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Appendix 1
Inventory of Mapped Initiatives

Revision 4
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Table of Content

Name of the framework

2000-Watt-Areale. Handbuch zum Energiestadt Zertifikat für 2000-Watt-Areale. Version 2015 [2000-Watt-Areas.. Handbook for the 'Energiestadt' Certification of 2000-Watt-Areas. Version 2015]

Source

http://www.2000watt.ch/

Who, in general terms, is the end user of the framework?

Building owners, developers, municipalities

Where has the framework been used so far?

In Switzerland

To whom are the results communicated?

Energiestadt Association [Trägerverein Energiestadt]

Does the framework focus on cities or on project evaluation?

Large scale projects

What is overall goal of the indicator system?

2000-Watt-Society is a concept, which on the one hand attempts to couple the energy-political activities and on the other hand aims to direct these activities towards a joint vision. The indicator system is a criteria catalogue serving the measurement of progress towards the achievement of the 2000 Watt goals.

Is there an underlying scientific theory? If yes, please specify.

Sustainability, reduction of the energy consumption to 2000 Watt of primary energy per person/year

Is there a specific political context for which the framework was developed? If yes, please specify.

Swiss political setting

Name of the framework

2DECIDE project indicators. 2DECIDE = Toolkit for sustainable decision making in ITS deployment

Source

2DECIDE project deliverable D3.1

Who, in general terms, is the end user of the framework?

This project and its indicators address uniquely transport related issues, only primary indicators are mapped (there are also supporting indicators)

Where has the framework been used so far?

n/a

To whom are the results communicated?

It's a public deliverable

Does the framework focus on cities or on project evaluation?

Smart transport project evaluation. To be more precise, the indicators are used to assess ITS (intelligent transportation system) applications with regard to their impacts, socio-economic profitability, and user acceptance as well as technical, legal, institutional and financial feasibility. Most of the quantitative indicators are evaluated as % of change before and after of the deployment of the transport solution - most qualitative indicators are described as free text.

What is overall goal of the indicator system?

n/a

Is there an underlying scientific theory? If yes, please specify.

n/a

Is there a specific political context for which the framework was developed? If yes, please specify.

Intelligent transportation system applications

Name of the framework

BREEAM Communities 2012

Source

www.breeam.org

Who, in general terms, is the end user of the framework?

The document has been designed for large scale development project. It has to be used by trained, qualified and license BREEAM Assessors in accordance with the procedural and operational requirements of BREEAM under the terms and conditions of a relevant BREEAM licence.

Where has the framework been used so far?

BREEAM is applied in its various forms in over 50 countries.

To whom are the results communicated?

The Document can be used to assess the sustainability impacts (social, environmental and economic) of a site-wide development in accordance with this document in England, Scotland, Wales and Northern Ireland. Assessments in most other countries will need to undergo a bespoke assessment process to ensure that criteria are appropriate for the context within which the development.

Does the framework focus on cities or on project evaluation?

BREEAM Communities is a framework for considering the issues and opportunities that affect sustainability at the earliest stage of the design process for a development.

What is overall goal of the indicator system?

The scheme addresses key environmental, social and economic sustainability objectives that have an impact on large-scale development projects.

Is there an underlying scientific theory? If yes, please specify.

BREEAM Communities Scheme 2012 is affiliated to the BRE Global international Code for a Sustainable Built Environment. The BRE Global Code for a Sustainable Built Environment is a set of strategic principles and requirements which define an integrated approach to the design, management, evaluation and certification of the environmental, social/economic impacts of the built environment.

Is there a specific political context for which the framework was developed? If yes, please specify.

BRE Global LTD

Name of the framework

Comprehensive assessment system for built environment efficiency **(CASBEE) for Cities** (Edition 2012)

Source

Institute for building environment and energy conservation (IBEC)

Who, in general terms, is the end user of the framework?

The "CASBEE-CITY" assessment manual can be used as a technical guideline. The indicators consist of publicity-available statistics by municipalities. While the manual focuses on the cities in Japan, its basic concept is universally applicable and relevant in any region or country.

Where has the framework been used so far?

In Japan and Asia

To whom are the results communicated?

The assessment is conducted at the municipal level, the foundation of a society. It was developed along the process flow of building design including pre-design, design and post design (life cycle of a building).

Does the framework focus on cities or on project evaluation?

The city assessment tool focuses on evaluating cities from two perspectives; **quality inside a city** and **environmental load emitted from a city on the external environment**, in accordance with the principle of the conventional CASBEE.

What is overall goal of the indicator system?

Assessment tools were developed in accordance with the following three concepts: 1. Evaluating a built environment through its entire lifecycle. 2. Evaluating a building from the **two aspects of environmental quality and load**. 3. Evaluating a built environment according to the "Built Environment Efficiency". Also CASBEE *for Urban Development* for evaluation of a group of buildings and *for Cities* for evaluation of the building environment in terms of the area with the scale of the city have been developed.

Is there an underlying scientific theory? If yes, please specify.

Kyoto Protocol and Post-Kyoto Protocol

Is there a specific political context for which the framework was developed? If yes, please specify.

Government of Japan, Committee for the development of an environmental assessment tools for cities (2008)

Name of the framework

Comprehensive Assessment System for Built Environment Efficiency (CASBEE) for Urban Development (Edition 2014)

CASBEE 2014 edition contains a fundamentally revised evaluation while inheriting the basic principles of CASBEE 2007.

Source

http://www.ibec.or.jp/CASBEE/

Institute for building environment and energy conservation (IBEC)

Who, in general terms, is the end user of the framework?

Cities, regions…

Where has the framework been used so far?

In Japan and Asia

To whom are the results communicated?

The Assessment system is used for the planning, scheduling, designing, executing and operating fields for block/zone-scale projects and contributes to the promotion of sustainable urban development.

Does the framework focus on cities or on project evaluation?

CASBEE for Urban development is a tool for assessment of comprehensive area development project including groups of buildings.

What is overall goal of the indicator system?

1. Comprehensive assessment of environmental performance of a construction project planned and conducted under the unified intention of development for a relatively large group of land sections such as a whole block or a district consisting of clocks. 2. In particular, focused assessment of introduction and implementation of methods to lower carbon emissions in buildings and urban/local areas. 3. Clarification of the execution effect of not only methods of environmental consideration appropriate for individual buildings constituting the relevant project but also methods of environmental consideration that can be developed newly or further be becoming a group of buildings (incl. area development). 4. Contribution to improvement of comprehensive environmental performance of urban or regional redevelopment through projects of block/district scale.

