

# The Habits of High-Performance Firms

Lessons from frequent winners of the AIA COTE Top Ten Award, 1997–2016

March 29, 2017



**The American  
Institute  
of Architects**

Lake|Flato, Dixon Water Foundation, 2016 Top Ten Award winner  
*Photo Credit: Casey Dunn*



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—Sandra Montalbo, Assoc. AIA

***Dedicated to the memory of  
Billy Worthen, FAIA***

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## Foreword

What makes a successful sustainable design project, one that fully integrates great performance and great design? Based on the AIA Committee on the Environment's 2016 research *Lessons from the Leading Edge*, a careful analysis of 20 years of AIA COTE Top Ten Award winners, it turns out that in many cases it's not just about the project team but about the design firm itself.

That research showed that of the 130 architecture firms that have won at least one Top Ten Award, 29 have done so more than once, and 17 have won three or more times. Of those winning more than three awards, 59% have also been recognized as AIA Firm Award winners, AIA's highest honor given to architecture firms. A majority are also recognized annually in the Architecture 50 rating. So there must be a connection between great, sustainable projects and overall firm excellence.

This finding shouldn't come as a surprise. In 2013, the *Sustainability Leadership Opportunity Scan*, which I authored and the AIA Board of Directors adopted, demonstrated that firms can better attract and retain talent, be profitable, do great design work, and serve their clients and communities through a commitment to sustainability.

This latest report from COTE, *The Habits of High-Performance Firms*, gives a much-needed understanding of the key firm characteristics that drive success across these frequent Top Ten winners. I urge you to check out the lessons from High-Performance Firms at the end of the report. These findings are valuable for any firm and are especially important now with AIA's commitment to achieving a more equitable, sustainable, healthy, and resilient built environment.

Warmly,



**Mary Ann Lazarus**, FAIA

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2017 Chair, AIA Committee on the Environment Advisory Group



## Executive summary

The annual AIA COTE Top Ten Awards, which AIA calls “the best known recognition program for sustainable design excellence,” launched in 1997. Of the 130 architecture firms that have won at least one award to date, only 29 have done so more than once, and only 17 have won three or more times. Closely studying these firms reveals a number of common traits and measures of excellence. The report summarizes findings from all firms with multiple Top Ten Awards and focuses on 10 chosen for closer study. All of these High-Performance Firms (HPFs) are leading the profession in virtually every way—not just in the number of Top Ten Awards.

### Notable traits of the 10 featured firms

#### Profiles

Percent of firms established before 1990:	<b>80%</b>
Percent of firms that have won the AIA Architecture Firm Award:	<b>70%</b>
Percent of firms located on the West Coast:	<b>70%</b>
Percent of firms employing more than 50 people each:	<b>70%</b>
Percent of the firms’ staffs with graduate degrees:	<b>53%</b>
Percent of the firms’ staffs who are LEED APs:	<b>48%</b>
Percent of the firms’ staffs who are women:	<b>46%</b>

#### Performance

Percent of firms that have signed the AIA 2030 Commitment:	<b>100%</b>
Percent of projects actively using LEED:	<b>92%</b>
Percent of projects with >20% water savings:	<b>84%</b>
Percent of projects using energy modeling:	<b>74%</b>
Average energy reduction on projects:	<b>51%</b>
Percent of projects using daylight modeling:	<b>55%</b>
Percent of projects with Post-Occupancy Evaluations:	<b>41%</b>

## Introduction

In April 2016, the American Institute of Architects (AIA) Committee on the Environment (COTE) released *Lessons from the Leading Edge*, a comprehensive study of the Top Ten Awards.<sup>1</sup>

Launched in 1997, the annual awards are the profession’s longest-running and “best known recognition program for sustainable design excellence,” according to AIA.<sup>2</sup> Every year, the winners attract significant attention in the media as “the most impressive new green buildings.”<sup>3</sup> The 2016 report evaluated the performance of the nearly 200 winners, studying various trends and patterns, and concluded that by virtually every measure the projects are outpacing the rest of the industry and continuing to raise the bar for performance.

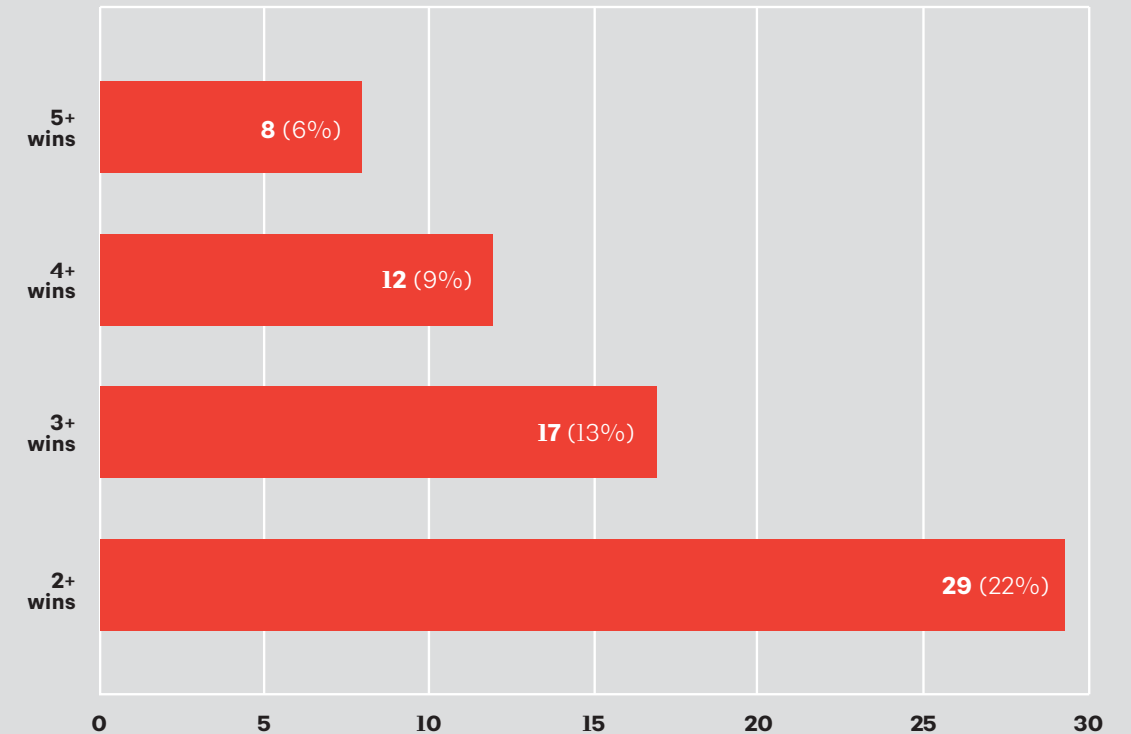
That research also discovered that of the nearly 130 design firms that had won Top Ten Awards, only about two dozen had done so more than once, and only slightly more than half of those had won three or more times. If the Top Ten Awards represent the leading edge of sustainable design, this select group of architects is regularly producing the most exemplary work. The report briefly remarked on the similarities between these firms and concluded, “More in-depth research would

be useful to study the effects of size, structure, and culture on a firm’s ability to perform consistently well.”<sup>4</sup> The current report is the next step in this study.

In Summer 2016, the AIA COTE Advisory Group engaged the lead researcher, a graduate intern, to continue the analysis and visit several firms. The aim was to determine not just how this small number of architects consistently wins Top Ten Awards but also to discern how they consistently raise the bar. What habits do these High-Performance Firms (HPFs) cultivate that set them apart? What practices do they pursue to integrate sustainable performance and design excellence, and what can other firms learn from them?

**Figure 1 Number of design firms with multiple Top Ten Awards, 1997–2016**

Firms with multiple wins account for 22% of all 130 firms that have won.



<sup>1</sup> *Lessons from the Leading Edge: AIA COTE Top Ten 1997–2015*, April 4, 2016. [http://aiad8.prod.acquia-sites.com/sites/default/files/2016-04/COTE-Lessons-from-the-leading-edge\\_1997-2015.pdf](http://aiad8.prod.acquia-sites.com/sites/default/files/2016-04/COTE-Lessons-from-the-leading-edge_1997-2015.pdf)

<sup>2</sup> 2017 COTE Top Ten Call for Entries, <https://www.aia.org/awards/7301-aia-cote-top-ten-award/>

<sup>3</sup> Jenny Xie, “Here are the Most Impressive New Green Buildings in the U.S.” *Curbed*, April 22, 2015. Reprinted in Yahoo! Real Estate. <https://www.yahoo.com/news/news/awards-most-impressive-green-buildings-175447487.html?ref=gs> (accessed January 25, 2017)

<sup>4</sup> *Lessons from the Leading Edge*, p20.

