

WAY FAB PREFABS

IN THEIR QUEST FOR AFFORDABLE,
ENERGY-EFFICIENT HOMES, SOME MAINERS
ARE THINKING OUTSIDE THE SITE-BUILT BOX.

A HUNDRED YEARS AGO, it was nothing for a homebuyer to purchase a house from the same source that supplied her corsets and motor buggy. From 1908 through the 1940s, Sears, Roebuck and Company sold some 70,000 “kit homes” from its voluminous mail-order catalog. Customers could choose from 447 (!) prefab models, Colonial to Craftsman style. Once purchased, Sears shipped the parts needed to build the home — pre-cut lumber, windows, cabinets, nails, paint, and more — to the buyer’s lot for (typically DIY) assembly.

Kit houses attracted buyers because they were affordable, transportable, and comprised of quality materials. But over the course of the 20th century, the prefab premise shifted. “The driver became stripping things down to get the bottom line as low as possible, which resulted in lesser-quality builds,” says Parlin Meyer, director of Portland’s BrightBuilt Home, one of several Maine companies that have jumped on a national trend toward prefabs emphasizing style, energy efficiency, and high-end materials and construction methods.

Like Sears back in the day, companies like BrightBuilt, Searsmont’s Ecocor, and Belfast’s GO Logic offer ready-made, customizable house plans in an array of sizes and styles.

BY SARAH
STEBBINS
VIRGINIA
M. WRIGHT
BRIAN KEVIN

This roomy
Newry chalet
costs less to heat
than your place.
See page 58.

Meanwhile, Bensonwood, of Walpole, New Hampshire, designs its homes from scratch but follows the same basic tenets of modern prefab. Wall, roof, ceiling, and floor components are assembled with precision in a factory, where bad weather can’t cause delays and excess material is recycled and reused. Prebuilt parts are trucked to the site and pieced together, typically by a builder.

The result is an airtight home that can go from drafting table to housewarming party in three to five months — compare with nine months to a year for homes built onsite. And while prefab efficiencies don’t necessarily translate to a less expensive build, they do offer what Meyer calls “price predictability.”

“Because so many decisions are made up front, before the factory process starts,” she says, “you can home in on a fairly fixed cost and not worry about it ballooning.”

Chris Corson, Ecocor’s technical director, views today’s efficient prefabs on par with other high-tech products. “If you were buying a car, would you want one built in a factory or assembled in your driveway?” he asks. “To me, prefabricating is the future of the construction industry.” On the following pages, meet six Maine homeowners who got in on the ground floor.



JAMES R. SALOMON

* Cost-to-build calculations are for homes alone and do not include excavation, site prep, permitting, surveying, or outbuildings.



ARCHITECT:
BrightBuilt Home
COST TO BUILD: \$307,200
SQUARE FEET: 2,650
BEDROOMS: 4
BATHS: 3½
HEAT/ELECTRICITY:
Air-source heat pumps,
6 kW solar array
**ANNUAL COST FOR
HEAT/ELECTRICITY:**
\$1,429

Cross-Town Move

→ **The Village Life**
Betty and Randy Libby aren't new to high-performance construction. In 1999, they built a 1,900-square-foot home on the Brunswick outskirts. It had insulated, foot-thick walls and adhered to the Natural Resources Canada energy-efficiency standard. "We were pretty happy with that," Betty says. Now in their 60s, they've downsized and moved into a solar-powered, net-zero home downtown. "We walk a lot — to yoga, the grocery, the library, over to Bowdoin College for events," Betty says. "We love it."

→ **Here Comes the Sun**
Ecocor designed the eaves so they allow shade in summer and direct sunlight in winter. "Unless the day is absolutely miserable, the light is wonderful," Betty says. The sun brings other benefits as well. Their total energy costs are \$10.68 a month, Central Maine Power's basic rate. They use the supplemental heat panel in their bedroom only on the coldest, windiest days — and then only for about 10 minutes before going to bed. "We had a sunroom in our other house," Randy says. "This whole house feels like a sunroom."

→ **Hands-On Homeowners**
It took the Libbys more than a year to find an in-town lot with suitable southern exposure. All the while, they were sketching and re-sketching their ideal home, and Ecocor's Chris Corson worked from their plan to create the final design. The Libbys saved money on construction by doing much of the finish work themselves (this included cabinets, counters, built-ins, closets, interior doors, trim, shower walls, tile, and paint). Their guest bedroom, furnished with a pullout couch, doubles as a shared office. "We use all of the house every day, so it's the right size for us," Betty says.



Coastal Colonial

→ **Done with Old and Cold**
For three years, Marian and Alex Starkey lived in a 1916 foursquare in South Portland that was charming, but chilly. "We were paying over \$500 a month to keep the temperature barely tolerable," says Marian. She issued an ultimatum: "If we're going to stick it out in Maine, I want to build a warm house." After accepting an unsolicited offer on their SoPo place, they had only a few months to secure a plot and construct their new home. The prefab path was a no-brainer.

