Regional Workshop
“IKI Project Accelerating 0-emission building ambitions in the MENA region”

Thursday 05 July 2018

NATIONAL GREEN BUILDING INSTITUTIONS

- Housing and Building Research Center under Ministry of Housing, Utilities, and Urban Development (Green Pyramid Program)
- Egypt Green Building Council (TARSHEED: Residential, Commercial, and Communities)
- Ministry of Electricity and Renewable Energy
- Ministry of Environment

الجمعية المصرية للأبنية الخضراء

EGGBC

The EGGBC is a Prospective Member of the World Green Building Council **WGBC** on its way to becoming an Emerging Member. It was founded in November 2012 in accordance to Egyptian laws.

WORLD GREEN BUILDING COUNCIL

EGGBC Vision

To lead community transformation for Egypt to become a beacon of Sustainability and Green Building

The Green Building Rating Systems Maze

Is LEED the best Green Building Rating System for Egypt?

Only if you are building for an International company in Smart Village, otherwise LEED is only applicable for less than 1% of the building portfolio.

What about the other 99%?

There is a need for a simple, straight forward, cheap, and very easy to understand and apply rating system created for specially for Developed countries.

Such system has been developed by the IFC affiliated with the World Bank, it is called EDGE.

The IFC has started with 8 countries not including Egypt.

Excellence In Design For Greater Efficiencies

Edge

EDGE calculates operational savings and reduced carbon emissions for your building as measured against a base case.

Input your building parameters and accept key assumptions or fine-tune them for greater precision. Then select your solutions for better performance, and watch your savings grow.

20% Less Energy - choose from efficient HVAC systems, superior glass, low-energy lighting, solar solutions, and more.

20% Less Water - choose from low-flow faucets, efficient water closets, recycled water systems, and more.

20% Less Embodied Energy in Materials - choose from floor, roof, wall, and window construction with low embodied energy.

TARSHEED

After studying the experiences of many GBCs around the world and after studying different Green Building Rating Systems applied around the world and in the MENA Region namely: **LEED, BREAAM, ESTIDAMA, GSAS and EDGE**

There is a need for a simple, straight forward, cheap, and very easy to understand and apply rating system created especially for Egypt: **TARSHEED**

TARSHEED RESIDENTIAL v1.0

TARSHEED

ENERGY

WATER

HABITAT

20% Energy saving

20% Water saving

20% Habitat, less negative environmental impact

ENERGY

ENERGY CALCULATION SUMMARY

	ENERGY	BASE CASE
	ENVELOPE	14.00%
E01	WINDOW TO WALL RATIO 20%	2.00%
E02	EXTERNAL WINDOW SHADING	2.00%
E03	ROOF INSULATION	2.00%
E04	EXTERNAL WALLS INSULATION	2.00%
E05	LOW-E COATED GLASS	1.50%
E06	HIGHER PERFORMANCE GLASS	1.50%
E07	AIR TIGHTNESS	3.00%
E08	COOLING	25.00%
E09	HEATING	5.00%
E10	HOT WATER	10.00%
E11	LIGHTING	20.00%
E12	APPLIANCES	18.00%
E13*	EFFICIENT ELEVATORS	4.00%
E14**	EXTERNAL LIGHTING AND CONTROLS	4.00%
E15	RENEWABLE ENERGY	
		100.00%

E03 ROOF INSULATION

INTENT

Insulation is used to prevent heat transmission between the external environment and the internal space through the roof. More insulation means lower U-Value and lower cooling or heating energy requirements.

Insulation materials mostly used are polystyrene and polyurethane with U-Values not less than 0.55 W/m2 K

BASE CASE

No roof insulation used.

Credit target: 100mm insulation with U-Values not less 0.55 W/m2 K

IMPROVEMENT

Use insulation with thickness 50mm, or 75mm or 100mm and U-Values not less 0.55 W/m2 K

EXAMPLE

E03	ROOF INSULATION	TARGETTED INSULATION (MM)	ACTUAL INSULATION THICKNESS (MM)	IMPROVED PERCENTAGE
	2.00%	100	50	1.00%

E04 EXTERNAL WALLS INSULATION

More insulation means lower U-Value and lower cooling or heating energy requirements.