Is there an underlying scientific theory? If yes, please specify.

n/a

Is there a specific political context for which the framework was developed? If yes, please specify.

Government of Japan, Committee for the development of an environmental assessment tools for cities (2008)

Name of the framework

City Protocol Agreement - Anatomy indicators. Developed by TAFT - DICI Indicators. / July 2015

Source

The Anatomy Indicators were developed by the work team on Data Interoperability and City Indicators (DICI) of the City Protocol Task Force

Who, in general terms, is the end user of the framework?

The main target groups of users are city leaders and officials.

Where has the framework been used so far?

No applications so far.

To whom are the results communicated?

http://cityprotocol.org

Does the framework focus on cities or on project evaluation?

The framework focuses on the city level.

What is overall goal of the indicator system?

The objective is to establish definitions and methodologies for a minimum set of foundational city indicators to measure city services, sustainability, resilience and quality of life in accordance with the framework established by the City Anatomy (http://www.cptf.cityprotocol.org/CPAI/CPA-I_001_Anatomy.pdf). This general objective can be expressed through the following operational objectives:

- Define a set of foundational city indicators by extending the ISO 37120 set while preserving the ISO definition methodology and making them as useful as possible to other ongoing work at the City Protocol Task Force.

- Measure all anatomy layers and systems with at least one core indicator.

- Establish the relationship between measurable, comprehensive and useful indicators for cities and the common framework provided by the City Anatomy. These indicators can be obtained from standard statistical methods, city legacy or telemetry (i.e., Open Sensors Platform).

- Propose a list of indicators to guide and help city transformation projects by measuring the different areas of the anatomy and its city evaluation framework.

Is there an underlying scientific theory? If yes, please specify.

The framework is based on the so-called "city anatomy" of the City Protocol Society: "The City Anatomy, an analogy to the human anatomy and its dynamic physiology, is an organizing framework for the City Protocol. It creates a foundation upon which to build a collaborative platform and tools to support effective city governance, evaluation and transformation. It offers a common language describing the city ecosystem as three key

system elements: a set of physical structures (Structure); the living entities that make up a city's society (Society); and the flow of interactions between them (Interactions). In so doing, City Anatomy helps understanding and mapping interconnections between city systems." see http://www.cptf.cityprotocol.org/ancha/CPA-I_001_Anatomy.pdf
Is there a specific political context for which the framework was developed? If yes, please specify.
n/a

Name of the framework

CIVITAS (May 31st, 2013)

Source

CIVITAS Wiki document - Applied framework for evaluation in CIVITAS PLUS II

Who, in general terms, is the end user of the framework?

The framework is a practitioners' guide to sound evaluation for urban mobility measures and developed to support cities in the introduction of ambitious transport measures and policies towards sustainable urban mobility.

Where has the framework been used so far?

During the ten years of the CIVITAS Initiative, more than 730 technical and policy-based urban transport measures have been developed and implemented. In several evaluations of their impacts and processes, valuable lessons for implementation in other cities were derived.

To whom are the results communicated?

Since 2002, CIVITAS has supported 59 cities across Europe in the implementation of more than 730 innovative urban mobility measures.

Does the framework focus on cities or on project evaluation?

The evaluation focuses on individual measures, bundles of measures and on evaluations at the city level

What is overall goal of the indicator system?

The goal is to achieve a significant shift in modal split towards sustainable transport, an objective reached through encouraging both innovative technology and policy-based strategies.

Is there an underlying scientific theory? If yes, please specify.

n/a

Is there a specific political context for which the framework was developed? If yes, please specify.

Developed for the European Commission

Name of the framework
CIVIS

Source
Deliverable D2.1 - Final Report about Energy, ICT and Physical Systems of the CIVIS Pilot Sites
Deliverable D7.1 - CIVIS Test Site Report

Who, in general terms, is the end user of the framework?
Three levels of stakeholders:
1) End user level: Households and small businesses (their integration in CIVIS is essential)
2) Regional level: Medium scale electricity generation companies, Municipalities, Large and medium businesses, Metering operator, Gas retailer, Distribution system operator, Electricity distributer
3) Trans-regional level: Large scale electricity generation companies, Transmission system operator, Energy market, Trading companies, Regulatory authorities related to energy issues (not directly addressed in CIVIS)

Where has the framework been used so far?
Four test sites are being analysed in the project (two in Italy and two in Sweden). A preliminary evaluation report will be published at M24 (October 2015) with preliminary evaluation of the measures implemented along with the results from the baseline tests

To whom are the results communicated?

n/a

Does the framework focus on cities or on project evaluation?

Project

What is overall goal of the indicator system?

The goal of the CIVIS project is to explore the potential of social networks and communities to significantly reduce energy use and carbon emissions. This is supported by an ICT system. An ICT system suitable to achieve this goal should provide two important points: 1. Information exchange between stakeholders related to energy issues 2. Energy system control abilities.

The main objective of WP7 is to test the effect, in terms of reduced energy use and reduced CO2 emissions, of the technology proposed within the CIVIS project, by running extensive real-life evaluation tests on the two pilot sites. The following objectives are identified:

- To measure the reduction of energy consumption and of CO2 emissions through the introduction of the CIVIS

ICT platform.

- To analyse the social and economic drivers for the success (or failure) of the measures. These will be determined by means of qualitative analysis.

Is there an underlying scientific theory? If yes, please specify. n/a
Is there a specific political context for which the framework was developed? If yes, please specify. n/a

Name of the framework

ClimateCon

Source

Dr. Ian Minx, Dr. Felix Creutzig, Verena, Medinger, Tina Ziegler, Anne Owen and Dr. Giovanni Baiocchi (2011). DEVELOPING A PRAGMATIC APPROACH TO ASSESS URBAN METABOLISM IN EUROPE - A REPORT TO THE EUROPEAN ENVIRONMENT

Who, in general terms, is the end user of the framework?

Local policy

Where has the framework been used so far?

n/a

To whom are the results communicated?

n/a

Does the framework focus on cities or on project evaluation?

City

What is overall goal of the indicator system?

To understand the physical metabolism of European cities and its local, regional and global environmental consequences. Many existing indicator sets have been designed to inform and guide local policy. Our aim is the identification of a set of general determinants behind commonalities and differences in the metabolism of cities (urban flows) across Europe and their relationship to urban structures (urban patterns), socio-economic drivers (urban drivers) and aspects of quality of life (urban quality).

