Envision
תקן לדירוג בר קיימא של פרויקטי תשתית

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תקן ה - ENVISION

* התקן הושק רשמית בשנת 2012 ונוצר משיתוף פעולה של המכון לפיתוח תשתיות בנות קיימא (ISI) עם התכנית לפיתוח תשתיות בנות קיימא באוניברסיטת הרווארד - Zofnass Program
* מפתחי התקן בדקו למעלה מ- 900 מערכות דרוג שונות ברחבי העולם ומצא כי מערכות הדירוג הקיימות מתייחסות לסוג מסוים של תשתיות בלבד, כלומר אין תקן אחד בארה"ב שמכסה את כל האספקטים של התשתיות
* נכון להיום, מאות פרויקטים ברחבי העולם משתמשים בתקן Envision במהלך שלב התכנון והבנייה ועשרות פרויקטים נמצאים בתהליך הסמכה לקבלת תעודה

INSTITUTE FOR SUSTAINABLE INFRASTRUCTURE
I S I

ZOFNASS PROGRAM
FOR SUSTAINABLE INFRASTRUCTURE
Graduate School of Design
Harvard University

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מהו הצורך?

פיתוח ושדרוג תשתיות ישנות

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2050 is being built today

75% of the Infrastructure That Will Exist in 2050 Doesn't Exist Today

BY AURORA ALMENDRAL | OCTOBER 22, 2014

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החזון

What LEED™ has done for building-scale sustainability, Zofnass will do for infrastructure: educate citizens and increase public awareness, facilitate inter-disciplinary discussion between key infrastructure stakeholders, provide a means to assess and quantify sustainability in infrastructure, and facilitate the adoption of sustainable design

מה שתקן ה – LEED עשה לבנייה ירוקה בת קיימא, תקן ה- Envision יעשה לתשתיות: יחנך את התושבים ויעורר את מודעות ציבור, יעורר דיון נרחב בין יזמים ובעלי עניין, וייתן אמצעים להערכת פיתוח תשתיות בנות קיימא

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על אילו תשתיות מדובר?

ENERGY

Geothermal
Hydroelectric
Nuclear
Coal
Natural Gas
Oil/Refinery
Wind
Solar
Biomass

WATER

Potable water distribution
Capture/Storage
Water Reuse
Storm Water Management
Flood Control

WASTE

Solid waste
Recycling
Hazardous Waste
Collection & Transfer

TRANSPORT

Airports
Roads
Highways
Bikes
Pedestrians
Railways
Public Transit
Ports
Waterways

LANDSCAPE

Public Realm
Parks
Ecosystem Services

INFORMATION

Telecommunications
Internet
Phones
Satellites
Data Centers
Sensors

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נושאים הנבחנים במסגרת תקן ה- Envision

QUALITY OF LIFE

איכות חיים: בריאות, רווחה ומרקם חברתי

LEADERSHIP

ניהול התכנון: שיתוף פעולה בין היזם, המתכננים והרשויות

RESOURCE ALLOCATION

שימוש יעיל במשאבים: מים, אנרגיה וחומרי גלם

NATURAL WORLD

השפעות על ערכי טבע: מגוון ביולוגי, קרקע ומים וכו'

CLIMATE AND RISK

השפעות סביבתיות: פליטות, פסולת וכו'

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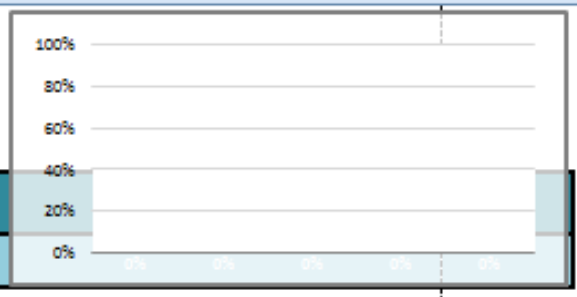
מהות התקן

Envision not only asks: “Are we doing the project right?” but also, “Are we doing the right project?”