Using a 250mm thick wall improves insulation, using 2 half brick walls with air gap is better, filling the gap with rigid insulation is best.

BASE CASE

½ brick (120mm) thick external wall.

Credit target: 100mm insulation with U-Values not less than 0.55 W/m2 K

	EXTERNAL WALLS INSULATION	EXTERNAL WALL COMPOSITION	IMPROVED PERCENTAGE	IMPROVED PERCENTAGE
E04	2.00%	1 BRICK (250mm)	1.5%	1.30%
		120 - 120 WITH AIR GAP	1.3%	
		120 -120 WITH INSULATION 50MM	0.5%	
		120 -120 WITH INSULATION 100MM	0.0%	

E08 COOLING

Space cooling is estimated to consume **25%** of the indoor energy consumption of the residential unit

	COOLING	OPTIONS		EFFICIENCY	YES / NO	IMPROVED PERCENTAGE
E09	25.00%	1	Ceiling fan with no AC	0.83	N	16.67%
		2	Ceiling fan with conventional AC	0.17	N	
		3	Efficient AC split unit	0.33	Y	
		4	Efficient AC with ceiling fan	0.50	N	
		5	Efficient AC with DOAS	0.58	N	
		6	VRV system	0.42	N	
		7	VRV with ceiling fan	0.58	N	
		8	VRV with DOAS	0.67	N	

E09 HEATING

INTENT

Eliminate the need for space heating by properly insulating the building. Space heating is estimated to consume **5%** of the indoor energy consumption of the residential unit.

BASE CASE

Conventional space heating by AC or portable oil heater.

IMPROVEMENT

Eliminate space heating

- Install “cold only” AC units
- Do not purchase or use portable heaters
- Do not install a central heating system

EXAMPLE

E10	HEATING	HEATING SYSTEM INSTALLED YES / NO	IMPROVED PERCENTAGE
	5.00%	N	0.00%

E11 LIGHTING

Reduce energy consumption by selecting more efficient light bulbs. Lighting is estimated to consume **20%** of the indoor energy consumption of the residential unit.

Conventional inefficient incandescent light bulbs consume a lot of energy, produce unneeded heat and need to be replaced more regularly.

Install CFL or LED light bulbs:

- CFLs are much more efficient than incandescent, however, their light tends to deteriorate over time, they have an short life span and they produce very toxic mercury when they break.
- LEDs are very efficient, very durable, and do not contain mercury.

E11	LIGHTING	TOTAL NO. OF LAMPS	TYPE	EFFICIENCY	DESIGN CASE	DESIGN CASE EFFICIENCY	BASE CASE EFFICIENCY	SAVING	IMPROVED PERCENTAGE
	20.00%	55	INCANDESCENT	10.0	40	430.0	550.0	0.78	15.64%
			CFL	2.5	10				
			LED	1.0	5				

E12 APPLIANCES

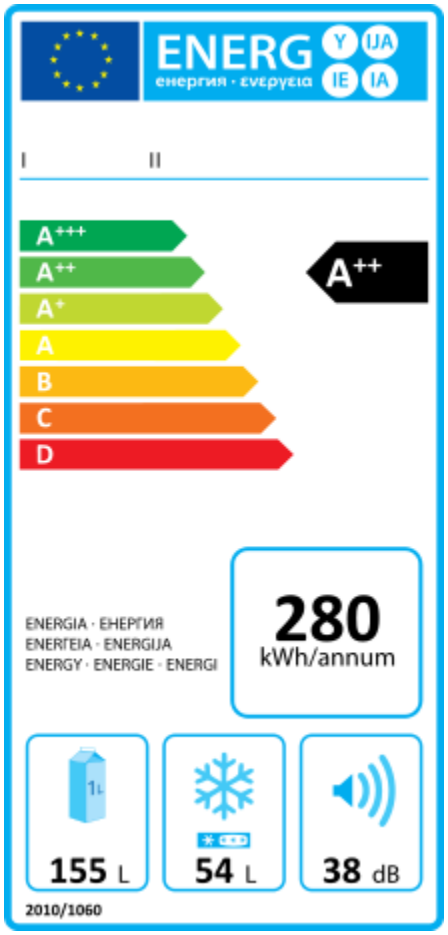
Appliances are estimated to consume **18%** of the indoor energy consumption of the residential unit

