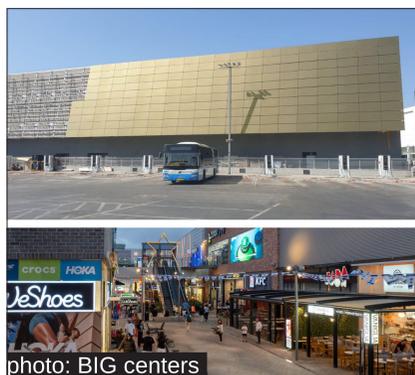


BIPV in Israel: from building innovations to urban policy

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While National policies encourage rooftop PV, infrastructural PV and storage solutions, key stakeholders increasingly show interest in Building Integrated PV. We have analyzed 4 pioneering BIPV projects and 3 recent urban energy directives and suggested modifications to encourage broader adaptation of BIPV

Case Study Buildings



Project	ToHa 2	BIG mall Ashdod	Sataf info point	Roof Tech lab
Type and location	Office tower, Tel Aviv	Shopping center, Ashdod	Visitor center, Sataf forest	Demo+research, Jerusalem
Client / developer	Gav Yam, Amot	BIG Centers	Jewish National Fund	Muslala NGO
Design	Ron Arad+Yashar Arch.	Peleg Architects	Gilad-Shiff Architecture	Gilad-Shiff Architecture
BIPV area sqm	1600 m ²	2000 m ²	150 m ²	32 m ²
System size kWp	220 Kwp	229 Kwp	24.2 Kwp	4.8 Kwp
expected yield	170,000 Kwh/y	160,000 Kwh/y	35,000 Kwh/y	3,840 Kwh/y
Product	BIPV glass on aluminum louvres by SmartCon	BIPV glass on aluminum back by SolarLab	T-Max tiles by GainSolar	BIPV glass panels by SmartCon
Type of installation	Screen for technical floors	Curtain wall warm facade	Roof shingles system	Cold facade on stone wall
project stage	Under construction	Built	Built	Built

Motivation for BIPV

	low		high		low		high		low		high	
Fit in context	■	■	■	■	■	■	■	■	■	■	■	■
Energy contribution	■	■	■	■	■	■	■	■	■	■	■	■
Company image	■	■	■	■	■	■	■	■	■	■	■	■
LEED Platinum	■	■	■	■	■	■	■	■	■	■	■	■
Design excellence	■	■	■	■	■	■	■	■	■	■	■	■
Demonstration	■	■	■	■	■	■	■	■	■	■	■	■

Urban Directives

Recently, several major municipalities have published pioneering instructions for mandatory on-site energy generation. We have reviewed the directives of Tel Aviv-Yafo, Holon and Ramat Gan municipalities. Initial reception by key players suggests that the application of BIPV as a mean to follow the new directives would be limited



72% of carbon emissions are generated by buildings

Current urban energy Directives

- 1 calculate renewable energy potential on site
Energy simulation, including 90% of roofs and 30% of south facades as solar areas
- 2 Design to meet a minimum of 50-60% / 60-75% of calculated potential at urban plan stage / building permit stage
- 3 Apply in building and urban plans and in planning permission processes

Conclusion

For engaging architects and developers to use BIPV, we propose to extend the new directive beyond the focus of energy production. This could include goals of design excellence, visibility in context, and a high LEED rating

- suggested additions:** design to integrate in context
- Optional:** design to excel in Green Building standard + gain benefits more m² / more uses / etc.