Is there an underlying scientific theory? If yes, please specify.

n/a

Is there a specific political context for which the framework was developed? If yes, please specify.

All the activities are taking place in the context of the lntegrated Urban Monitoring in Europe (IUME) initiative started by the EEA. IUME is an attempt by the EEA to integrate the various urban monitoring initiatives across Europe with the ambition to identify and fill data gaps, improve the efficiency of work, and to provide an integrated information base and monitoring of progress towards more sustainable urban development

Name of the framework

Covenant of Mayors - Monitoring and reporting progress of Sustainable Energy Action Plan Implementation

Source

http://www.eumayors.eu/IMG/pdf/seap_guidelines_en.pdf

Who, in general terms, is the end user of the framework?

Cities/Local Authorities/ Provinces/Regions/Local and Regional Energy Agencies

Where has the framework been used so far?

In 5828 cities in Europe and Near Eastern Regions

To whom are the results communicated?

The Covenant of Mayors Office (CoMO), established and funded by the European Commission

Does the framework focus on cities or on project evaluation?

Predominantly on cities

What is overall goal of the indicator system?

Supporting the cities in their process of evaluation of the progress being made in implementation of Sustainable Energy Action Plans

Is there an underlying scientific theory? If yes, please specify.

n/a

Is there a specific political context for which the framework was developed? If yes, please specify.

The Covenant of Mayors is a European cooperation movement involving local and regional authorities. Covenant signatories aim to meet and exceed the European Union 20% CO_2 reduction objective by 2020.

Name of the framework CONCERTO (May 31st, 2013)
Source CONCERTO Premium Indicator Guide
Who, in general terms, is the end user of the framework? Building Owner or Developer, Utility or Energy Service, Authority and Legislation, Grants, Funding, Insurance, Energy Consultancy, Environmental Expert, Public.
Where has the framework been used so far? Communities in 58 cities in 23 countries
To whom are the results communicated? In different reports, Online @ www.concerto.eu
Does the framework focus on cities or on project evaluation? The indicators are described – if applicable - for Individual building, Set of buildings, Large-scale or building-integrated energy supply unit, Set of large-scale units, CONCERTO area
What is overall goal of the indicator system? The indicators that have been proposed by CONCERTO Premium are based on the three pillars of sustainability, i.e. the economic, the environmental and the social dimensions
Is there an underlying scientific theory? If yes, please specify. Different Standards have been used: CEN standards but also National standards; Feedback has been collected as well from various stakeholder throughout the CONCERTO Plus and CONCERTO Premium projects
Is there a specific political context for which the framework was developed? If yes, please specify. Developed for the European Commission in the context of three generation of Concerto projects

Name of the framework DEvelopment of a System of Indicators for a Resource efficient Europe (DESIRE)
Source DESIRE - D4.2 final report on indicator framework
Who, in general terms, is the end user of the framework? The most relevant primary user group (Go4 of Eurostat, EEA, DG ENV, DG JRC).
Where has the framework been used so far? n/a
To whom are the results communicated? n/a
Does the framework focus on cities or on project evaluation? Europe/countries
What is overall goal of the indicator system? The main goal of DESIRE is to develop and apply an optimal set of indicators to monitor European progress towards resource-efficiency.
Is there an underlying scientific theory? If yes, please specify. DPSIR
Is there a specific political context for which the framework was developed? If yes, please specify. FP7

Name of the framework

DGNB New Urban Districts

Source

Deutsche Gesellschaft für Nachhaltiges Bauen (ed) 2012: Neubau Stadtquartiere. Version 2012. Stuttgart: Kohlhammer

Who, in general terms, is the end user of the framework?

Real estate developers

Where has the framework been used so far?

In various cities in Germany, Switzerland, Denmark and Luxembourg. Applications in other European countries, as well as in Brazil, China and Russia are being prepared.

To whom are the results communicated?

Descriptions of all certified projects can be found in an online database: http://www.dgnb-system.de/en/projects/

Does the framework focus on cities or on project evaluation?

The framework focuses on the evaluation of projects.

What is overall goal of the indicator system?

Certification of Urban Neighborhoods and Buildings in regards to their Lifecycle performance. The possible Certification categories are: bronze, silver or gold.

Is there an underlying scientific theory? If yes, please specify.

n/a

Is there a specific political context for which the framework was developed? If yes, please specify.

n/a

Name of the framework

DuurzaamheidsProfiel van een Locatie (DPL) (Sustainability profile of a location)

Source

IVAM brochure 'DPL: Meten aan de duurzaamheid van een wijk'

http://www.ivam.uva.nl/c/werkvelden/duurzame-gebieden/duurzaamheidsprofiel-van-een-locatie-dpl/

Who, in general terms, is the end user of the framework?

Project leaders within cities, project developers, urban planners, environmental consultants

Where has the framework been used so far?

It has been applied to 130 neighbourhoods in 35 municipalities

To whom are the results communicated?

n/a

Does the framework focus on cities or on project evaluation?

neighbourhoods

What is overall goal of the indicator system?

Measuring the sustainability of an existing neighbourhood or design plans and highlighting strong and weak aspects

Is there an underlying scientific theory? If yes, please specify.

n/a

Is there a specific political context for which the framework was developed? If yes, please specify.

n/a

Name of the framework

Ecodistr-ICT

Source

www.ecodistr-ict.eu

Who, in general terms, is the end user of the framework?

The framework is aimed at the stakeholders in multi-stakeholder decision making on a district level. For example: local governments, water boards, energy companies, housing corporations, residents, other (potential) investors. Facilitating this decision making process and using the framework within this process can be done by consultancy companies.

Where has the framework been used so far?

The framework will be tested in the Rotterdam district Rubroek in June, 2015. In the project (running until 2017), the framework will be further tested in Valencia, Stockholm, Warsaw and Antwerp, respectively.

To whom are the results communicated?

Stakeholders in multi-stakeholder decision making on a district level, see above.

Does the framework focus on cities or on project evaluation?

The framework focusses on multi-stakeholder decision making, on a district level. As a starting point for this process, the current situation of the district is evaluated, i.e. scored on a number of relevant KPI's.

What is overall goal of the indicator system?