Conventional appliances are assumed to be “D” under the EU Energy Efficiency Labelling Scheme or equivalent

Use appliances that are “A” rated (as a minimum)

Energy using appliances include, but are not limited to:

1. Refrigerator
2. Washing Machine
3. Dish washer
4. Freezer
5. Dryer
6. Electric oven
7. Television

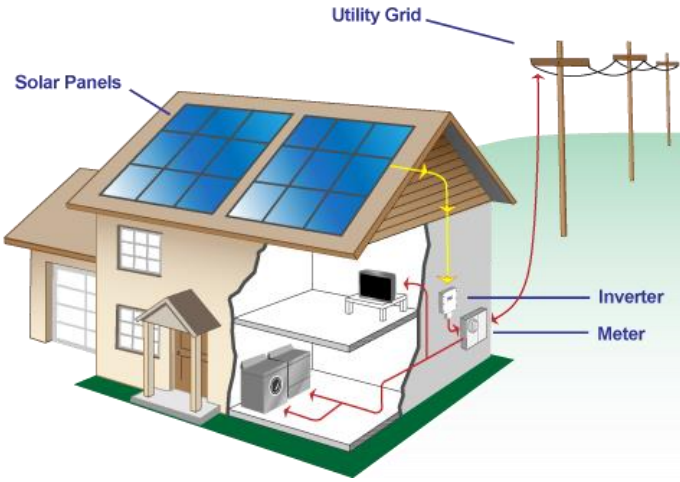


E16 RENEWABLE ENERGY

Reduce energy consumption and the associated GHG emissions by installing a Photovoltaic (PV) array that produces renewable energy on site.

This is an add-on (bonus) credit as it reduces overall energy consumption.

- Install a PV system including the solar array, inverter, charge controller and battery. If the system is connected to the national electricity grid, it feeds energy directly into the grid, it does not require batteries.
- Calculate the energy saving achieved as the percentage of electrical energy produced by the installed PV system per year, to the total electrical energy consumption per year.



E15	RENEWABLE ENERGY	ELECTRICAL ENERGY PRODUCED BY PV PER YEAR (kWh)	TOTAL ELECTRICAL ENERGY CONSUMED PER YEAR (kWh)	IMPROVED PERCENTAGE
	PV SYSTEM	500	8,000	6.25%

ENERGY CALCULATION SUMMARY

The below table is the combined results of all energy credits. A total energy saving of **38.39 %** is achieved which meets TARSHEED 20 requirements.

	ENERGY	BASE CASE	IMPROVED PERCENTAGE	SAVING
	ENVELOPE	14.00%		
E01	WINDOW TO WALL RATIO	2.00%	1.50%	
E02	EXTERNAL WINDOW SHADING	2.00%	1.20%	
E03	ROOF INSULATION	2.00%	1.00%	
E04	EXTERNAL WALLS INSULATION	2.00%	1.30%	
E05	LOW-E COATED GLASS	1.50%	1.50%	
E06	HIGHER PERFORMANCE GLASS	1.50%	1.50%	
E07	AIR TIGHTNESS	3.00%	3.00%	
E08	COOLING	25.00%	16.67%	
E09	HEATING	5.00%	0.00%	38.39%
E10	HOT WATER	10.00%	8.00%	
E11	LIGHTING	20.00%	15.64%	
E12	APPLIANCES	18.00%	11.90%	
E13*	EFFICIENT ELEVATORS	4.00%	1.50%	
E14**	EXTERNAL LIGHTING AND CONTROLS	4.00%	3.16%	
E15	RENEWABLE ENERGY		6.25%	
		100.00%	**61.61%**	

WATER

WATER CALCULATION SUMMARY

	WATER	PERCENTAGE
	INDOOR	80.39%
W01	SHOWERHEADS*	28.14%
W02	KITCHEN SINK FAUCETS*	16.08%
W03	LAVATORY FAUCETS*	16.08%
W04	WATER CLOSETS*	20.10%
	IRRIGATION	19.61%
W05	REDUCE GRASS	9.80%
W06	IRRIGATION EFFICIENCY	9.80%
	ADD ON	
W07	GRAYWATER / AC CONDENSATE / RAINWATER	
	*UPC and IPC code	**100.00%**

W01 SHOWERHEADS

INTENT

Shower Heads use **35%** of the indoor water consumption of the residential unit.