Planning & design – Yes/No Questions



Climate and Risk

1. Emissions

CR1.1 Reduce Greenhouse Gas Emissions

Intent: Conduct a comprehensive life-cycle carbon analysis and use this assessment to reduce the anticipated amount of net greenhouse gas emissions during the life cycle of the project, reducing project contribution to climate change.

Metric: Life-cycle net carbon dioxide equivalent (CO_2e) emissions.

Assessment Questions:	Yes	No	N/A	
Will a life-cycle carbon assessment be conducted on the project?	○	○	○	?
Based on that assessment, will the project be designed in a way that substantially reduces carbon emissions?	○	○	○	?
Total	0	of	0	

CR 1.2 Reduce Air Pollutant Emissions

Intent: Reduce the emission of six criteria pollutants; particulate matter (including dust), ground level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, lead, and noxious odors.

Metric: Measurements of air pollutants as compared to standards used.

Assessment Questions:	Yes	No	N/A	
Will the project be designed in a way that substantially reduces dust and odors on the site?	○	○	○	?

דוגמא לפרויקט שהוסמך ע"פ התקן –

South L.A. Wetland Park, Los Angeles, California

* הישגים מרכזיים עליהם קיבל הפרויקט את דרגת ההסמכה:
  - טיפול באזורים מזוהמים (Brownfields) בשטח הפרויקט
  - יצירת שטחים ירוקים חדשים פתוחים לציבור (בעבר השטח היה מגודר ולא נגיש לציבור)
  - תכנון הפארק תוך טיפול במי הנגר בכל השטחים הסמוכים לפרויקט, כולל השכונות הסמוכות
  - התקנת מערכות תאורה סולאריות אשר הביאו לחסכון של 77% בצריכת החשמל

Infrastructure 360 – Private Sector Sustainability Awards

IDB Inter-American Development Bank

Project Assessment Methodology

The Harvard Zofnass Program for Sustainable Infrastructure has developed an objective framework of criteria to assess and quantify infrastructure sustainability. The goal of the assessment methodology is to improve the sustainable performance of infrastructure projects, not only in technical terms, but also from a social, environmental and economic perspective. Additionally, the purpose of the assessment methodology is to initiate a systemic change toward sustainability and therefore the recognition of the full spectrum of efforts, from projects that take steps to improve upon the status quo to projects that restore communities, environments and the economy. The assessment methodology provides an opportunity for infrastructure owners and designers to provide higher performing solutions by using a complete lifecycle approach, by working with communities, and by using a restorative approach to infrastructure projects.

2015 Private Sector Infrastructure

Sustainability Awards – The Winners

EURUS Wind Farm

Mexico

Winner of the Infrastructure 360° People and Leadership Award

EURUS is a wind farm located in La Venta, a windy region in the municipality of Juchitán de Zaragoza, in the state of Oaxaca, Mexico. Developed jointly by Acciona Energia Mexico and Cementos Mexicanos S.A. (CEM
consumption, as part of the compan
become more sustainable. The proje
turbines of 1,500 kW each, a 230 kV
wind farm control house, and offices
nd largest wind farm registered under
and prevent the emission of 600,000 t

Cerro Dominador Concentrated Solar Plant

Chile

Winner of the Infrastructure 360° Climate and Environment Award

Cerro Dominador, a concentrated solar power plant, is located in a rural area 60 km away from the city of Calama in Chile. It is currently under construction and is being developed by Abengoa Solar Chile. It is considered a non-conventional renewable project, and will represent one of the most innovative projects in Latin America due to its capacity to generate electricity 24 hours a day. The project consists of a 250 meters solar tower and 10,600 mirrors, all reflecting to a single point in the tower. It will generate 110 MW while removing 643,000 tons of CO_2 emissions from the atmosphere every year. The project
the reduction of GHG and other pollutants associated with conventional power generation.
es' development and in the socio economic revival of the area, as it is considered a catalyst
ct and indirect jobs.

https://www.youtube.com/watch?v=3szOh3YGT-c

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