The aim of this project is to support multi-stakeholder decision making. The (ICT) framework is being developed to serve as a mean for this.

Is there an underlying scientific theory? If yes, please specify.

Part of the connected modules used to calculate KPI's have a scientific basis.

Is there a specific political context for which the framework was developed? If yes, please specify.

Developed in an FP7 project, so a European context

Name of the framework Eurbanlab Benchmark for You (B4U) (December 2014)
Source The Eurbanlab Selection of Indicators version 4
Who, in general terms, is the end user of the framework? Solution providers and urban planners (to gain trust in the innovation at hand)
Where has the framework been used so far? Test assessments within the community
To whom are the results communicated? Eurbanlab community
Does the framework focus on cities or on project evaluation? Focus is on project evaluation (specifically neighbourhood scale)
What is overall goal of the indicator system? The aim of Eurbanlab is to connect solution providers and end-users, and enable them to share, learn and transfer concepts and technologies in order to accelerate the transition to low-carbon resilient cities. The B4U tool is considered a main tool for supporting this process by: increased learning from successful urban innovations on a European scale, by identifying, collecting and sharing systemic urban innovations; providing confidence and trust amongst investors in new or existing urban innovations; fostering new strategic coalitions between solution providers and buyers of urban innovations in a European platform of stakeholders in sustainable city development.
Is there an underlying scientific theory? If yes, please specify. n/a
Is there a specific political context for which the framework was developed? If yes, please specify. n/a

Name of the framework

European Smart Cities v1.0 (2007)

Source

www.smart-cities.eu

Who, in general terms, is the end user of the framework?

"This study was the first of its kind to focus on medium-sized cities, thereby considering a broad range of factors and indicators, inherent to the concept of 'smart cities'. […] this ranking approach detected a niche within existing rankings and some of the medium-sized cities are very much aware of its usefulness for their own positioning."

Where has the framework been used so far?

The framework was applied to 90 medium-sized cities in Europe, ranging from 100,000 to 500,000.

To whom are the results communicated?

http://www.smart-cities.eu/

Does the framework focus on cities or on project evaluation?

The study focused on benchmarking on the city level.

What is overall goal of the indicator system?

- Focus on medium-sized cities, a class of cities normally neglected in international comparative analyses

- Analysis of characteristics and factors decisive for a successful forward-looking city development

- Use of a transparent and comprehensive catalogue of indicators, using data from official, public and freely available sources

- Elaboration of detailed city profiles on the basis of 74 indicators providing applicable statements on comparative strengths and weaknesses

"[...] truly smart cities use this city-ranking as a tool to benchmark with other cities, and draw lessons from better performing cities, perhaps resulting in policy transfer. This should become evident in a follow-up to this project that will allow an assessment of the cities performance in each smart characteristic."

Is there an underlying scientific theory? If yes, please specify.

n/a

Is there a specific political context for which the framework was developed? If yes, please specify.

Developed for the European Commission

Name of the framework

Kiitoskaupunkien ekologiset kestävyyden indikaattorit 2006-2010 (In Finnish).
The indicators of ecological sustainability of the six biggest Finnish cities (2006-2010).

Source

Kuutosten indikaattorit laskentaohjeet. V. November 2014. 24 pages. and Kuutoskaupunkien ekologisen kestävyyden indikaattottorit 2006-2010. Espoo, Helsinki, Oulu, Tampere, Turku, Vantaa. Editors Mia Malin & Marketta Karhu.

Who, in general terms, is the end user of the framework?

City authorities and planners that carry out environmental/ecological impact assessment. Co-created by the six biggest Finnish cities Espoo, Helsinki, Tampere, Vantaa, Turku and Oulu which are also the main end users of the indicators.

Where has the framework been used so far?

All the mentioned cities has used the framework in their environmental/ecological impact assessment, use it in regular environmental impact monitoring and the results have been published in the cities' sustainable development reports between 2006-2010.

To whom are the results communicated?

The published sustainable development reports have been published publicly.

Does the framework focus on cities or on project evaluation?

Cities

What is overall goal of the indicator system?

Environmental/ecological impact assessment and monitoring of the environmental/ecological performance of cities. Also addresses environmental economy.

Is there an underlying scientific theory? If yes, please specify.

Co-created based on the cities needs related to ecological impact assessment, environmental economy assessment and the indicator selection is also based on data availability, repeatability, content and comparability and also the relevance for the cities functions and workers. The sources used for the descriptions and definitions of the indicators include the following: Finnish indicators of sustainable development, environmental indicators of Nordic cities, European common indicators (ECI project), EU's environmental indicators, Urban audit indicators, OECD environmental indicators, UN's sustainable development indicators

Is there a specific political context for which the framework was developed? If yes, please specify.

Collaboration of the six biggest FIN cities

Name of the framework

Global City Indicators Facility

Source

www. cityindicators.org; http://www.globalcitiesinstitute.org/

Who, in general terms, is the end user of the framework?

Cities/city representatives worldwide

Where has the framework been used so far?

By the members of the Global City Indicators Facility - 253 cities across 80 countries

To whom are the results communicated?

n/a

Does the framework focus on cities or on project evaluation?

On cities

What is overall goal of the indicator system?

Creating knowledge network, connecting cities and building global partnerships. Drawing comparative lessons from other cities globally.

Is there an underlying scientific theory? If yes, please specify.

n/a

Is there a specific political context for which the framework was developed? If yes, please specify.

n/a

Name of the framework

European Green Capital Award (not official name)

Source

Telos (2015). Integrated Sustainability Monitoring of 58 EU-Cities - A study of European Green Capital Award applicant cities. Document Number: 15.123

Who, in general terms, is the end user of the framework?

n/a

Where has the framework been used so far?

Data collected for 58 GCA-cities

To whom are the results communicated?

n/a

Does the framework focus on cities or on project evaluation?

City

What is overall goal of the indicator system?

The extended study now proposed by the University of Tilburg will provide useful input supporting the development of a set of criteria which will be available to cities, as part of a self-assessment tool promoting progress towards a more sustainable urban future. (The assessment should assist the sustainability monitoring of European cities (and comparison)) Monitoring the sustainability of European cities should allow to assess integrated sustainability approaches in a fair and meaningful way, not in view of general scientific findings alone but also to provide guidance to local and other authorities

Is there an underlying scientific theory? If yes, please specify.

Based on the RFSC(Reference Framework for Sustainable Cities) and the Telos sustainability framework, with special attention paid to data availability

Is there a specific political context for which the framework was developed? If yes, please specify.