# Methodology

## The research consisted of the following:

1. Collection of publicly available data on the 29 architecture firms who have won multiple Top Ten Awards, with a focus on the 17 who have won three or more
2. Surveys on general information about the firms
3. Additional surveys with a smaller number of firms selected for more in-depth focus
4. In-person interviews with select firms
5. Review and analysis of the above
6. Summary in this report

The basic survey (item 2 above) asked questions about firm composition and general project performance (average energy and water reductions, daylighting, post-occupancy analysis). This was sent to the 17 firms who won multiple Top Ten Awards between 1997 and 2016. Twelve of those firms replied with answers to at least some of the questions, and 10 answered all the questions.

Those 10 were selected to receive a more in-depth survey. Topics of this survey were based on a formal organizational structure, with questions directed to leadership, operations managers, marketing staff, design teams, etc. Survey topics included mission and philosophy, organizational goals, design process, office culture, staff

dynamics, community initiatives, perceived role in advancing the industry, HR standards, incentive programs, feedback loops, information systems, knowledge management, research, and more. In total, 80 hard copy surveys were administered, compiled, and analyzed. All survey data was compiled for evaluation in an electronic spreadsheet.

The lead researcher visited those 10 firms in seven cities to conduct face-to-face interviews and observe the firms in practice. Locations visited were San Francisco, CA, and other Bay Area communities; Los Angeles, CA; Portland, OR; Seattle, WA; Kansas City, MO; San Antonio, TX; and Philadelphia, PA.

Office visits included face-to-face interviews with key personnel, including Principals and Partners, Project Managers, Sustainability Directors, Project Coordinators, Operations Managers, Marketing Directors, and Interns. Interview questions were based on the survey topics and responses. In total, there were 84 interviews. All were recorded and transcribed.

In addition to interviews, the office visits included observations of staff meetings, “lunch-and-learn” events, tours of COTE Top Ten projects, a participatory design charrette, project kick-off meetings, and construction site visits.



## Selection of firms

*Lessons from the Leading Edge* found that between the program's inception in 1997 and 2015, 127 design firms won at least one Top Ten Award, and 28 won two or more. With 2016 winners included, the total number rose to 130, and the multiple winners reached 29.

(The only firm not previously listed among the multiple winners was Harley Ellis Devereaux, which won its second award in 2016). Those 29 firms represent 22% of all firms who have won. Of these, 17 (13%) have won three or more times, 12 (9%) have won four or more times, and eight (6%) have won five or more times. The most frequent winner, Lake|Flato, has won 10 awards, all in the past decade. Leddy Maytum Stacy Architects (LMS<sup>A</sup>) and HOK are tied for second place, with eight awards each. HOK has the unique distinction of having won six years in a row (1998–2003). Lake|Flato won four successive years (2011–2014), and two firms have won three consecutive years: BNIM (2010–2012) and Croxton Collaborative (2005–2007). Nine additional firms each have won two years in a row. While HOK won all but one of their awards before 2004, LMS<sup>A</sup> won all but two of theirs after 2007. In third place, with seven wins, Miller Hull is possibly the most consistent winner, with their awards spread relatively evenly over two decades. In 2016, Lake|Flato and LMS<sup>A</sup> each won two Top Ten

Awards, the first time two firms have won multiple awards in a single year. Only six firms have won two awards in a single year, and Lake|Flato has done it twice.

For the current paper, the researchers began with the 17 firms that have won three or more Top Ten Awards. Combined, they have won a total of 86 times, an average of more than five times each. Of the 17, 10 (59%) also have won the AIA Architecture Firm Award, the Institute's "highest honor," given to firms that have "produced notable architecture for at least a decade."<sup>5</sup> (Two of the 12 two-time Top Ten winners have won the Firm Award). By multiple measures, then, all are extraordinarily successful firms.

From among these 17, the researchers chose 10 firms to study more closely. Twelve of the 17 responded to the general survey, but two did not supply complete answers, and the remaining 10 agreed to participate in the focused study and host an office visit during the research period (Summer, 2016).

All but one of the 10 firms won four or more Top Ten Awards between 1997 and 2016. SERA won three awards, two of which were very recent. In the past decade, SERA was the only three-time winner to receive awards two years in a row (2014–2015), and the firm also is one of only four firms to win a "Top Ten Plus" Award, honoring past winners with exceptional post-occupancy performance.<sup>6</sup>

In order to concentrate on recent or current habits, the researchers did not closely study firms who won all or most of their awards before the past decade. For example, the Croxton Collaborative has won four Top Ten Awards, but the most recent win was in 2007.

Seven of the 10 focus firms have won the AIA Architecture Firm Award, all but one in the past 15 years. Eight have been listed one or more times in the annual *Architect 50* ranking since it began in 2009.<sup>7</sup>

<sup>5</sup> AIA Architecture Firm Award, Past Recipients. Firm sizes can be found at *DesignIntelligence* (<http://www.di.net/almanac/firms/>).

<sup>6</sup> In 2017, COTE discontinued Top Ten Plus as a separate award, in order to highlight new award winners with exceptional post-occupancy lessons. Z Smith, "COTE Top Ten undergoes an extreme makeover," *AIArchitect*, October 27, 2016.

<sup>7</sup> *Architect*, *Architect 50* Official Site. <http://architect50.com/> (accessed January 25, 2017)

**Figure 2 Design firms with multiple top ten awards, 1997–2016**

Of the 130 firms that have won a Top Ten Award, 29 have won more than once.

Rank	Wins		97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
1	10	Lake Flato										2x										2x
2	8	HOK						2x														
	8	Leddy Maytum Stacy Architects																				2x
3	7	Miller Hull																				
4	6	BNIM																				
	6	EHDD																				
5	5	Brooks + Scarpa															2x					
	5	Mithun																				
6	4	Croxton Collaborative																				
	4	KieranTimberlake																				
	4	Perkins + Will													2x							
	4	Siegel & Strain																				
7	3	Bohlin Cywinski Jackson																				
	3	Susan Maxman & Partners																				
	3	William McDonough + Partners																				
	3	SERA																				
	3	ZGF																				
8	2	Architerra																				
	2	Arkin Tilt																				
	2	Behnisch																				
	2	Harley Ellis Devereaux																				
	2	Kubala Washatko																				
	2	LHB																				
	2	Mahlum																				
	2	Overland Partners																				
	2	Ross Barney																				
	2	SmithGroupJJR																				
	2	TVS																				
	2	VJAA																				

**Figure 3 High-Performance Firms (HPFs) selected for closer study**

The researchers selected 10 of the 17 most frequent Top Ten Award winners to study more closely. Seven of these firms have won the AIA Architecture Firm Award, and eight have been ranked in the top 50 firms by Architect magazine. Sizes listed are at the time of the initial survey (Summer, 2016).

Firm	Size	Location Visited	Firm Award*	Architect 50**	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Wins
LakelFlato	85	San Antonio, TX	2004	6										2x										2x	10
Leddy Maytum Stacy Architects	23	San Francisco, CA	2017	17																				2x	8
Miller Hull	89	Seattle, WA	2003	14																					7
BNIM	135	Kansas City, MO	2011	16																					6
EHDD	51	San Francisco, CA	1986	20																					6
Brooks + Scarpa	7	Los Angeles, CA	2010	7																					5
Mithun	127	Seattle, WA		13																					5
KieranTimberlake	128	Philadelphia, PA	2008																						4
Siegel & Strain	19	Emeryville, CA																							4
SERA	138	Portland, OR		25																					3

\* Year of AIA Architecture Firm Award win

\*\* Highest general ranking in Architect 50, 2009–2016



## General observations

Careful study of the composition, size, location, and age of the HPFs reveals much about both these firms and the profession in general.