→ **Fitting In with the Neighbors**
"We didn't want to be conspicuous," Marian says, living in some space-age cube on a street full of Victorian cottages. So the couple customized BrightBuilt Home's Great Diamond model, the company's most popular

offering on account of its classic, cottagey appeal that nonetheless accommodates more than 2,000 square feet of living space. The generous floor plan allowed the Starkeys, who telecommute, to carve out a pair of offices, as well as a guest room.

→ **DIY-Friendly Design**
Alex, who renovated the couple's previous homes, did the finish work himself, shaving roughly \$175,000 off the building cost and enabling the pair to incorporate upgrades — cedar-shake siding, custom cabinetry complete with doggie nook — that would otherwise have been out of reach. Having the shell prebuilt allowed the Starkeys to chip away at projects while living in the house, which they keep at a toasty 70 degrees using electricity partially offset with solar panels.

CHRIS SMITH, COURTESY OF BRIGHTBUILT HOME (COASTAL COLONIAL); GREG BUZZELL, COURTESY OF ECOCOR (CROSSTOWN EXTERIOR); CHRIS BECKER (CROSSTOWN INTERIORS)



ARCHITECT/BUILDER:
Ecocor
COST TO BUILD: \$260,000
(excluding finish work)
SQUARE FEET: 1,175
BEDROOMS: 2
BATHS: 1½
HEAT/ELECTRICITY:
Air-source heat pump,
supplemental electric panel
heaters, 5 kW solar array
**ANNUAL COST FOR
HEAT/ELECTRICITY:** \$128

Passive Pastoral

→ Balance of Power

Alison and Eric Rector wanted out of their “drafty old Maine farmhouse” in Monroe. They didn’t want to move far — they picked a building plot on their own land, subdivided it, and are selling the farmhouse — but they did want to reduce their energy footprint. So they approached GO Logic about a passive house, a structure designed to meet a strict, German-derived efficiency standard, cutting energy loss by 90 percent compared to a conventional home thanks to a highly insulated shell, triple-glazed windows, and a ventilation system that brings in fresh air without letting heat escape with the stale air. The Rectors’ place is grid-tied, but 24 photovoltaic panels feed a battery bank that can power the lights, propane heater, water pump, and other critical systems during outages. Excess energy they generate feeds the grid; in 2017, they got a power-company rebate (and put it towards an electric car).

→ COR-TEN-ets

The Rectors’ corrugated weathering-steel exterior was largely an aesthetic choice. Both the Rectors and architect Timothy Lock loved the industrial look of COR-TEN, a steel alloy that quickly develops a consistent oxidized finish. The rust acts as a protective layer, and compared to clapboard or shingles, it’s both cost-effective and low-maintenance. “In the farmhouse, it seemed like every year we were painting or scraping,” Alison says. “Not here.”

→ Have It Your Way

“People hear ‘prefab’ and think ‘Oh, it has to look the same as every other project,’” Eric says. “But really, within the concept of prefab, we had a lot of flexibility in terms of interior design.” The Rectors worked with Lock to extend a wall here, move a couple of doors there, and select designs for their windows. They tacked on a garage-cum-art-studio. They used Maine black slate in the shower and deep-green Vermont slate in the kitchen. Lock designed the eye-catching grid of bright cabinets — which didn’t break the bank. “Ikea!” Alison reveals.

Custom Cabin

→ Partnered Up

George and Anne Penniman wanted to design their own retreat on Harpswell’s Ash Point — he’s an architect, she’s a landscape architect — but they also wanted the efficiency and quicker build that comes with shop-manufactured building components. “Clearly, in Maine you’re limited in your ability to build year-round,” George explains. So they approached Ecocor. Their passive home meets rigorous energy-efficiency standards.

→ Treading Lightly

The Pennimans were keen on leaving a small ecological footprint, so they chose a helical-pier foundation, which required no site excavation. Instead, metal pilings were drilled into the ground — that took all of half a day — and then a 24-inch-thick insulated floor system, built in sections off-site, was installed on top. “We were lucky to find a property with beautiful native vegetation: spruces, firs, oak trees, wildflowers, and ferns. Even the wetlands are beautiful,” says Anne. “We wanted to preserve and protect as much as we could.”

→ Planning Ahead

The Pennimans live in Connecticut but eventually plan to move to Harpswell year-round, so they designed the cabin with a future two-bedroom addition in mind. Meantime, they use the place as a weekend retreat in all seasons. No matter how many weeks pass between visits, the indoor air is fresh, and the place warms up quickly, even on the bitterest winter nights. “We can actually cook a meal,” Anne marvels, “and that heat goes right into warming the house.”