The starting point for the EU wide monitoring project has been described in an invitation letter of DG Environment for an at the time envisioned workshop at 25 September 2014 in Brussels. The invitation referred to an approach followed in the National Monitor of Sustainability of Dutch Municipalities 2014 that has been published March 2014 (Annex 2). The letter was sent to contact persons of all 64 cities that applied for the Green Capital Award (GCA) in the previous years. DG Environment organizes this GCA process annually since 2008 Yearly selection of the European Green Capital Award for cities, which was launched in 2008 by EC DG Environment after an initiative of 15 European cities in Tallinn, Estonia in 2006. The annually awarded city is committed to ambitious goals and shows consistent records of achieving high environmental standards and therefore can act as a role model to inspire other cities.

Name of the framework

Green Digital Charter Action Framework

Source

Networking Intelligent Cities for Energy Efficiency (Towards a Green Digital Charter Action Framework: Framework Foundation V1.0 / 30.11.2011)

Who, in general terms, is the end user of the framework?

The Framework is meant to address local politicians and key decision makers within public administration (civic administrators), aiming to raise awareness of GDC implications and providing a shared understanding of concepts, requirements and tasks. The primary focus of the NiCE project are civic administrators and through their relationships, the private, third sector and communities themselves as a secondary focus.

Where has the framework been used so far?

n/a

To whom are the results communicated?

n/a

Does the framework focus on cities or on project evaluation?

On cities (To support the fulfilment of cities' commitments to the Green Digital Charter, the NiCE project developed a set of tools to support cities in the implementation and reporting of their green digital activities.)

What is overall goal of the indicator system?

Cities across Europe are signing the Green Digital Charter which commits them to a wide range of activities towards green digital progress, as they believe the Information and communication technologies (ICT) are critical enablers for sustainable growth. The three core commitments are: running 5 large scale pilot projects, reducing their ICT carbon footprint by 30% and cooperating with other signatories. The Toolkit helps interested cities to build on the experiences of others. This framework provides guidance for cities on how to identify and initiate green digital activities/facilitates the classification, comparison and assessment of effective approaches in cities, while informing targeted policy recommendations.

Is there an underlying scientific theory? If yes, please specify.

n/a

Is there a specific political context for which the framework was developed? If yes, please specify.

European 2020 targets.

Name of the framework

Green Performance of Real estate (GPR) - urban development (stedenbouw)

Source

W/E adviseurs (2011). Gebruikshandleiding GPR Stedenbouw 1.3.

http://gprsoftware.nl/english/

Who, in general terms, is the end user of the framework?

Municipalities, architects, consultancies

Where has the framework been used so far?

licensed to over 400 municipalities, architects, project developers, real estate owners and housing associations across the Netherlands, accounting for over 5000 users.

To whom are the results communicated?

Project developers

Does the framework focus on cities or on project evaluation?

Project

What is overall goal of the indicator system?

Sustainability assessment system for urban development plans. Both ex-post and during (setting ambitions, making planning choices, adapting plans if necessary)

Is there an underlying scientific theory? If yes, please specify.

n/a

Is there a specific political context for which the framework was developed? If yes, please specify.

n/a

Name of the framework

Indicators measuring the energy positivity of neighbourhoods from IDEAS project. IDEAS is an abbreviation of “Intelligent NeighbourhooD Energy Allocation & Supervision”.

Source

Ideas deliverables D3.1 and D3.4 and two conference papers, one for ICT for sustainable places in Nice 2014 conference and one for the conference SDEWES Istanbul 2015.

Who, in general terms, is the end user of the framework?

City planners and city authorities and all stakeholders that want to assess the energy positivity of neighbourhoods

Where has the framework been used so far?

Hasn't been used so far, will be used in IDEAS project

To whom are the results communicated?

They are communicated through public project deliverables and conference papers to research community and especially disseminated to European cities, especially the city of Porvoo in Finland and Bordeaux IUT university campus facilities management and management

Does the framework focus on cities or on project evaluation?

Neighbourhood evaluation, can be used also to evaluate city performance, can be also used to measure the improvements made in a project by measuring the performance before and after the project is implemented.

What is overall goal of the indicator system?

Measure energy positivity of a neighbourhood (or city), can be used to give an "energy positivity label" to a neighbourhood or city

Is there an underlying scientific theory? If yes, please specify.

Energy related laws of physics and science of energy. The definition of an energy positive neighbourhood made in IDEAS project is the following: “Energy positive neighbourhoods are those in which the annual energy demand is lower than annual energy supply from local renewable energy sources. Short-term imbalances in energy supply and demand are corrected with national energy supplies. The aim is to provide a functional, healthy, user friendly environment with as low energy demand and little environmental impact as possible.

Balancing the energy supply from local renewable sources with the energy demand of a neighbourhood will involve maximising energy efficiency and minimising peak power demand while maximising local renewable energy supply and resolving energy storage issues. To avoid sub–optimisation it is key that the wider context is considered in the design and operation of energy positive neighbourhoods throughout its entire life cycle.

Energy demand of a neighbourhood includes the energy demand of buildings and other urban infrastructures, such as waste and water management, parks, open spaces and public lighting, as well as the energy demand from transport. Renewable energy includes solar, wind and

hydro power, as well as other forms of solar energy, biofuels and heat pumps (ground, rock or water), with the supply facilities placed where it is most efficient and sustainable. The transport distance of biofuels must be limited to 100 km
Is there a specific political context for which the framework was developed? If yes, please specify. IDEAS EU FP7 project www.ideasproject.eu

Name of the framework

ISO 37120 - Sustainable development in communities — Indicators for city services and quality of life.

Source

ISO 37120 was prepared by Technical Committee ISO/TC 268, Sustainable development in communities Working Group 2 Urban Indicators.

Who, in general terms, is the end user of the framework?

ISO 37120:2014 can be used by any city, municipality or local government wishing to measure its performance in a comparable and verifiable manner, irrespective of size and location or level of development.

Where has the framework been used so far?

Amman, Amsterdam, Barcelona, Bogotá, Boston, Buenos Aires, Dubai, Guadalajara, Haiphong, Helsinki, Johannesburg, London, Los Angeles, Makkah, Melbourne, Minna, Rotterdam, Shanghai, Toronto

To whom are the results communicated?