### Specialization

The 10 HPFs studied closely all say they specialize in architecture, while half say they also focus on urban planning, and fewer than half report a specialization in interiors or landscape design. The highlighted firms therefore are heavily focused on building design and not on other scales of influence. The percentage of specialization in architecture and urban planning generally aligns with industry trends, according to the 2016 AIA firm survey; however, the number of all architecture firms that include in-house interior design services is double that of HPFs.<sup>8</sup> Yet, while these firms focus on building design, only 20% say they specialize in “building performance,” while 90% report that they specialize in “sustainability.” This suggests that these firms see sustainable design as broader than just technical performance. Interviews and observations confirm that they all practice an integrative approach that aligns with COTE’s mission to promote “design

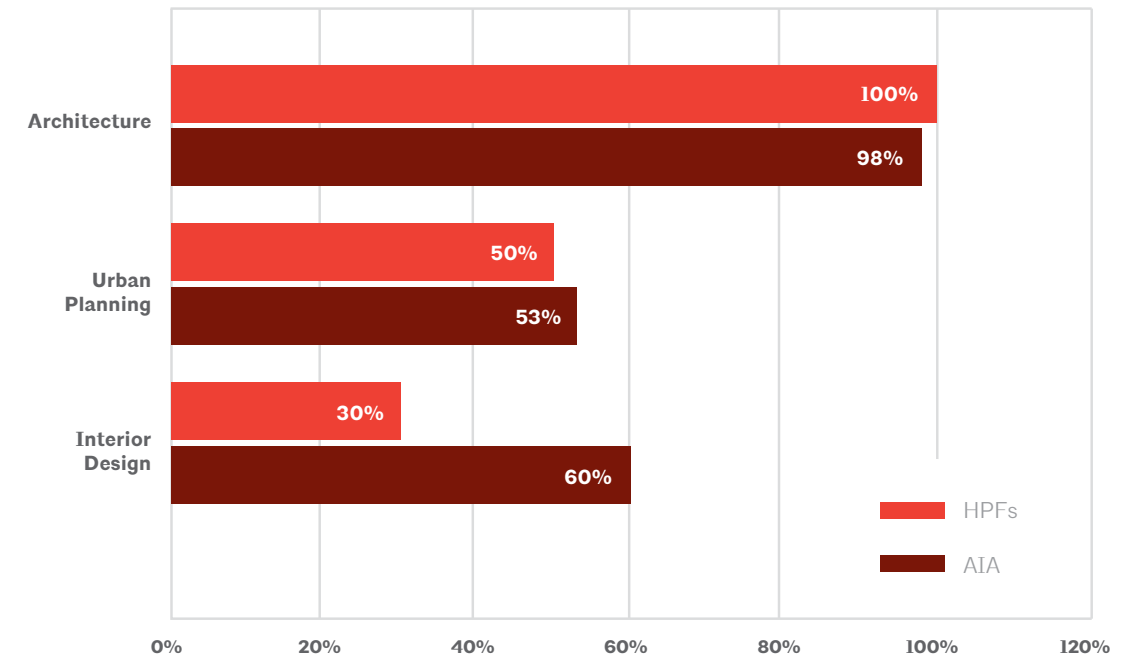
practices that integrate built and natural systems and enhance both the design quality and environmental performance of the built environment.”<sup>9</sup>

### Firm sizes

*Lessons from the Leading Edge* found that the sizes of firms with multiple Top Ten Awards generally do not match industry trends. According to AIA statistics cited in that report, 97% of architects are employed by firms with fewer than 50 employees: 71% are in firms with 2–50 people, and 26% are sole practitioners. However, two-thirds of firms with multiple Top Ten Awards employ more than 50 employees. Smaller firms account for nearly all AIA members but make up only 39% of firms that have won more than one Top Ten. Sole practitioners make up a quarter of all AIA members, but none has ever won more than one Top Ten.<sup>10</sup>

**Figure 4 Specialization in HPFs**

The 10 firms studied closely are focused on architecture more than other disciplines.



<sup>8</sup> AIA Firm Survey Report 2016: *The Business of Architecture*, p10. <https://www.aia.org/resources/6151-firm-survey-report-the-business-of-architectu> (accessed January 25, 2017)

<sup>9</sup> AIA COTE Mission. <https://network.aia.org/committeontheenvironment/home/new-item2> (accessed January 25, 2017)

<sup>10</sup> *Lessons from the Leading Edge*, pp18–20.

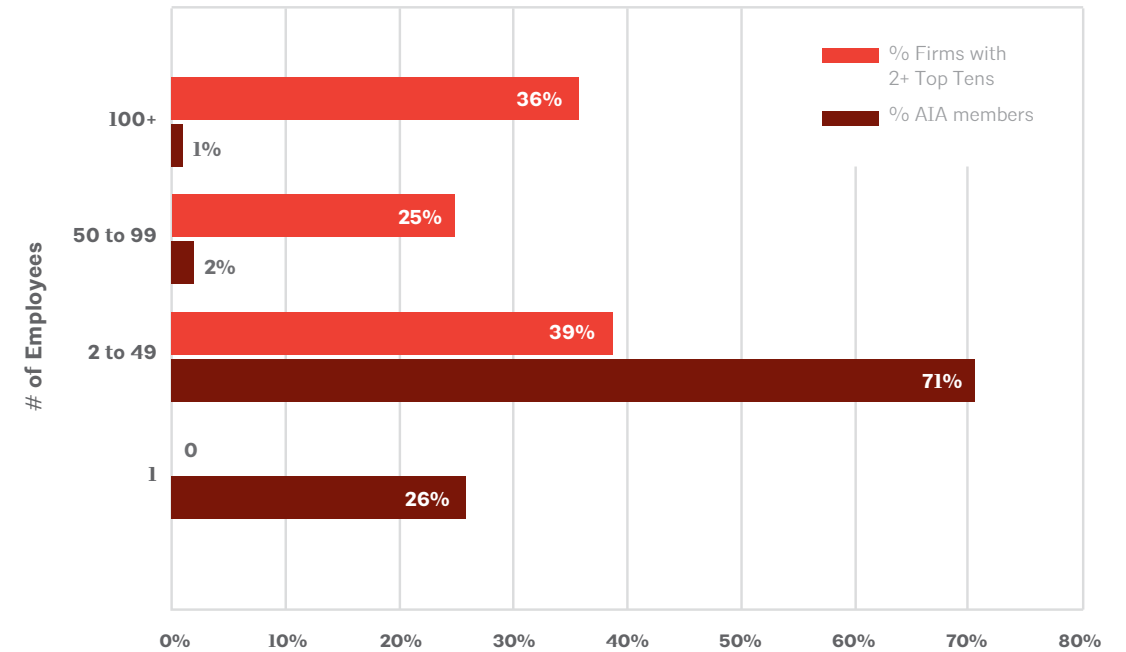
Four very large firms (500+ employees) have won multiple Top Ten Awards, but only two have won more than three times: HOK (8 wins) and Perkins + Will (4 wins). Similarly, among the 17 firms who have won three or more Top Ten Awards, 70% have no more than two offices, and only three have more than four. Very large firms represent a small minority of firms with multiple awards, and their sizes and number of offices (thousands of employees in dozens of locations across the globe) present significant logistical challenges for careful observation. A separate study of the sustainability practices of large, global firms would be useful, given their significant volume of work and influence on the industry.<sup>11</sup>

Of the 10 firms chosen for closer study, seven have more than 50 employees, while only one has a staff under 10 people. At the beginning of this study, the smallest firm (Brooks + Scarpa) had seven employees, and the largest (SERA) had 138. The four largest firms are all in the 125–150 range. That size aligns with the anthropological theory known as “Dunbar’s Number,” which proposes a cognitive limit to the number of people with whom any one person can maintain stable relationships. A maximum of 150 people often is suggested as the optimal size for an organization to develop a strong social network within the staff.<sup>12</sup> In the past two decades, only two

AIA Architecture Firm Award winners have been larger than 150 people, and the median size for all winners is about 75.<sup>13</sup> The median size of the 17 multiple Top Ten winners is 89; if you remove the three very large firms (500+ people), the average size is also 75. By contrast, the average size of all AIA member firms is 11, according to the 2016 Firm Survey.<sup>14</sup>

A significant majority of design firms that consistently produce high-quality work appear to fall within a certain size range: large enough to ensure an extensive network of collaborators and small enough to build a cohesive culture. This defies conventional wisdom about the resilience of architecture firms, as a 2010 article in *Architect* magazine observed: “In tough economic times, it is thought, small and large firms fare best—the former because they are lean and mean and nimble, the latter because they have deep pockets and a roster of rich clients to tide them over.” In fact, many mid-size firms (20–99 people) combine the best of both worlds in that they are “big enough to operate in a number of selective client markets while keeping expenses low.”<sup>15</sup>

**Figure 5 Sizes of design firms with multiple Top Ten Awards, 1997–2015**  
From *Lessons of the Leading Edge* (2016)



<sup>11</sup> See Lance Hosey, “The Big-Firm Advantage,” *GreenSource*, February, 2013.