Reduce water used by showerheads below the base case.

BASE CASE

The Showerhead base case is 10 Liters per minutes (10 LPM)

IMPROVEMENT

Install low flow showerheads and provide supporting documents such as product data sheet to TARSHEED INSPECTOR.

EXAMPLE

W01	**SHOWERHEADS***	**NO. OF ITEMS**	**SHOWERHEADS**	**DESIGN CASE**	**BASE CASE**	**SAVING**	**IMPROVED PERCENTAGE**
	28.14%	2	SHOWERHEAD 1	8	10	0.70	19.70%
			SHOWERHEAD 2	6			
			SHOWERHEAD 3				

W02 KITCHEN SINK FAUCET

INTENT

Kitchen Faucets use **20%** of the indoor water consumption of the residential unit.

Reduce water used by Kitchen Faucets below the base case.

BASE CASE

Kitchen Faucets base case is 8 Liters per minutes (8 LPM)

IMPROVEMENT

Install low flow Kitchen Faucets and provide supporting documents such as product data sheet to TARSHEED INSPECTOR.

EXAMPLE

W02	KITCHEN SINK FAUCETS*	NO. OF ITEMS	KITCHEN FAUCETS	DESIGN CASE	BASE CASE	SAVING	IMPROVED PERCENTAGE
	16.08%	2	KITCHEN FAUCET 1	7	8	0.81	13.06%
			KITCHEN FAUCET 2	6			
			KITCHEN FAUCET 3				

W04 WATER CLOSETS

Water closets flush tanks use **25%** of the indoor water consumption of the residential unit.

WC flush tank flow rate base case is 6 Liters Per Flush (6 LPF)

W04	WATER CLOSETS*	NO. OF ITEMS	WC FLUSH TANKS	DESIGN CASE	BASE CASE	SAVING	IMPROVED PERCENTAGE
	20.10%	3	WC FLUSH TANK 1	6	6	0.83	16.75%
			WC FLUSH TANK 2	5			
			WC FLUSH TANK 3	5			

W05 REDUCE GRASS

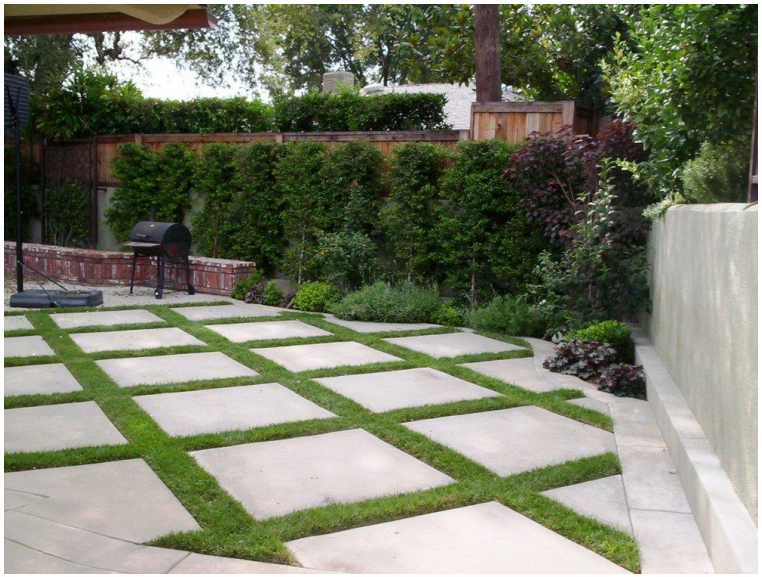
Option 1: increase the area covered with low water consuming mixed trees, shrubs and groundcovers.

Option 2: install open grid pavers that are 50% pervious.

The weight of reducing the area covered with grass is estimated to be equivalent to **50%** reduction in irrigation water consumption.

BASE CASE

Area covered with grass is 75% of the total garden (softscape) area.