Certified cites share their data on the website of the World Council for City Data (WCDD).

http://www.dataforcities.org

Does the framework focus on cities or on project evaluation?

The framework focuses on the city level.

What is overall goal of the indicator system?

This International Standard is designed to assist cities in steering and assessing the performance management of city services and quality of life and considers sustainability as its general principle and resilience as a guiding concept in the development of cities. All indicators shall be reported on an annual basis.

Is there an underlying scientific theory? If yes, please specify.

n/a

Is there a specific political context for which the framework was developed? If yes, please specify.

The framework was developed by the cities represented in the WCDD under the auspices of ISO.

Name of the framework

ISO 37151.1 - Smart community infrastructure - Principles and requirements for performance metrics

Source

ISO 37151.1 was prepared by Technical Committee ISO/TC 268, Sustainable development in communities Working Group 1

Who, in general terms, is the end user of the framework?

It is expected that this Technical Specification will be useful to the following individuals/groups:

— national and local governments

— regional organizations

— community planners

— developers

— community infrastructure operators (e.g. in the field of energy, water, waste, transportation, ICT)

— community infrastructure vendors (e.g. constructors, engineering firms, system integrators or component manufacturers)

— non-governmental organizations (e.g. consumer groups)

Where has the framework been used so far?

No applications so far, as the framework is in development

To whom are the results communicated?

n/a

Does the framework focus on cities or on project evaluation?

The framework focuses on the evaluation of projects.

What is overall goal of the indicator system?

This Technical Specification gives principles for and specifies requirements for the definition, identification, optimization and harmonization of community infrastructures. Community infrastructures include energy, water, transportation, waste and ICT.

Is there an underlying scientific theory? If yes, please specify.

n/a

Is there a specific political context for which the framework was developed? If yes, please specify.

The framework is being developed under the auspices of ISO.


Name of the framework
ITU Key performance indicators in smart sustainable cities (2014)
Source
International Telecommunication Union – Focus Group on Smart and Sustainable Cities (2014): Key performance indicators (KPIs) definitions for Smart Sustainable Cities
Who, in general terms, is the end user of the framework?
Cities and municipal administrations, including the SSC-relevant policy-making organizations, and government sectors, enabling them to develop strategies and understand the progress related to the use of ICT for making cities smarter and more sustainable. City residents and non-profit citizen organizations, enabling them to understand the development and progress of SSC with respect to ICT's impact. Development and operation organizations of SSC, including planning unit, SSC-related producers and service providers, operation and maintenance organizations, helping them to fulfil the tasks of sharing information related to the use of ICT and its impact on the sustainability of cities. Evaluation and ranking agencies, including academia and 3rd party ranking agencies, supporting them in selection of relevant KPIs for assessing the contribution from ICT in the development of SSC.
Where has the framework been used so far?
N/A
To whom are the results communicated?
N/A
Does the framework focus on cities or on project evaluation?
The framework is applicable for cities and city regions.
What is overall goal of the indicator system?
According to the terms of reference (ToR) of the Focus Group on Smart Sustainable Cities (FG-SSC), one of the objectives is to identify or develop a set of key performance indicators (KPIs) to assess how the use of ICTs has an impact on the environmental sustainability of cities. One of the Specific Tasks and deliverables is to develop a document of KPIs to assess the impact of the use of ICT projects in cities.
Is there an underlying scientific theory? If yes, please specify.
N/A
Is there a specific political context for which the framework was developed? If yes, please specify.
N/A

Name of the framework

LEED v4 for Neighbourhood Development (updated October 1, 2014)

Source

http://www.usgbc.org/resources/leed-v4-neighborhood-development-current-version

Who, in general terms, is the end user of the framework?

Applies to new land development projects or redevelopment projects containing residential uses, non-residential uses, or a mix. Projects can be at any stage of the development process, from conceptual planning to construction.

Where has the framework been used so far?

The ultimate goal of Regional Priority (RP) credits is to enhance the ability of LEED project teams to address critical environmental issues across the country (USA) and around the world.

To whom are the results communicated?

The ultimate goal of Regional Priority (RP) credits is to enhance the ability of LEED project teams to address critical environmental issues across the country (USA) and around the world.

Does the framework focus on cities or on project evaluation?

Improvement and redevelopment of existing cities, suburbs, and towns

What is overall goal of the indicator system?

LEED-certified developments are designed to deliver the following benefits:

1. Lower operating costs and increased asset value; 2. Reduced waste sent to landfills; 3. Energy and water conservation; 4. More healthful and productive environments for occupants; 5. Reductions in greenhouse gas emissions; 6. Qualification for tax rebates, zoning allowances, and other incentives in many cities

Is there an underlying scientific theory? If yes, please specify.

n/a

Is there a specific political context for which the framework was developed? If yes, please specify.

Developed by the U.S. Green Building Council, LEED is a framework for identifying, implementing, and measuring green building and neighbourhood design, construction, operations, and maintenance which based on a LEED Certification process (certified, silver, gold and platinum).

Name of the framework

Green Growth in Cities

Source

OECD (2013), Green Growth in Cities, OECD Green Growth Studies, OECD Publishing.

http://dx.doi.org/10.1787/9789264195325-en (drawing on the framework developed by the OECD in Towards Green Growth: Monitoring Progress (OECD, 2011a), it presents a preliminary set of indicators to monitor urban areas' socio-economic growth, environmental impact, economic opportunities and policy responses.)

Who, in general terms, is the end user of the framework?

Primarily addressed to policy makers in OECD countries

Where has the framework been used so far?

n/a

To whom are the results communicated?

n/a

Does the framework focus on cities or on project evaluation?

Cities

What is overall goal of the indicator system?

Preliminary approach to measuring green growth in cities, useful for informing policies ex ante and evaluating them ex post. The report draws on findings and evidence from in-depth urban level green growth studies (Paris, Chicago, Stockholm and Kitakyushu) and two national level studies on urban green growth (China and Korea). This indicator set is focused on local environmental performance rather than the global environmental impact of local consumption, but the indicators presented represent an important first step and are in many cases the best currently available.

Is there an underlying scientific theory? If yes, please specify.

n/a

Is there a specific political context for which the framework was developed? If yes, please specify.

n/a

Name of the framework

Planning for Energy Efficient Cities (PLEEC)

Source

http://www.pleecproject.eu/

Who, in general terms, is the end user of the framework?

Decision-makers in cities

Where has the framework been used so far?