<sup>12</sup> Ken Makovsky, “Dunbar’s Number: A Key to Networking,” *Forbes*, August 7, 2014.

<sup>13</sup> AIA Architecture Firm Award, Past Recipients. <https://www.aia.org/awards/7276-architecture-firm-award> (accessed January 25, 2017)

<sup>14</sup> *AIA Firm Survey Report 2016*, p12.

<sup>15</sup> Ernest Beck, “Virtues of Being a Midsize Firm,” *Architect*, May 25, 2010. [http://www.architectmagazine.com/practice/the-virtues-of-being-a-midsize-firm\\_o](http://www.architectmagazine.com/practice/the-virtues-of-being-a-midsize-firm_o) (accessed January 25, 2017)

## Firm locations

Although Top Ten projects are located all over the US and abroad, a significant finding in *Lessons from the Leading Edge* was that a third of the nearly 200 projects that have won are on the West Coast. With the 2016 winners, the percentage in California alone increases from 22% to 25%.<sup>16</sup> Similarly, of the 17 firms with three or more awards, eight (47%) are primarily or exclusively based on the West Coast or were founded there. Another 24% are in the Northeast (New York and Philadelphia). Two of the firms, HOK and Perkins + Will, originated in the Midwest but now are global, with many locations around the world. All but three of the 10 focus firms are West Coast-based, with four in California. *Lessons from the Leading Edge* concluded that California has a high number of High-Performance Firms and projects because of progressive clients, a temperate climate, a robust economy, and stringent energy codes that have been in place for over four decades. That report quotes Bill Leddy, FAIA, of Leddy Maytum Stacy Architects, 2017 AIA Architecture Firm Award winner and winner of eight Top Ten Awards, recalling an audience member at a COTE event once asking, “What single thing would make it easier to make excellent sustainable architecture?” Another attendee blurted out, “Apparently, move my practice to California!”

## Firm ages

Generally, frequent Top Ten winners are well-seasoned firms. The average age of the 17 with three or more wins is 48 years, and the median age is 40. Nevertheless, a majority (59%) are still in their first generation, with the founders still active. The oldest firm (Perkins + Will) was established in 1935, while the youngest (Leddy Maytum Stacy Architects) began in 2001. (With eight total wins, LMS<sup>A</sup> is tied for second place among firms with the most Top Ten Awards—a remarkable achievement, given that the firm did not come into being until four years after the program launched.) The median age of the 10 firms in this study is only slightly younger (38.5 years), but eight of those 10 are still in their first generations of leadership.

Age was not a factor in choosing the 10 firms to study closely, but the 17 frequent winners generally contrast trends in the industry. According to the 2016 AIA survey, nearly half of all firms practicing today were founded after 2000, and two thirds appeared after 1990.<sup>17</sup> By contrast, 88% of the 17 frequent Top Ten winners were established before 1990, and only one firm launched after 2000. The 2012 AIA survey breaks down ages more specifically by decade, and Figure 7 compares the HPFs to general trends in the profession.<sup>18</sup> From these statistics, it appears that older firms have a stronger track record than newer firms. The experience of the design teams could

be a factor, but surveys and interviews with the firms suggest that it relates more to the firms’ cultures becoming stronger over time.

Business research shows that start-ups and very young firms often struggle with establishing a cohesive culture: in the early days of Facebook, for example, “people were so busy ‘moving fast and breaking things’ that the culture still needed to be defined.”<sup>19</sup> On the other hand, organizations that outlive their founders often lose sight of the vision that propelled the company in the early days.<sup>20</sup> The majority of HPFs in this study are young enough that their founders are still in place but old enough that their internal networks and processes have matured. This combination of clear vision and strong culture could be the key to any high-performance organization.<sup>21</sup>

<sup>16</sup> *Lessons from the Leading Edge*, pp15-16.

<sup>17</sup> *AIA Firm Survey Report 2016*, p11.

<sup>18</sup> *2012 AIA Survey Report on Firm Characteristics: The Business of Architecture*.

<sup>19</sup> 80% of Your Culture is Your Founder,” *First Round Review*, ND. <http://firstround.com/review/80-of-Your-Culture-is-Your-Founder/> (accessed January 25, 2017)

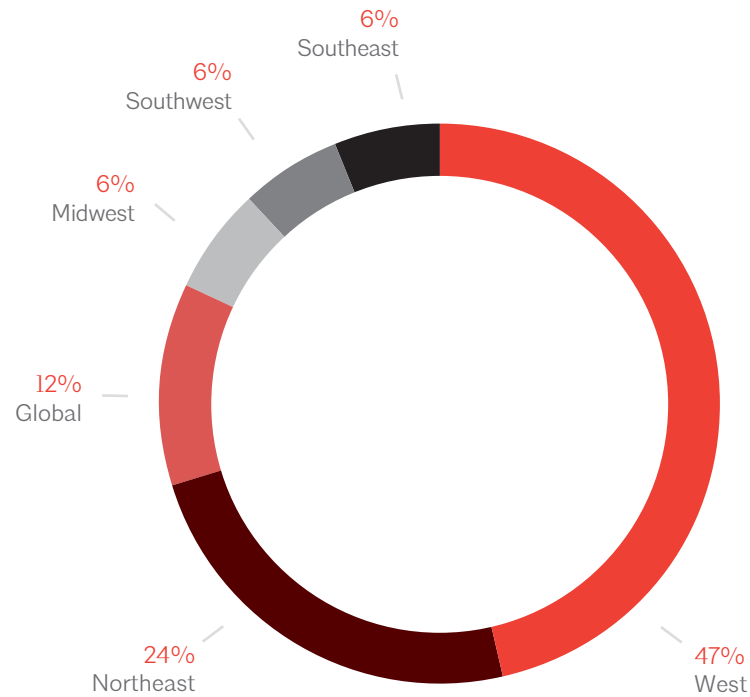
<sup>20</sup> Chris Zook, “How Dell, HP, and Apple Rediscovered Their Founders’ Vision,” *Harvard Business Review*, July 15, 2016. <https://hbr.org/2016/07/how-dell-hp-and-apple-rediscovered-their-founders-vision> (accessed January 25, 2017)

<sup>21</sup> John Coleman, “Six Components of a Great Corporate Culture,” *Harvard Business Review*, May 06, 2013. <https://hbr.org/2013/05/six-components-of-culture> (accessed January 25, 2017)



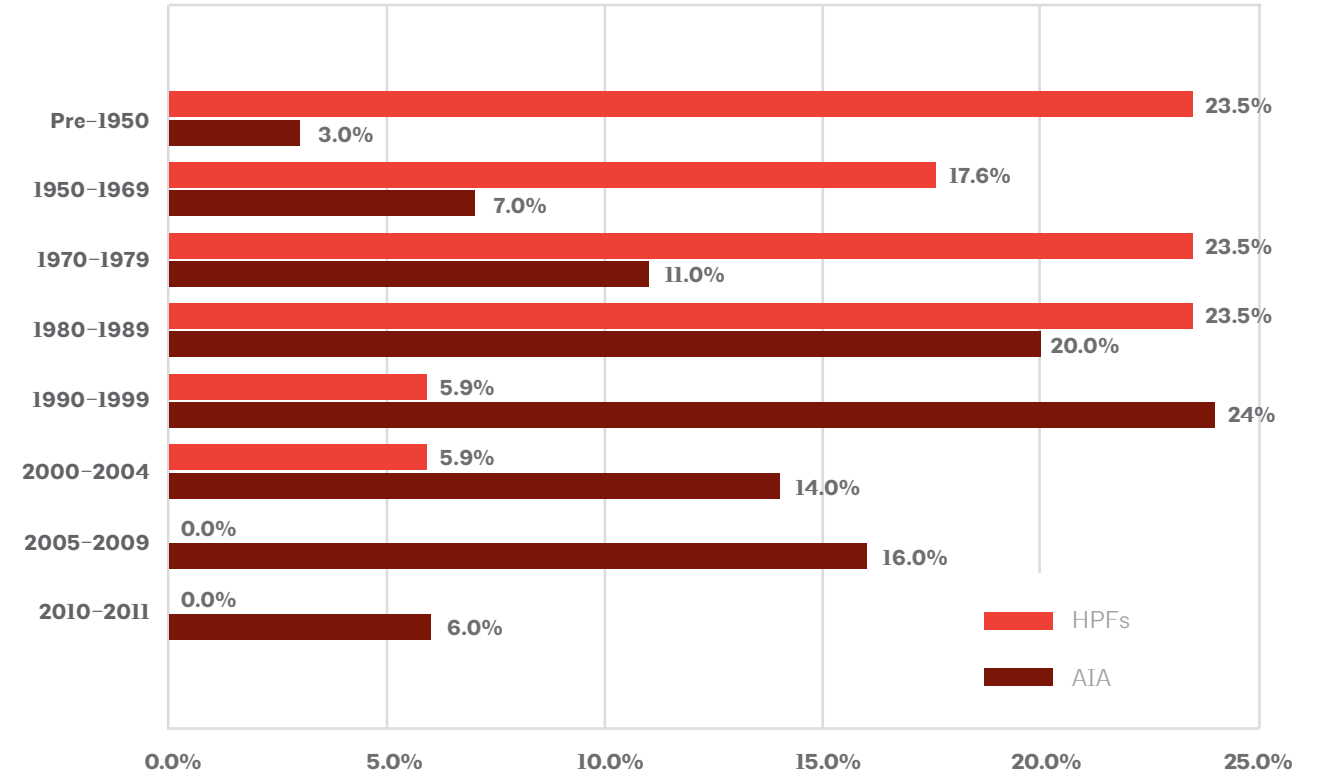
**Figure 6 Locations of design firms with multiple Top Ten Awards, 1997–2016**