W05	REDUCE GRASS	AREA OF GRASS (M2)	TOTAL GARDEN AREA (M2)	BASE CASE	SAVING	IMPROVED PERCENTAGE
	9.80%	120	200	75%	0.80	7.84%

W06 IRRIGATION EFFICIENCY

Efficient irrigation systems is estimated to be equivalent to **50%** reduction in irrigation water consumption

The base case for irrigation efficiency is 60%.

- Hose Efficiency 40%
- Sprinklers Efficiency 62.5%
- Dripper Efficiency 90%

	IRRIGATION EFFICIENCY	IRRIGATION SYSTEM	DESIGN CASE AREA (M2)	DESIGN CASE EFFICIENCY	TOTAL AREA	BASE CASE EFFICIENCY	SAVING	IMPROVED PERCENTAGE
W06	9.80%	AREA IRRIGATED BY HOSE	40	0.40	200	0.60	0.89	8.70%
		AREA IRRIGATED BY SPRINKLER	90	0.63				
		AREA IRRIGATED BY DRIPPER	70	0.90				

W07 GRAYWATER / AC CONDENSATE / RAINWATER

Graywater is the untreated household waste water which has not come into contact with toilet waste. It includes used water from bathtubs, showers, bathroom wash basins and clothes washers, it does not include waste water from kitchen sinks or dishwashers.

AC Condensate is the water generated from the AC system due to condensation.

Rain water is the water that falls on the building roof during rainy events.

	GRAYWATER / AC CONDENSATE / RAINWATER	QUANTITY OF WATER REUSED (M3)	TOTAL WATER CONSUMPTION (M3)	IMPROVED PERCENTAGE
W07	GRAYWATER	30	2,050	1.44%
	AC CONDENSATE			
	RAINWATER			

WATER CALCULATION SUMMARY

The below table is the combined results of all water credits. A total water saving of **22.66%** is achieved which meets TARSHEED 20 requirements.

	WATER	PERCENTAGE	BASE CASE	IMPROVED PERCENTAGE	SAVING
	INDOOR	80.39%	100.00%	62.24%	
W01	SHOWERHEADS*	28.14%	35.00%	19.70%	
W02	KITCHEN SINK FAUCETS*	16.08%	20.00%	13.06%	
W03	LAVATORY FAUCETS*	16.08%	20.00%	12.73%	
W04	WATER CLOSETS*	20.10%	25.00%	16.75%	
	IRRIGATION	19.61%	100.00%	16.54%	**22.66%**
W05	REDUCE GRASS	9.80%	50.00%	7.84%	
W06	IRRIGATION EFFICIENCY	9.80%	50.00%	8.70%	
	ADD ON				
W07	GRAYWATER / AC CONDENSATE / RAINWATER			1.44%	
	*UPC and IPC code	**100.00%**		**77.34%**	

HABITAT

HABITAT CALCULATION SUMMARY

	HABITAT	PERCENTAGE
	OUTDOOR	**42.00%**
H01	READY-MIX CONCRETE	5.00%
H02	REFLECTIVE TILES FOR ROOF AND OUTDOOR PAVING	10.00%
H03	REFLECTIVE PAINT FOR EXTERNAL WALLS	5.00%
H04	SHADED PARKING	10.00%
H05	BICYCLE RACKS	2.00%
H06	ORGANIC FRUITS AND VEGETABLES GARDEN	8.00%
H07	OUTDOOR LIGHTING FULL CUTOFF	2.00%
	MATERIAL	**34.00%**
H08	PROPER DISPOSAL OF CONSTRUCTION WASTE	5.00%
H09	RECYCLING CONSTRUCTION WASTE	2.00%
H10	WASTE SEGRAGATION AT SOURCE	10.00%
H11	PRODUCE YOUR OWN COMPOST	2.00%
H12	LOCAL FLOORING	8.00%
H13	LOCAL CERAMIC	5.00%
H14	RECYCLED CONTENT	1.00%
H15	MATERIAL REUSE	1.00%
	INDOOR	**24.00%**
H16	ENTRYWAY SYSTEM	3.00%
H17	LOW VOC PAINTS	10.00%
H18	WINDOWS FOR LIVING SPACES	10.00%
H19	KITCHEN EXHAUST	1.00%
		100.00%

H01 READY-MIX CONCRETE

INTENT

Reduce air pollution, noise pollution and street disturbance; in addition to ensuring consistent concrete quality which contributes to resilience, by using Ready-mix Concrete.