The measures within the PLEEC project are focused on **middle-sized cities**. Thus, the PLEEC partner cities are the following six middle-sized European cities: Stoke-on-Trent (UK), Turku (FI), Tartu (EE), Santiago de Compostela (ES), Jyväskylä (FI), Eskilstuna (SE)

To whom are the results communicated?

local, national and EU levels

Does the framework focus on cities or on project evaluation?

Cities

What is overall goal of the indicator system?

The performance of the six model middle-sized "PLEEC"-cities on key aspects – such as renovation of building stock, energy systems, smart heating/cooling grids, smart electricity grids, water networks, efficient waste collection and treatment, recycling and energy use, efficient transportation and mobility systems – will be analysed. These city profiles will reveal the specific opportunities and threats that will confront cities on their innovation journey towards an energy-efficient development.

The main objectives of the project are:

- To assess the energy-saving solutions and potentials for a comprehensive city planning
- To demonstrate how integrative planning is more efficient than separate measures
- To develop a synergized model for energy efficiency planning considering city key aspects
- To create Action Plans to be presented to decision-makers in the cities
- To identify the future research agenda on the issue of energy-smart cities

Is there an underlying scientific theory? If yes, please specify.

("European Smart Cities" approach)

Is there a specific political context for which the framework was developed? If yes, please specify.

FP7


Name of the framework READY - Resource Efficient cities implementing advance smart city solutions
Source Direct contact with the partners of the project
Who, in general terms, is the end user of the framework? Energy companies, real-state companies and cities
Where has the framework been used so far? To test the implementation refurbishment and implementation of new technologies at neighbourhood and city level
To whom are the results communicated? To cities and initiatives related to smart cities
Does the framework focus on cities or on project evaluation? Focus is on project evaluation (specifically neighbourhood scale)
What is overall goal of the indicator system?
Is there an underlying scientific theory? If yes, please specify. n/a
Is there a specific political context for which the framework was developed? If yes, please specify. n/a

Name of the framework Reference Framework for Sustainable Cities
Source http://www.rfsc-community.eu/resources/rfsc-step-by-step/
Who, in general terms, is the end user of the framework? Cities
Where has the framework been used so far? Several cities across Europe
To whom are the results communicated? Within the network of RFSCities
Does the framework focus on cities or on project evaluation? Cities
What is overall goal of the indicator system? The Reference Framework for European Sustainable Cities (RFSC) is an online toolkit designed to help cities promote and enhance their work on integrated sustainable urban development. It is available free of charge to all European local authorities and offers practical support in integrating sustainability principles into local policies and actions. A joint initiative of the Member States, the European Commission and European organizations of local governments, the RFSC gives a common space and language to the community of cities that are interested in learning from each other, while respecting the diversity of local priorities.
Is there an underlying scientific theory? If yes, please specify. n/a
Is there a specific political context for which the framework was developed? If yes, please specify. Decisions of EU ministers for urban development: Leipzig Charter on Sustainable European Cities (2007), Marseille Statement (2008), Toledo Declaration (2010), Poznan (2011)

Name of the framework

Sustainable Cities International (SCI)

Source

Sustainable Cities International (2012). Indicators for Sustainability - How cities are monitoring and evaluating their success.

http://www.sustainablecities.net/

Who, in general terms, is the end user of the framework?

City administration

Where has the framework been used so far?

n/a

To whom are the results communicated?

n/a

Does the framework focus on cities or on project evaluation?

City

What is overall goal of the indicator system?

Create a tool kit that will support cities that are in the process of identifying which sustainability indicators they can use to accurately reflect the progress of their sustainability plans. Providing a "baseline" of what indicators are being prioritized by other cities

Is there an underlying scientific theory? If yes, please specify.

The paper was reviewed by academics and city planners to provide feedback and comments.

Is there a specific political context for which the framework was developed? If yes, please specify.

n/a

Name of the framework Smart City Planner Rotterdam
Source http://www.rotterdam.nl/smartcity
Who, in general terms, is the end user of the framework? Urban planners
Where has the framework been used so far? City of Rotterdam
To whom are the results communicated? Other departments in the municipality, citizens, project developers, etc.
Does the framework focus on cities or on project evaluation? City or neighbourhood
What is overall goal of the indicator system? Assessment system for urban development. Both ex-post and during (setting ambitions, making planning choices, adapting plans if necessary)
Is there an underlying scientific theory? If yes, please specify. n/a
Is there a specific political context for which the framework was developed? If yes, please specify. Municipality of Rotterdam wants to be the most knowledgeable on their own city

Name of the framework Siemens Green City Index
Source http://www.siemens.com/entry/cc/en/greencityindex.htm
Who, in general terms, is the end user of the framework? Cities to help in decision making regarding sustainability of the city
Where has the framework been used so far? The framework has been used to benchmark more than 120 cities worldwide so far.
To whom are the results communicated? The results are publically available for anyone interested, published in reports considering different areas of the world.
Does the framework focus on cities or on project evaluation? City evaluation although most indicators can also be used for projects/ neighbourhood level assessment
What is overall goal of the indicator system? City evaluation although most indicators can also be used for projects/ neighbourhood level assessment
Is there an underlying scientific theory? If yes, please specify. n/a
Is there a specific political context for which the framework was developed? If yes, please specify. n/a


Name of the framework Smart City Profiles
Source http://www.smartcities.at/assets/03-Begleitmassnahmen/BGR2-2013-KR11SE2F00690-Smart-City-Profiles-v1-0.pdf
Who, in general terms, is the end user of the framework? Austrian cities
Where has the framework been used so far? Smart City Profiles partner cities (6) and follower cities
To whom are the results communicated? Austrian cities
Does the framework focus on cities or on project evaluation? cities
What is overall goal of the indicator system? supporting smart urban development
Is there an underlying scientific theory? If yes, please specify. n/a
Is there a specific political context for which the framework was developed? If yes, please specify. n/a

Name of the framework Smart City Wheel
Source http://www.boydcohen.com/smartcities.html
Who, in general terms, is the end user of the framework? Cities for benchmarking the smartness of the city
Where has the framework been used so far? According the author's website, the framework has been used for profiling thousands of cities so far
To whom are the results communicated? n/a
Does the framework focus on cities or on project evaluation? City level assessment but most indicators are suitable also for project/neighbourhood level assessment.
What is overall goal of the indicator system? Enable comparability and ranking of smartness of cities
Is there an underlying scientific theory? If yes, please specify. n/a
Is there a specific political context for which the framework was developed? If yes, please specify. n/a

Name of the framework

Transform KPIs (Qualitative self-assessment and quantitative self-assessment)

Source

https://transform.siemens.at/TransformYourCity.html

(Arup drafted questionnaire (KPIs), reviewed by Accenture, DTU and the City of Copenhagen)

Who, in general terms, is the end user of the framework?