Regions of the firms' primary locations. "Global" denotes the two firms with dozens of offices around the world.



**Figure 7 Ages of HPFs compared to AIA statistics**

Frequent Top Ten winners tend to be much older firms than the majority of the profession.



## Staff education

HPFs are committed to staff training and education. Three quarters report monthly training, and half report weekly training. The 10 HPFs surveyed say that, next to experience, education is the single most important priority in new hires, and they tend to have a high number of employees with graduate degrees: on average, a majority (53%) of their staffs have Master’s or Doctorates, and in some firms the percentage is 90–100%. Most HPF employees therefore have spent at least 2–3 years longer in their pre-professional education, which means more training but also a wider range of study, with more elective courses. In fact, HPFs report that 17% of their employees have at least one degree other than architecture.

How the HPF numbers compare to the rest of the industry is uncertain, since AIA firm surveys do not include information about levels of education. The National Council of Architectural Registration Boards (NCARB) reports that 62% of students currently enrolled in professional degree programs are pursuing a Bachelor of Architecture, compared to 37% pursuing a Master of Architecture, but these numbers do not reveal what percentage of the B.Arch students go on to gain an M.Arch.<sup>22</sup> Enrollment in architecture schools has dropped over the past several years, so interest in higher degrees seems to be waning, supposedly due

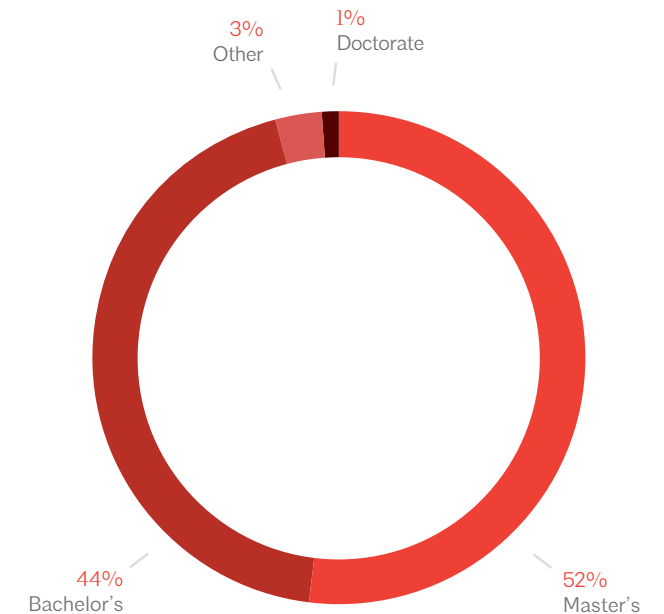
to the “outdated, costly and time-consuming qualification process.”<sup>23</sup> According to AIA, 31% of all architecture firms in 2015 were made up of interns and unlicensed design staff, who would have graduated during the same period when the overall number of students was decreasing.<sup>24</sup> These facts make the high education of HPF staffs all the more distinguished.

Location could be a factor. HPFs tend to reside in regions dominated by schools where the first professional degree occurs at the graduate level, schools also highly regarded for sustainable design training. Three of the 10 firms studied closely are located primarily in the San Francisco Bay Area, and two of the others have offices there, so half the HPFs can draw heavily from the University of California, Berkeley, which consistently ranks in the top three programs for sustainable design.<sup>25</sup> Three of the other firms are in the Pacific Northwest, where the University of Oregon is a top sustainable design program, ranked number one in 2014.<sup>26</sup> Lake|Flato, the most frequent Top Ten winner, is near the University of Texas at Austin, which also has a nationally recognized sustainable design program.<sup>27</sup> In their survey responses, 90% of HPFs report partnership programs with academic institutions. The quality of interns has a noticeable impact in the ability of firms to pursue better performance.

In 2016, *DesignIntelligence* reported that 55% of architecture firms say that they are “benefiting from an infusion of new ideas about sustainability from recent graduate new hires.”<sup>28</sup> In the HPF survey, 83% of interns say their design ideas are encouraged and well received.

**Figure 8 Education in HPF staffs**

*The majority of HPF employees have graduate degrees.*



<sup>22</sup> NCARB, “Overview of the Profession.” <http://www.ncarb.org/Becoming-an-Architect/Overview-of-the-Profession.aspx> (accessed January 25, 2017)

<sup>23</sup> Frank J. Mruk III, “Architect Licensing Needs a Gut Rehab,” *Wall Street Journal*, September 29, 2015.

<sup>24</sup> *AIA Firm Survey Report 2016*, p12.

<sup>25</sup> “America’s Best Architecture & Design Schools 2016,” *DesignIntelligence*, January 1, 2016, p26. <http://www.di.net/articles/americas-best-architecture-schools-2016/> (accessed January 25, 2017)

<sup>26</sup> “America’s Best Architecture & Design Schools 2015,” *DesignIntelligence*, January 20, 2015. <http://www.di.net/articles/americas-best-architecture-schools-2015/> (accessed January 25, 2017)

<sup>27</sup> Amanda Kolson Hurley, “Schools that Excel in Sustainable Design,” *Architect*, April 08, 2010. [http://www.architectmagazine.com/practice/schools-that-excel-in-sustainable-design\\_o](http://www.architectmagazine.com/practice/schools-that-excel-in-sustainable-design_o) (accessed January 25, 2017)

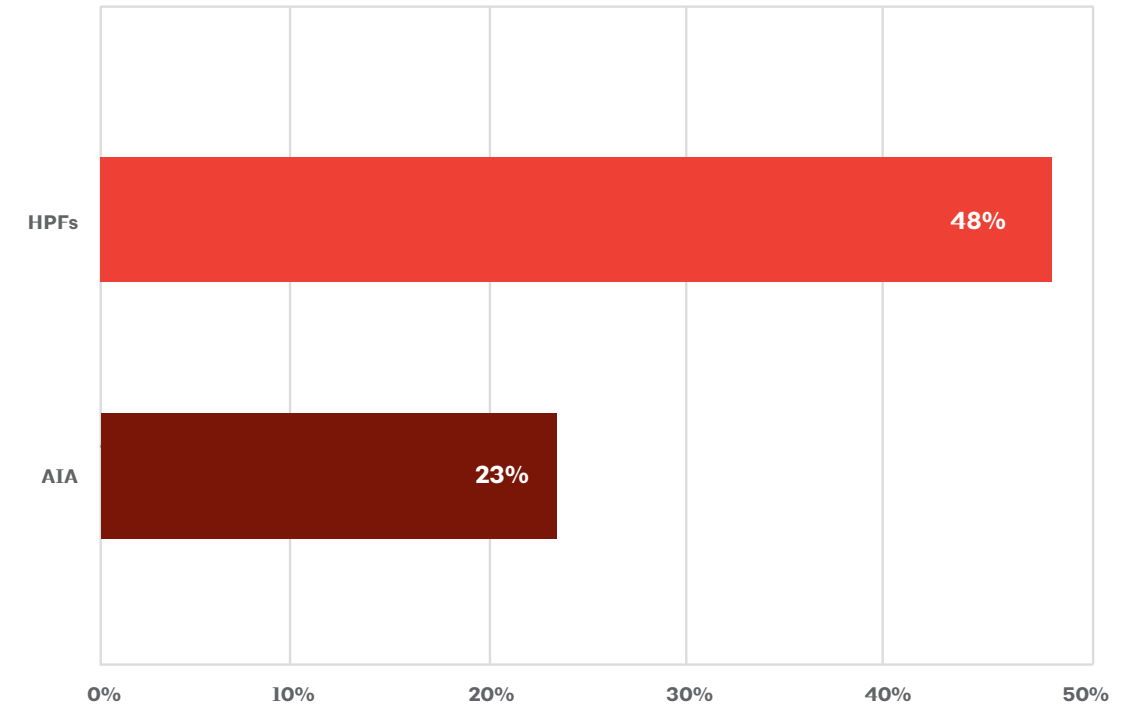
<sup>28</sup> “America’s Best Architecture & Design Schools 2016,” p26.