The weight of this credit is estimated to be equivalent to **5%** reduction in negative environmental impact.

BASE CASE

No base case for this credit.

IMPROVEMENT

Calculate the ratio between the quantity of ready-mix concrete and the total quantity of concrete used on the project.

EXAMPLE

H01	READY-MIX CONCRETE	QUANTITY OF READYMIX CONCRETE (M3)	TOTAL QUANTITY OF CONCRETE (M3)	SAVING	IMPROVED PERCENTAGE
	5.00%	1,340	1,500	0.11	0.53%

H02 REFLECTIVE TILES FOR ROOF AND OUTDOOR PAVING

INTENT

Reduce heat island effect and reduce heat load from the roof. Use roof tiles and outdoor paving tiles with solar reflectivity higher than the base case.

The weight of this credit is estimated to be equivalent to **10%** reduction in negative environmental impact.

BASE CASE

Base case solar reflectivity for roof and outdoor paving is 40%. The credit target solar reflectivity is 70% (this value should not be exceeded for outdoor paving to control glare).

IMPROVEMENT

- Calculate the total area of the roof and outdoor paving.
- Calculate areas of the roof and outdoor paving using tiles with different solar reflectivity, such as: white cement tiles (loose laid), white terrazzo tiles, light colored gravel, light colored ceramic tiles, porcelain or marble…etc.

EXAMPLE

	REFLECTIVE TILES FOR ROOF AND OUTDOOR PAVING	DESIGN CASE AREA (M2)		DESIGN CASE SOLAR REFLECTIVITY	TOTAL AREA (M2)	BASE CASE SOLAR REFLECTIVITY	SAVING	IMPROVED PERCENTAGE
H02	10.00%	AREA 1	150	73.0%	310	40%	0.71	7.11%
		AREA 2	75	65.0%				
		AREA 3	85	19.0%				

H04 SHADED PARKING

INTENT

Reduce heat island effect caused by exposed asphalt surface parking and reduce street congestion which in return reduces GHG emissions and air pollution.

Provide shaded parking within the site limit (plot limit, outside the street limit) exceeding the base case. The weight of this credit is estimated to be equivalent to **10%** reduction in negative environmental impact.

BASE CASE

No base case for this credit.

Credit target: 1 shaded car parking per apartment and 2 per villa.

IMPROVEMENT

Calculate the number of shaded parking targeted and the number of shaded parking offered.

EXAMPLE

H04	SHADED PARKING	NO. OF UNITS		TARGETED NUMBER OF PARKING	TOTAL TARGETED NUMBER OF PARKING	NUMBER OF PARKING PROVIDED	SAVING	IMPROVED PERCENTAGE
	10.00%	VILLAS	0	2	8	3	0.63	6.25%
		APARTMENTS	8	1				

H05 BICYCLE RACKS

Improve residents' health and quality of life.

Provide secure shaded bicycle racks exceeding the base case.

2% reduction in negative environmental impact.

Credit target: 1 secure shaded bicycle rack per apartment and 2 per villa.

H05	BICYCLE RACKS	NO. OF UNITS		TARGETED NUMBER OF BIKE RACKS	TOTAL TARGETED NUMBER OF BIKE RACKS	NUMBER OF BIKE RACKS PROVIDED	SAVING	IMPROVED PERCENTAGE
	2.00%	VILLAS	0	2	8	2	0.75	1.50%
		APARTMENTS	8	1				

H08 PROPER DISPOSAL OF CONSTRUCTION WASTE

Ensure that all construction waste is properly disposed of in municipal landfills to eliminate random disposal on the side roads and empty plots of land.

The weight of this credit is estimated to be equivalent to **5%** reduction in negative environmental impact.

Credit target 100% of all construction waste is properly disposed of in municipal landfills.