Transform partner cities and follower cities.

Where has the framework been used so far?

EU FP7 Project Transform

To whom are the results communicated?

To the Transform-cities and interested stakeholder. It was rather used for internal purposes within Transform

Does the framework focus on cities or on project evaluation?

City evaluation

What is overall goal of the indicator system?

KPIs were developed to evaluate Transform-cities' current state. Determining the cities' current state and ambition was TRANSFORM's first step and was followed by formulating the Transformation Agenda.

Additional added value of analysis:

- Establishing a similar language
- Results provided an impulse for further discussions
- Cities gained an insight into their data availability
- Level of detail in the questionnaire allowed cities to realize what they do and do not know
- Cooperation between stakeholders was strengthened through the data collection process
- Data collection and questionnaire formed an important intervention to start Transformation Agenda Process

Is there an underlying scientific theory? If yes, please specify.

n/a

Is there a specific political context for which the framework was developed? If yes, please specify.

n/a

Name of the framework

Triple Helix Model

Source

http://www.smartcities.info/files/14%20-%20Patrizia%20Lombardi%20Smart%20City%20visions_1July2011.pdf

Who, in general terms, is the end user of the framework?

Decision makers of cities

Where has the framework been used so far?

The framework has been used for assessing European cities

To whom are the results communicated?

n/a

Does the framework focus on cities or on project evaluation?

City level, but some indicators can also be used for project/neighbourhood level assessment

What is overall goal of the indicator system?

It aims to offer a profound analysis of the interrelations between the components of smart cities, including the human and social relations connecting the intellectual capital, wealth and governance of their regional development.

Is there an underlying scientific theory? If yes, please specify.

http://triplehelix.stanford.edu/3helix_concept

Is there a specific political context for which the framework was developed? If yes, please specify.

The policy vision derives from the JPI ""Urban Europe"" [P. Nijkamp, K. Kourtik, 2011]

Name of the framework

UNECE United Smart Cities

Source

Carriero, Domenica 2015: United Smart Cities: Towards UNECE-approved smart city indicators. Presentation given at the Smart Cities Indicator workshop Rakvere, Estoni, 4 June 2015

Who, in general terms, is the end user of the framework?

Mid or low income countries' cities in Eastern Europe or cities beyond the Eastern geographical boundaries of Europe (countries like Georgia, Tajikistan etc.)

Where has the framework been used so far?

Not used so far, but partner cities are Goris (Armenia), Vologda (Russia), Stavropol (Russia), Aktau (Kazakhstan), Dushanbe (Tajikistan), Polotsk (Belarus), Vinnitsa (Ukraine), one city from Albania (tbc), an one city from Georgia (tbc)

To whom are the results communicated?

UNECE and other relevant UN bodies (e.g. UN Habitat, UNDP, UNEP) , continuous collaboration also with standardization bodies such as ITU focus group on smart cities and KPIs

Does the framework focus on cities or on project evaluation?

The framework focuses on the city level.

What is overall goal of the indicator system?

The goals of the project are:

- Development of a set of indicators for evaluating a smart and sustainable city for lower income countries

- Preparation of smart city profiles with recommendations

- Creation of a multi-stakeholder platform and content hub for smart city initiatives

Is there an underlying scientific theory? If yes, please specify.

The indicator framework is based on the Austrian Smart City Profiles.

Is there a specific political context for which the framework was developed? If yes, please specify.

n/a

Name of the framework

UN Habitat City Prosperity Index

Source

State of the World Cities 2012/2013, Prosperity of Cities

Who, in general terms, is the end user of the framework?

Worldwide policymakers, City and National Governments

Where has the framework been used so far?

By UN-Habitat, World Urban Campaign

To whom are the results communicated?

UN-Habitat

Does the framework focus on cities or on project evaluation?

On cities

What is overall goal of the indicator system?

Achieving positive urban change and measuring the current and future progress of cities towards prosperity; Increasing prosperity levels; Enabling identification of opportunities and potential areas of intervention

Is there an underlying scientific theory? If yes, please specify.

n/a

Is there a specific political context for which the framework was developed? If yes, please specify.

n/a

Name of the framework

URBES

Source

http://www.istat.it/it/archivio/citt%C3%A0 (URBES_2015) Composite Index for Quality of Life in Italian Cities: An Application to URBES Indicators, 2014, Ivaldi et al. (COMIND)

Who, in general terms, is the end user of the framework?

Italian Administration

Where has the framework been used so far?

Italy

To whom are the results communicated?

n/a

Does the framework focus on cities or on project evaluation?

Cities

What is overall goal of the indicator system?

Evaluate the quality of life in fourteen big Italian cities. Evaluation is done based on the development of indicators belonging to twelve dimensions of well-being identified by Benessere Equo e Sostenibilie (BES) by ISTAT.

Is there an underlying scientific theory? If yes, please specify.

Benessere Equo e Sostenibilie (BES) by ISTAT.

Is there a specific political context for which the framework was developed? If yes, please specify.

n/a

Name of the framework

URB-GRADE - Decision Support in the Cloud

Source

http://urb-grade.eu/project-results/

Who, in general terms, is the end user of the framework?

In general the target group are city authorities and utilities.

Where has the framework been used so far?

Within the project the cities Eidbar (for street lighting), Kalundborg (for residential homes and EV charging stations) and Barcelona (for street-shops) used the tool and the KPIs. I am not aware of follower cities, but possible.

To whom are the results communicated?

n/a

Does the framework focus on cities or on project evaluation?

Project evaluation

What is overall goal of the indicator system?

The URB-Grade project designs, develops and validates a Platform for Decision Support that will allow the city authorities and utilities to promote and choose the correct actions to upgrade a district to become more energy efficient, cost effective and to increase comfort for its citizens in a District as a Service Platform approach. (http://urb-grade.eu/)

Is there an underlying scientific theory? If yes, please specify.

n/a

Is there a specific political context for which the framework was developed? If yes, please specify.

n/a