## LEED accreditation

Accreditation in the US Green Building Council’s Leadership in Energy and Environmental Design (LEED) rating system has become an important measure of proficiency among design professionals. For example, the *Architect 50* annual ranking asks firms to identify the percentage of their staffs who are LEED Accredited Professionals (LEED APs), and it considers this measure to be worth nearly a quarter of the firms’ overall sustainability credentials.<sup>29</sup> A 2014 USGBC study showed that the demand for LEED APs in the building industry had grown 46% in the previous year.<sup>30</sup> Nevertheless, LEED accreditation remains relatively uncommon in architecture firms. The 2012 AIA Firm Survey found that 35% of all firms have no LEED APs on staff, and another 32% have only one. On average, respondents to that survey reported 23% of architectural staff to be LEED accredited.<sup>31</sup> By contrast, the average in the 10 HPFs is 48%, more than twice the industry average. This shows a significant commitment to staff education around green building principles.

**Figure 9 LEED APs as percentage of staff**

*The proportion of HPF staffs who are LEED accredited is more than double the industry average.*



<sup>29</sup> Karlin Research, “The 2016 Architect 50: Methodology,” *Architect*, September 7, 2016. [http://www.architectmagazine.com/practice/architect-50/the-2016-architect-50-methodology\\_o](http://www.architectmagazine.com/practice/architect-50/the-2016-architect-50-methodology_o) (accessed January 25, 2017)

<sup>30</sup> Marisa Long, “Studies Reveal Growing Demand for LEED-Credentialed Professionals Across Building Sector,” USGBC, September 15, 2014. <http://www.usgbc.org/articles/studies-reveal-growing-demand-led-credentialed-professionals-across-building-sector> (accessed January 25, 2017)

<sup>31</sup> 2012 AIA Survey Report on Firm Characteristics, pp16-17. The average percentage of LEED APs (23%), which was included in the survey but not the published report, was provided by Michele Russo, AIA Senior Director of Research (email, January 14, 2017).

## Staff diversity

The profession of architecture “must be a mirror of the rich human tapestry we serve,” wrote 2015 AIA president Elizabeth Chu Richter in the foreword to the 2016 AIA diversity survey.<sup>32</sup> More than 70% of female respondents felt that women are underrepresented in the profession, and half said they are paid less than men and are less likely to be promoted to senior positions. According to the 2016 AIA Firm Survey, women currently make up 31% of the profession, and ethnic minorities account for 21%.<sup>33</sup>

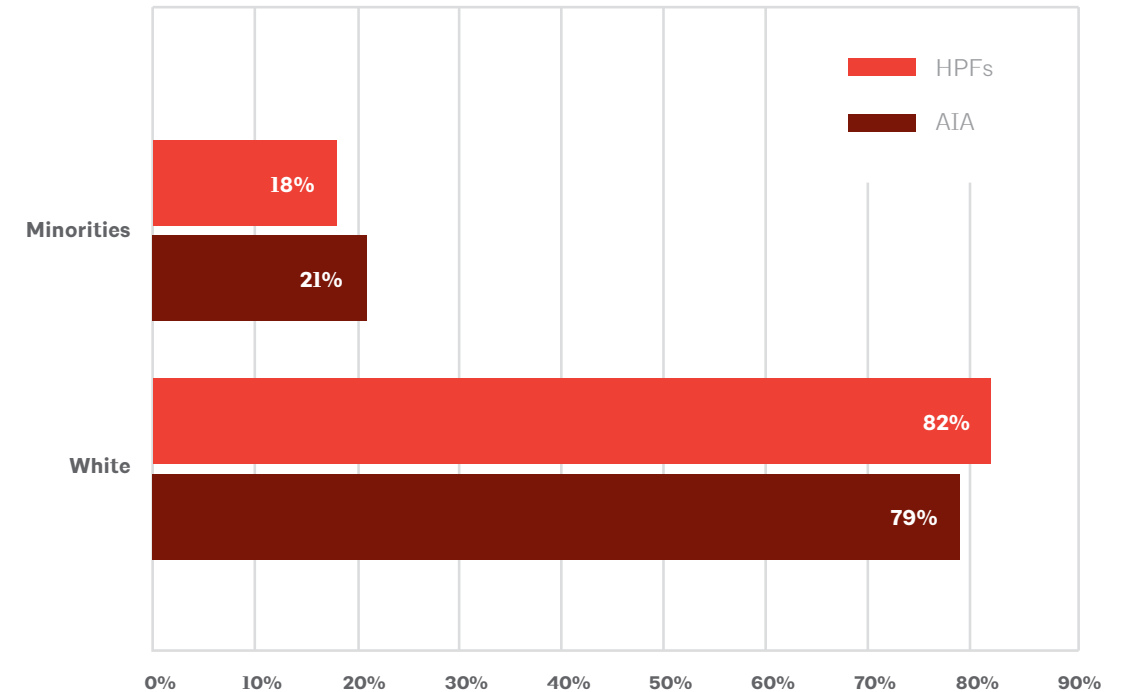
This lack of diversity not only signals inequities in the field—it also represents a missed opportunity to spur better performance in firms. Research shows that ethnically diverse companies in any field are 35% more likely to outperform their competitors, and gender-balanced companies are 15% more likely.<sup>34</sup> Organizations also double their potential for creativity and innovation when they “give diverse voices equal airtime.”<sup>35</sup>

Regarding ethnicity, the 10 HPFs report that 18% of their staffs are minorities (10% Asian, 3% Hispanic, 2% Black, 3% Other), which aligns with the rest of the industry, so this is not an area of distinction.

Women, however, are a significant differentiator in HPFs. In the 10 firms studied closely, the staffs are almost even split between women (46%) and men (54%), and the proportion of women is 50% higher than the profession at large. Furthermore, HPFs tend to have much higher numbers of women in leadership positions (titled staff): 34%, compared to 20% for the rest of the industry, according to the AIA Firm Survey. Women-owned businesses account for only 7% of the industry at large but 20% of the HPFs.<sup>36</sup> Business studies consistently demonstrate that having more women in management positions yields many social, economic, and environmental benefits, including better employee engagement, greater company loyalty, higher confidence, lower turnover, stronger productivity, more environmental responsibility, and a smaller ecological footprint.<sup>37</sup>

**Figure 10 Ethnicity in HPFs**

*The proportion of minorities is about even with the rest of the industry.*



<sup>32</sup> American Institute of Architects, *Diversity in the Profession of Architecture*, 2016. <https://www.aia.org/resources/12416-examining-the-state-of-diversity> (accessed January 25, 2017)

<sup>33</sup> *AIA Firm Survey Report 2016*, p8.