H08	PROPER DISPOSAL OF CONSTRUCTION WASTE	QUANTITY OF CONSTRUCTION WASTE PRODUCED (TONS)	QUANTITY OF CONSTRUCTION WASTE SENT TO MUNICIPAL LANDFILLS OR RECYCLED (TONS)	TARGETED QUANTITY	SAVING	IMPROVED PERCENTAGE
	5.00%	150	90	150	0.60	2.00%

H09 RECYCLING CONSTRUCTION WASTE

Increase the quantity of construction waste that is recycled to reduce demand on virgin materials and reduce the burden on municipal landfills.

The weight of this credit is estimated to be equivalent to **2%** reduction in negative environmental impact.

Credit target 60% of all non-hazardous construction waste is sent to a recycling facility.

H09	RECYCLING CONSTRUCTION WASTE	QUANTITY OF CONSTRUCTION WASTE PRODUCED (TONS)	QUANTITY OF CONSTRUCTION WASTE RECYCLED (TONS)	TARGETED QUANTITY	SAVING	IMPROVED PERCENTAGE
	2.00%	150	40	90	0.44	1.11%

H10 WASTE SEGRAGATION AT SOURCE

Recycle domestic waste, to reduce the quantity of waste going to landfills. Produce compost that can be used as fertilizer.

Option 1: Two segregation streams (Wet - dry)

Option 2: Three segregation streams (Recyclables - Compost - Landfill)

Color code:

- **Black for wet / landfill**
- **Blue for dry / recyclables**
- **Green for Compost**

H10	WASTE SEGRAGATION AT SOURCE	PERCENTAGE	YES/NO	IMPROVED PERCENTAGE
	Option 1	5.00%	Y	5.00%
	Option 2	10.00%	N	

H12 LOCAL FLOORING

INTENT

Reduce the GHG emissions associated with long transport distances of imported materials and encourage the national economy.

The weight of this credit is estimated to be equivalent to **8%** reduction in negative environmental impact.

BASE CASE

No base case for this credit.

IMPROVEMENT

- Calculate the total flooring area excluding bathroom(s) and kitchen(s).
- Calculate the area of local flooring (made in Egypt).

EXAMPLE

H12	LOCAL FLOORING	TOTAL FLOORING AREA (M2)	LOCAL FLOORING AREA (M2)	SAVING	IMPROVED PERCENTAGE
	8.00%	110	70	0.64	2.91%

H13 LOCAL CERAMIC

INTENT

Reduce the GHG emissions associated with long transport distances of imported materials and encourage the national economy.

The weight of this credit is estimated to be equivalent to **5%** reduction in negative environmental impact.

BASE CASE

No base case for this credit.

IMPROVEMENT

- Calculate the total ceramic area of bathroom(s) and kitchen(s) floors and walls.
- Calculate the area local ceramic (made in Egypt).

EXAMPLE

H13	LOCAL CERAMIC	TOTAL CERAMIC AREA (M2)	LOCAL CERAMIC AREA (M2)	SAVING	IMPROVED PERCENTAGE
	5.00%	90	20	0.22	3.89%

H18 WINDOWS FOR LIVING SPACES

Each living spaces has an operable window which area is not less that 10% of the floor area of the room. Living spaces include bedrooms, living rooms, dining rooms, study, kitchen, …etc. Bathrooms, toilets, corridors, small lobbies …etc. are excluded.

The weight of this credit is estimated to be equivalent to **10%** reduction in negative environmental impact.

H18	WINDOWS FOR LIVING SPACES	YES/NO	IMPROVED PERCENTAGE
	10.00%	N	10.00%

HABITAT CALCULATION SUMMARY

The below table is the combined results of all habitat credits. A total reduction in negative environmental impact of **35.08%** is achieved which meets TARSHEED 20 requirements.

