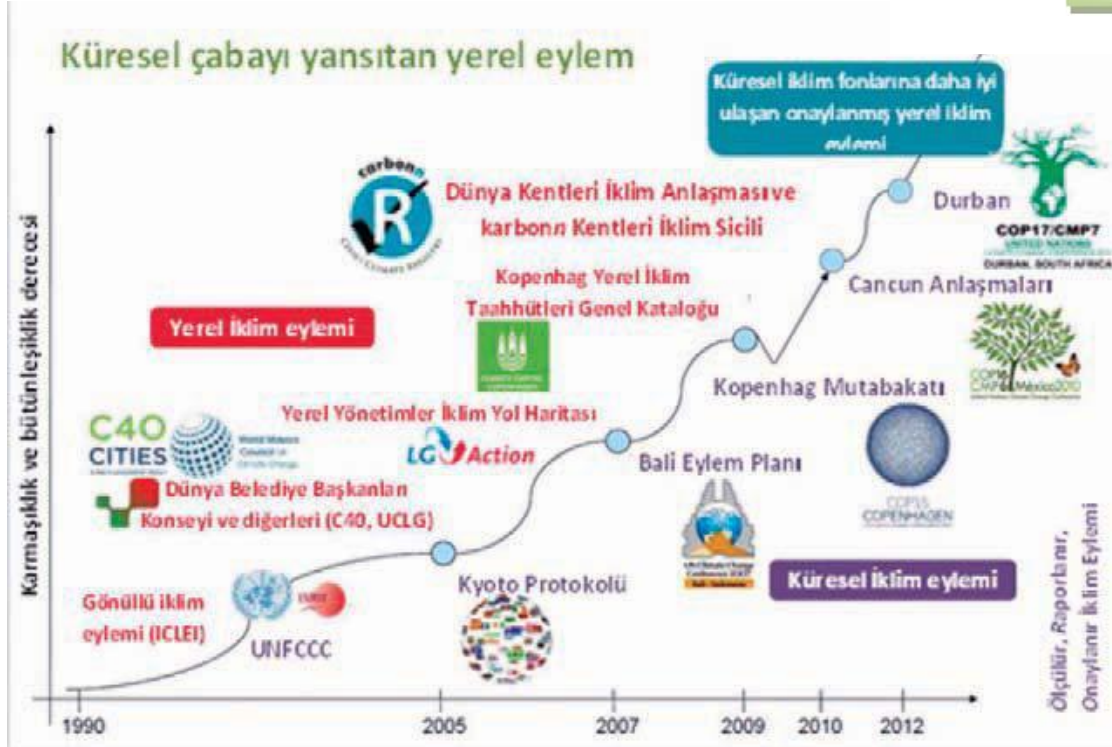
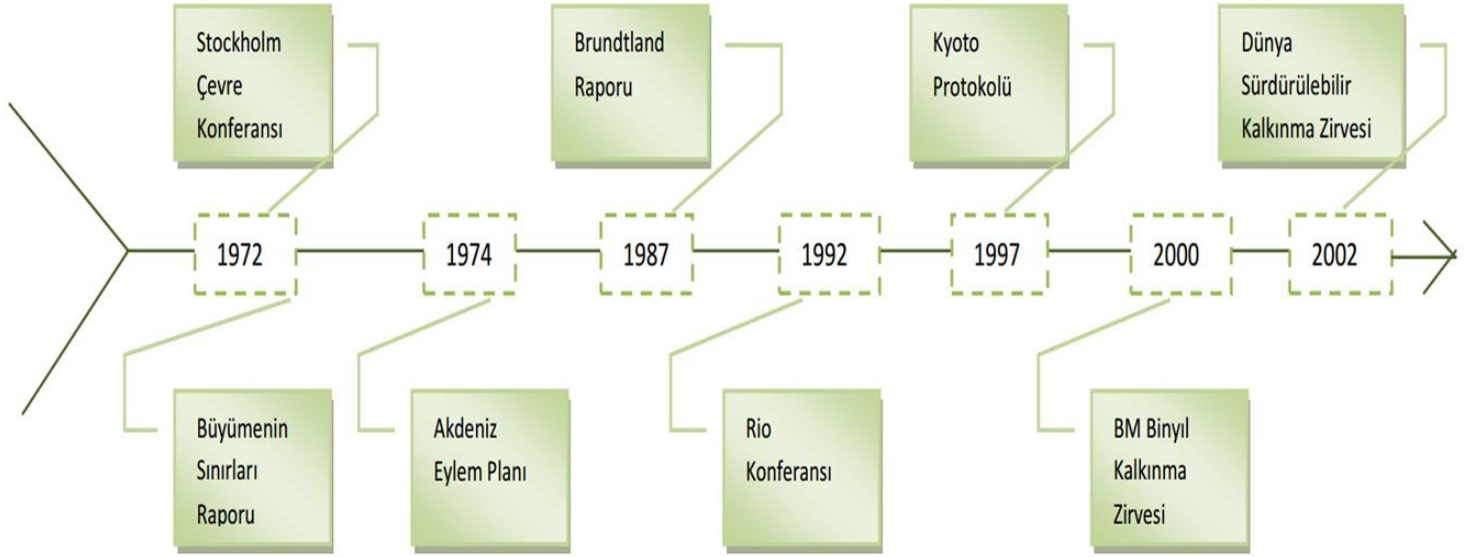
Keywords Carbon footprint · Direct emissions · Embodied emissions · Greenhouse gases

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

D. Pandey · M. Agrawal (✉)
Laboratory of Air Pollution and Global Climate
Change, Ecology Research Circle, Department
of Botany, Banarus Hindu University,
Varanasi 221005, India
e-mail: dragnay@bhu.ac.in

J. S. Pandey
National Environmental Engineering Research
Institute (NEERI), Nagpur 440025, India



ICLEI International Council for Local Environmental Initiatives (Sürdürülebilir Kentler Birliđi) 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.