<sup>34</sup> Vivian Hunt, Dennis Layton, and Sara Prince, “Why diversity matters,” McKinsey, January, 2015. <http://www.mckinsey.com/business-functions/organization/our-insights/why-diversity-matters> (accessed January 25, 2017)

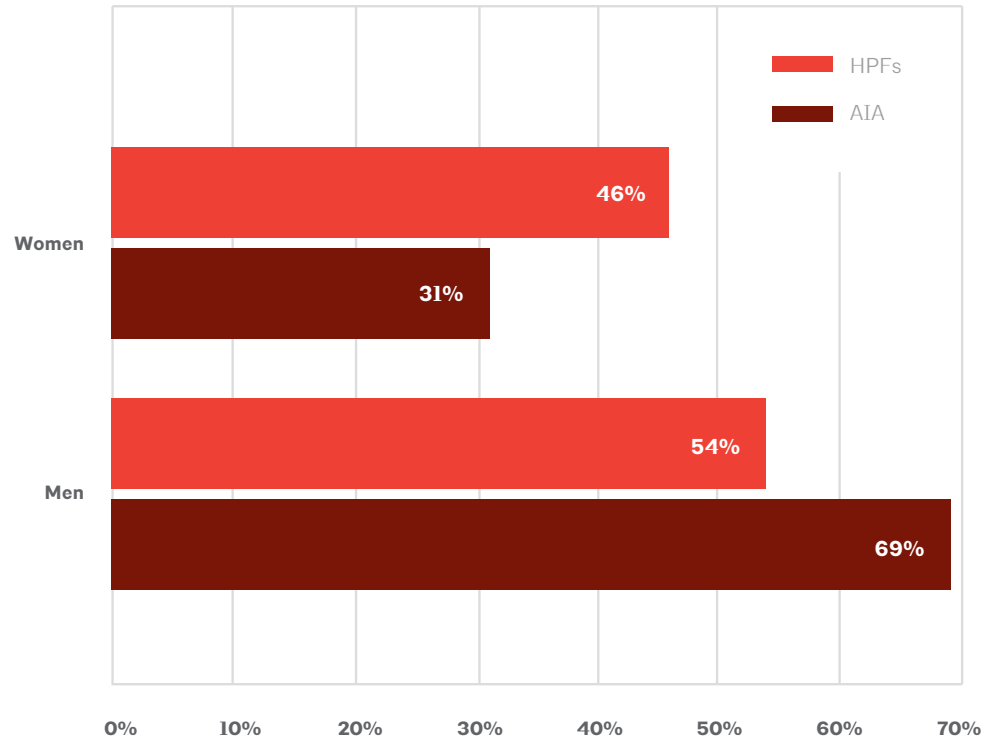
<sup>35</sup> Sylvia Ann Hewlett, Melinda Marshall, and Laura Sherbin, “How Diversity Can Drive Innovation,” *Harvard Business Review*, December, 2013. <https://hbr.org/2013/12/how-diversity-can-drive-innovation> (accessed January 25, 2017)

<sup>36</sup> *AIA Firm Survey Report 2016*, p12.

<sup>37</sup> Lance Hosey, “Why Women’s Leadership Is Essential for Architects,” *Huffington Post*, March 14, 2016. [http://www.huffingtonpost.com/lance-hosey/why-womens-leadership-is-\\_b\\_9452854.html](http://www.huffingtonpost.com/lance-hosey/why-womens-leadership-is-_b_9452854.html) (accessed January 25, 2017)

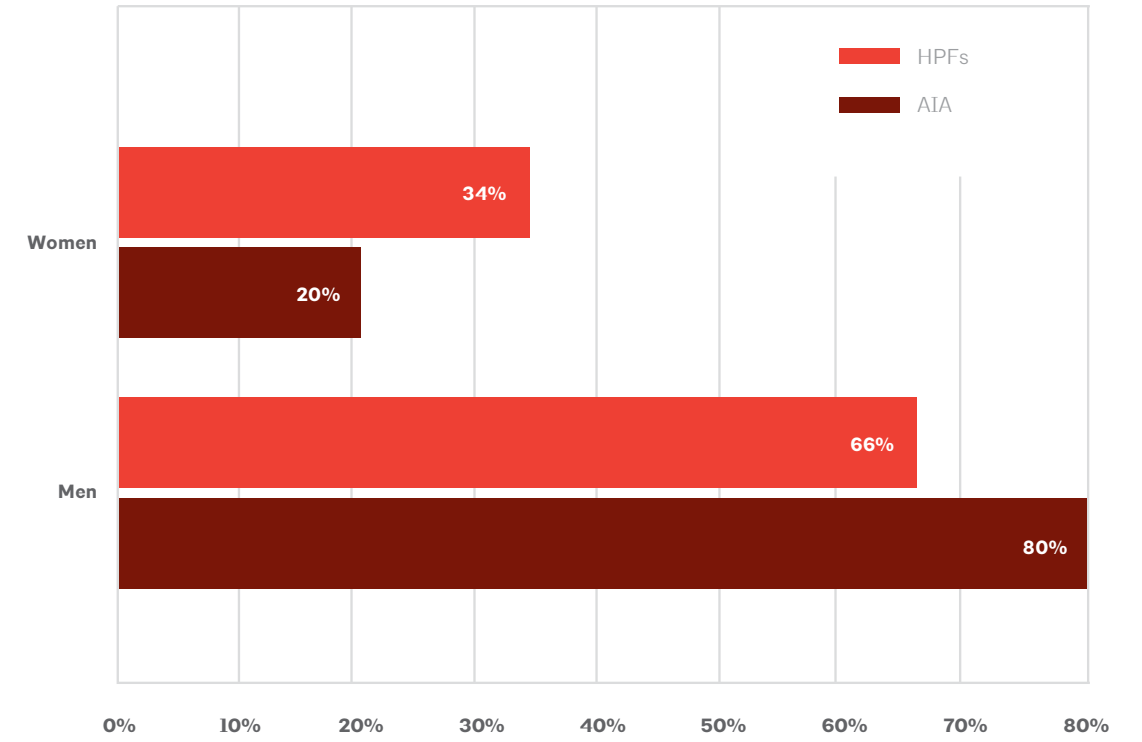
**Figure 11 Gender in HPFs: All staff**

The numbers of women and men are nearly equal and well ahead of the rest of the industry.



**Figure 12 Gender in HPFs: Leadership**

The proportion of titled leadership positions held by women is well ahead of the rest of the industry.



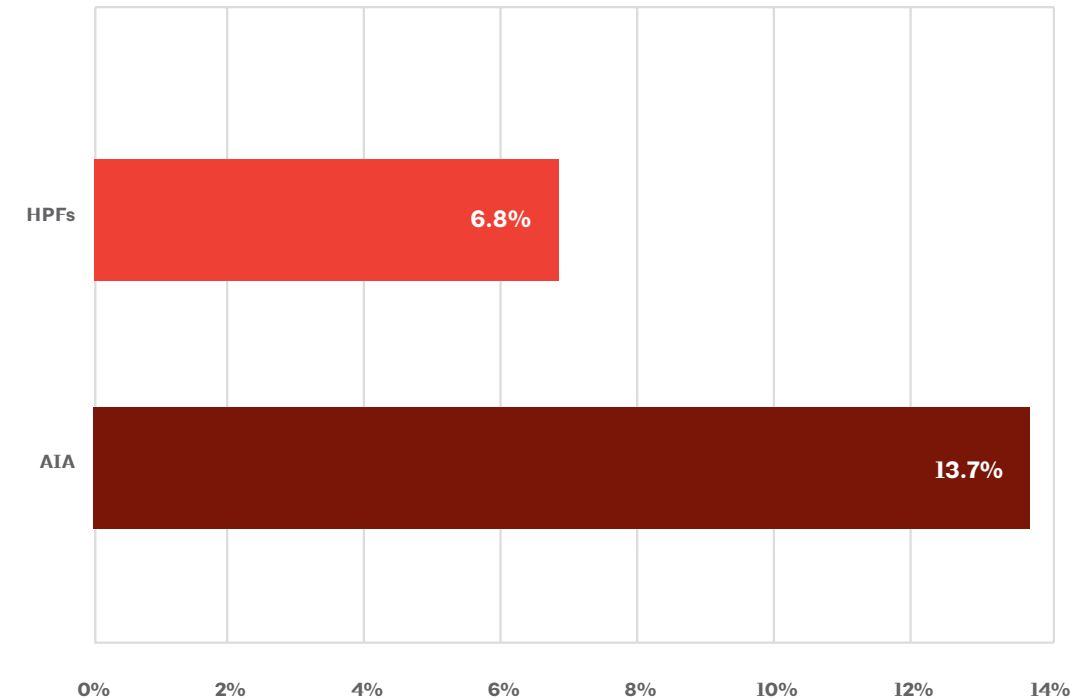


## Staff retention

Eight of the 10 focus firms shared voluntary turnover rates for the years 2014–2016, and their combined annual average for those years was 9%. Human resource experts consider 10% to be the “golden turnover number,” since it suggests extraordinary loyalty.<sup>38</sup> In 2014, the HPF average was 6.8%—less than half the average (13.7%) for all architects that year.<sup>39</sup> Studies show that the total cost of losing staff can be more than double an employee’s annual salary, due to lost productivity, recruiting costs, and training time.<sup>40</sup> For a firm with 75–100 people, an additional 7% in staff retention can be worth more than a million dollars a year.<sup>41</sup> Beyond financial savings, however, the benefits to a company’s morale, culture, and institutional memory are invaluable. The interview process at HPFs tends to be extensive, to ensure that new hires will fit in. “It takes us a long time to find a good match,” says Kieran Timberlake Associate Ryan Welch. “Once we do find them, there’s very little turnover.”