JOSH GERRITSEN, COURTESY OF GO LOGIC (PASSIVE PASTORAL); NAOMI BEALE, COURTESY OF ECOCOR (CUSTOM CABIN)



ARCHITECT: George Penniman Architects LLC
BUILDER: Ecocor

COST TO BUILD: \$365,928

SQUARE FEET: 1,344 (plus 244 square feet in screened and covered porches)

BEDROOMS: 1, plus a sleep loft

BATHS: 1

HEAT: Air-source heat pump, wood-stove that’s “mostly just for fun”

ANNUAL COST FOR HEAT/ELECTRICITY: \$426



ARCHITECT:

GO Logic

COST TO BUILD:

\$230,000

SQUARE FEET:

1,024

BEDROOMS:

2

BATHS:

1

HEAT/ELECTRICITY:

Propane heater, supplemental electric baseboards, 6 kW solar array

ANNUAL COST FOR HEAT/ELECTRICITY:

\$90

Camp Reboot

→ Narrow Escape

Betsy and John Spence built a camp a decade ago on a pond-front property in Palermo. When it was time to scale back from their roomy Cape in nearby China, they looked to replace their camp with a prefab passive home to save money and cut down on building time. Their site was both remote and confined: The expense of running in power lines convinced the Spences to remain off-grid. The narrow plot — with rocky ledges on either side — challenged GO Logic architect Gunther Kragler to maximize living space while retaining the surrounding views.

→ Rooms With a View

Kragler's rectangular design makes room for two bedrooms and two full baths, along with an open living/dining/kitchen area with a long row of floor-to-ceiling windows. The Spences also asked for a screened porch, which Kragler designed to link the house and garage, since it

couldn't protrude on the small site. Off-season, glass panels slide in to replace the screens. "Every so often I think, maybe I should have more art in here," says Betsy, "then I look, and I have this giant piece of nature staring me in the face, and I think, nope, maybe I don't need any."

→ Aggressively Passive

Because the house's southern facade was necessarily its shorter end, opportunities for solar gain — collecting heat from the sun — were more limited than in other off-grid projects. So a small, propane-fueled Rinnai heater augments passive-solar heat, and the Spences' long roof accommodates a photovoltaic array that, with propane as a backup, powers a tankless water heater (and the rest of the house). An overhang provides solar shade, and the eastern white cedar shiplap board, though it doesn't provide much thermal benefit, sure looks good — and will soften to gray over time.



ARCHITECT:
GO LOGIC

COST TO BUILD:
\$229,000 (excluding
screen porch and
garage)

SQUARE FEET: 1,080
(plus 280-square-foot
screened porch)

BEDROOMS: 2

BATHS: 2

HEAT/ELECTRICITY:
Propane heater, 6.7 kW
solar array

**ANNUAL COST FOR
HEAT/ELECTRICITY:**
\$1,300



Skiers' Retreat

→ Room for the Whole Crew

Jamie Tedford grew up spending weekends at a cottage in Greenwood, where he and his family rose in the wee hours to drive to Mt. Abram and ski. He loved the tradition, but after he and his sister had their own kids, the place was packed. When a ski-in-ski-out lot became available at nearby Sunday River in Newry, Jamie and his wife, Meredith, jumped at the chance to build a home that would accommodate their 11-member extended family and eliminate those early-morning drives.

→ Traditional Framing, Modern Techniques

The Massachusetts-based couple had their hearts set on a timber-frame and liked that Bensonwood, which specializes in such structures, could deliver a large, fully customized one in seven months — a real feat in a corner of Maine with rugged terrain and often-uncooperative weather. After touring the company's factory, Jamie says, "We also felt good about supporting a sane work environment. These guys were there, in the dead of winter, doing their best work, versus toiling outside in horrible conditions."

→ Custom Touches

Architect Randall Walter angled the roof-lines upward in places to create a contemporary look and more expansive mountain views. Inside, he says, "we had a fun list," with details like reclaimed barnwood paneling in the living room and birch-patterned wallpaper juxtaposed with corrugated metal in the living room and birch-patterned wallpaper juxtaposed with corrugated metal in the living room and birch-patterned wallpaper juxtaposed with corrugated metal in the living room. The family's favorite spot? An outdoor room over the garage (see page 51), furnished with comfy seats, a fireplace, and heat lamps. "People have walked in thinking it's the lodge," says Meredith. ■



JAMES R. SALOMON



ARCHITECT/BUILDER:
Bensonwood
COST TO BUILD: \$2,063,800
SQUARE FEET: 4,856
BEDROOMS: 5
BATHS: 6
HEAT: Propane-fired
combination
boiler/water heater
ANNUAL COST FOR HEAT: \$2,000