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Uluslararası Yerel Yönetimler Sera Gazı Salımlarının Analizi Protokolü (IEAP)



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Signatories

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% CO₂ reduction objective by 2020.

[Read more](#)



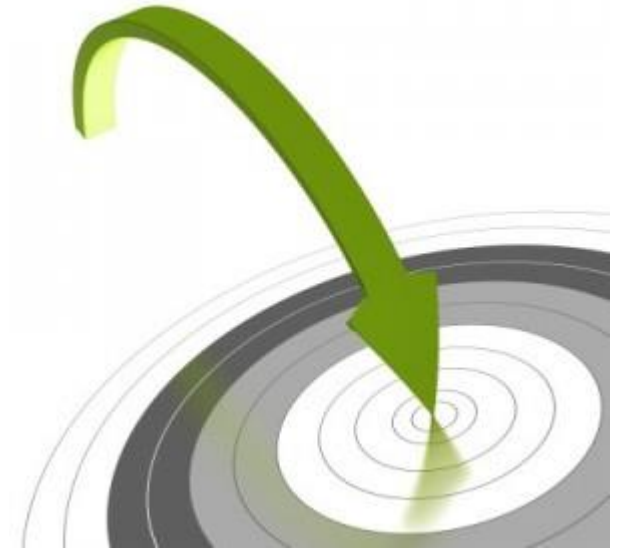
[MAYORS IN ACTION](#)

[COVENANT MAP](#)

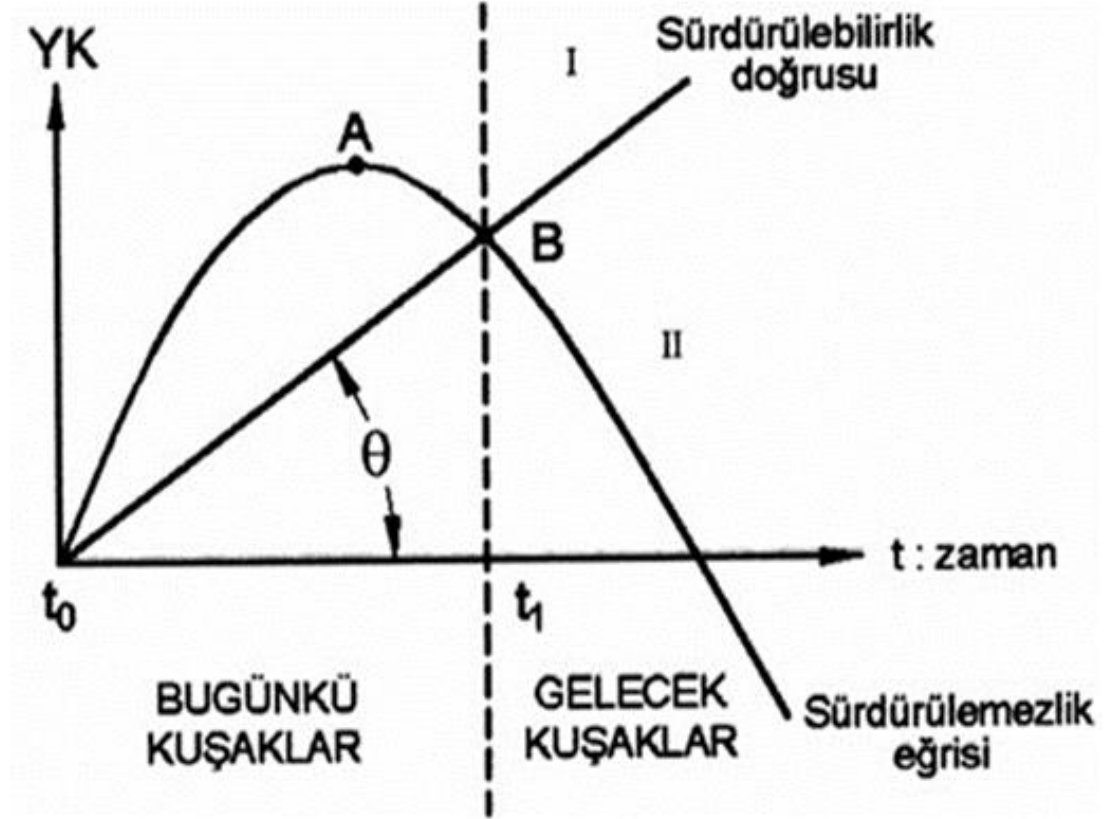
[COVENANT IN FIGURES](#)

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.





KENTSEL KARBON AYAKIZI ÖLÇÜM VE İZLEME YÖNTEMLERİ REHBERİ

BAZI ÖRNEKLER

ESKİŞEHİR İL MERKEZİNDEKİ ENERJİ TÜKETİMİNİN KÜRESEL ISINMA VE İKLİM DEĞİŞİKLİĞİ ÜZERİNE ETKİSİ: *KARBON AYAK İZİ*

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Prof. Dr. Cengiz TÜRE

1 Anadolu Üniversitesi Fen Fakültesi Biyoloji Bölümü Ekoloji A.B.D., Eskişehir - TÜRKİYE

2 TMMOB Makine Mühendisleri Odası Eskişehir Şubesi - TÜRKİYE



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Şubat 2013