	HABITAT	PERCENTAGE	IMPROVED PERCENTAGE	SAVING
	OUTDOOR	**42.00%**	**23.78%**	
H01	READY-MIX CONCRETE	5.00%	0.53%	
H02	FLECTIVE TILES FOR ROOF AND OUTDOOR PAVIN	10.00%	7.11%	
H03	REFLECTIVE PAINT FOR EXTERNAL WALLS	5.00%	3.77%	
H04	SHADED PARKING	10.00%	6.25%	
H05	BICYCLE RACKS	2.00%	1.50%	
H06	ORGANIC FRUITS AND VEGETABLES GARDEN	8.00%	3.33%	
H07	OUTDOOR LIGHTING FULL CUTOFF	2.00%	1.28%	
	MATERIAL	**34.00%**	**18.14%**	
H08	PROPER DISPOSAL OF CONSTRUCTION WASTE	5.00%	2.00%	
H09	RECYCLING CONSTRUCTION WASTE	2.00%	1.11%	
H10	WASTE SEGRAGATION AT SOURCE	10.00%	5.00%	**35.08%**
H11	PRODUCE YOUR OWN COMPOST	2.00%	1.50%	
H12	LOCAL FLOORING	8.00%	2.91%	
H13	LOCAL CERAMIC	5.00%	3.89%	
H14	RECYCLED CONTENT	1.00%	0.85%	
H15	MATERIAL REUSE	1.00%	0.88%	
	INDOOR	**24.00%**	**23.00%**	
H16	ENTRYWAY SYSTEM	3.00%	3.00%	
H17	LOW VOC PAINTS	10.00%	10.00%	
H18	WINDOWS FOR LIVING SPACES	10.00%	10.00%	
H19	KITCHEN EXHAUST	1.00%	0.00%	
		100.00%	**64.92%**	

TARSHEED OVERALL CALCULATION SUMMARY

From the above examples, the following was achieved:

A total Energy saving of **38.39%**
A total water saving of **22.66%**
A total Habitat reduction in negative environmental impact of **35.08%**

	CATEGORY	MIN. SAVING	ACHIEVED SAVING
1	**ENERGY**	20%	38.39%
2	**WATER**		22.66%
3	**HABITAT**		35.08%

Which achieves **TARSHEED** Certification.

TARSHEED Rating Systems

Egypt GBC developed a new initiative to have a new rating system based on zero pollution through full utilization of all natural resources:

- TARSHEED - Residential Basic (Edition 2015)
  - New and existing buildings
  - 20% savings in all 3 categories
  - "Affordable Buildings"

- TARSHEED - Residential Advanced (Edition 2018)
  - New and existing buildings
  - Credits based: 4 certification levels

- TARSHEED – Commercial (Edition 2018)
  - New and existing buildings
  - Credits based: 4 certification levels

- TARSHEED - Community (Edition 2018)
  - New and existing communities
  - Credits based: 4 certification levels

Residential

Commercial

Community

TARSHEED ONGOING PROJECTS

Project Name: Guesthouse Residence
Owner: Royal Herbs Ottoman Group http://royalherbs.com/
Designer: ECOnsult Design Co. hyperlink to ECOnsult Design Co.
Address: El Wahat El Baharia, Western Desert, Egypt

Hand Over

Project Name: Affordable Apartment Building (140 m2)
Designer and Contractor: Hand Over
Address: Ezbet Abou Arn, Old Cairo, Egypt

ECHOING GREEN

ASHOKA

TARSHEED PROJECTS

الأهلي للتنمية العقارية
SABBOUR
AL AHLY FOR REAL ESTATE DEVELOPMENT

Project Name: Residential Compound in Mostakbal City
Owner: Al Ahly for Real State Development
Area: 2.2 million square meter, phase one is 315,000 square meter
Address: Mostakbal City, New Cairo District, Egypt

Project Name: Three Apartment Buildings
Owner: Mint Properties
Area: 3 Projects 6368 square meter
Address: New Cairo District, Egypt

CA+
Collaborative Architects

Project Name: 6-floor residential apartment building
Owner: Collaborative Architechts + Partners (CA+)
Address: Al Andalus District, New Cairo City, Egypt

الإسماعيلية
ALISMAELIA

Project Name: Two existing commercial buildings: i) La Viennoise of 4824 Sqm and ii) the old French consulate of 3000 Sqm
Owner: Al-Ismaelia For Real Estate for Investment
Address: Downtown Cairo, Egypt

TARSHEED IN SHORT

- A rating system endorsed by the World GBC
- Specially tailored for Egypt and tested in projects
- Very simple
- Inexpensive fees + application
- Will produce real Green Buildings
- TARSHEED Community and TARSHEED Commercial ready for use
- Incentive…

Thank you…