**Figure 13 Staff turnover, 2014**

The average attrition rate in HPFs is less than half the industry average.



<sup>38</sup> Melany Gallant, “Does Your Organization Have a Healthy Employee Turnover Rate,” *TalentSpace*, January 28, 2013. <http://www.halogensoftware.com/blog/does-your-organization-have-healthy-employee-turnover> (accessed January 30, 2017)

<sup>39</sup> *Deltek Clarity Architecture and Engineering (A&E) Industry Study, Annual Comprehensive Report*, 2015. <https://network.aia.org/HigherLogic/System/DownloadDocumentFile.ashx?DocumentFileKey=8a4dd73a-0941-4008-a9a6-f74b964cd170> (accessed January 30, 2017)

<sup>40</sup> Julie Kantor, “High Turnover Costs Way More Than You Think,” *Huffington Post*, February 11, 2016. <http://m.huffpost.com/us/entry/9197238> (accessed January 30, 2017)

<sup>41</sup> The U.S. Bureau of Labor Statistics (BLS) reports that the 2015 median annual wage for architects was \$76,100. The total turnover cost per person can be up to 213% of annual salary (Kantor, *ibid.*). Therefore, the average cost of losing one architect can be up to \$162,093. For a firm with 75–100 employees, an additional 6.9% in staff attrition translates into \$840,351–\$1,120,468 in total costs. BLS, “Architects: Occupational Outlook Handbook.” <https://www.bls.gov/ooh/architecture-and-engineering/architects.htm#tab-5> (accessed January 30, 2017)

## Project performance

The HPFs in this report were selected for having won Top Ten Awards frequently. Closer study shows their work excels in many ways.

### Third-party rating systems and standards

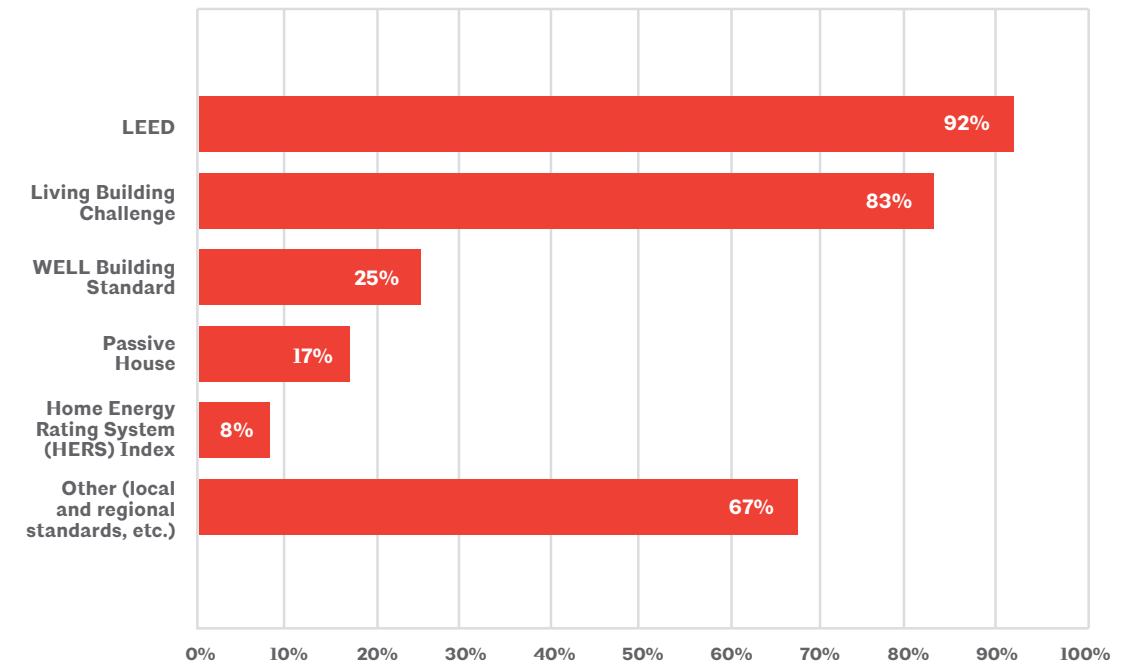
The Top Ten Awards program, which predates most third-party rating systems, including LEED, was launched in order to demonstrate how to integrate design excellence and sustainable performance “We all needed to see and study the best practices,” said the late Gail Lindsey, FAIA, in 2007. “We needed to learn from the exemplars.” Lindsey proposed and oversaw the Top Ten Awards in 1997, while she was chair of COTE.<sup>42</sup> Since then, LEED and other frameworks have become increasingly popular. According to the 2013 *AIA Sustainability Leadership Opportunity Scan*, “sustainable design is becoming the expected standard,” with 51% of all architects’ work anticipated to pursue some kind of green guideline by 2015.<sup>43</sup> Nevertheless, while many architects are using third-party guidelines to inform their work, few projects are completing certification. It is estimated that fewer than 1% of all buildings are certified under LEED, the most popular rating system.<sup>44</sup>

HPFs and Top Ten winners in general show a dramatically higher interest in LEED. Of the 189 projects that won Top Ten Awards between 1997 and 2015, 77 (41%) achieved LEED certification. From 2010 to 2015, 57% of Top Ten winners were LEED Platinum or Gold.<sup>45</sup> In the survey of HPFs for the current study, 92% of respondents say they are actively using LEED on projects.

The Living Building Challenge (LBC) launched in 2006 to become “the world’s most rigorous proven performance standard for buildings,” and to date only 11 projects have achieved full LBC certification.<sup>46</sup> Of those, four (36%) are Top Ten winners, and three were designed by HPFs who participated in this study: Lake|Flato (Dixon Water Foundation), BNIM (Omega Center for Sustainable Living), and Miller Hull (Bullitt Center).<sup>47</sup> A large majority (83%) of HPF survey respondents say they are actively using the LBC, at least as a design guide.

**Figure 14 Use of third-party frameworks**

Percentage of individual respondents from HPFs who say they are using these rating systems and standards actively in their work.



<sup>42</sup> *Lessons from the Leading Edge*, pp 7, 10.

<sup>43</sup> Mary Ann Lazarus, *Sustainability Leadership Opportunity Scan*, American Institute of Architects, October, 2013, p11. [http://aiad8.prod.acquia-sites.com/sites/default/files/2016-04/DH-Health-Sustainability-Leadership-Scan\\_I\\_0.pdf](http://aiad8.prod.acquia-sites.com/sites/default/files/2016-04/DH-Health-Sustainability-Leadership-Scan_I_0.pdf) (accessed January 25, 2017)

<sup>44</sup> Lance Hosey, “Reinventing Green Building,” *Huffington Post*, May 16, 2016. [http://www.huffingtonpost.com/lance-hosey/reinventing-green-buildin\\_b\\_9979572.html](http://www.huffingtonpost.com/lance-hosey/reinventing-green-buildin_b_9979572.html) (accessed January 25, 2017)

<sup>45</sup> *Lessons from the Leading Edge*, p10.

<sup>46</sup> International Living Future Institute (ILFI). <https://living-future.org/lbc/> (accessed January 25, 2017)

<sup>47</sup> ILFI, Living Building Challenge Certified Case Studies. <https://living-future.org/lbc/case-studies/> (accessed January 25, 2017)

<sup>48</sup> International WELL Building Institute, “WELL Projects.” <https://www.wellcertified.com/our-standard> (accessed January 25, 2017)

The WELL Building Standard, which provides a framework to improve human health and well-being in the built environment, appeared in 2013, and only 10 projects in the U.S. have been certified to date.<sup>48</sup> However, 25% of HPF survey respondents say they are actively using WELL, at least to guide projects.

These statistics reveal that HPFs are in the vanguard of firms pursuing the highest industry standards for sustainable design.

### AIA 2030 Commitment

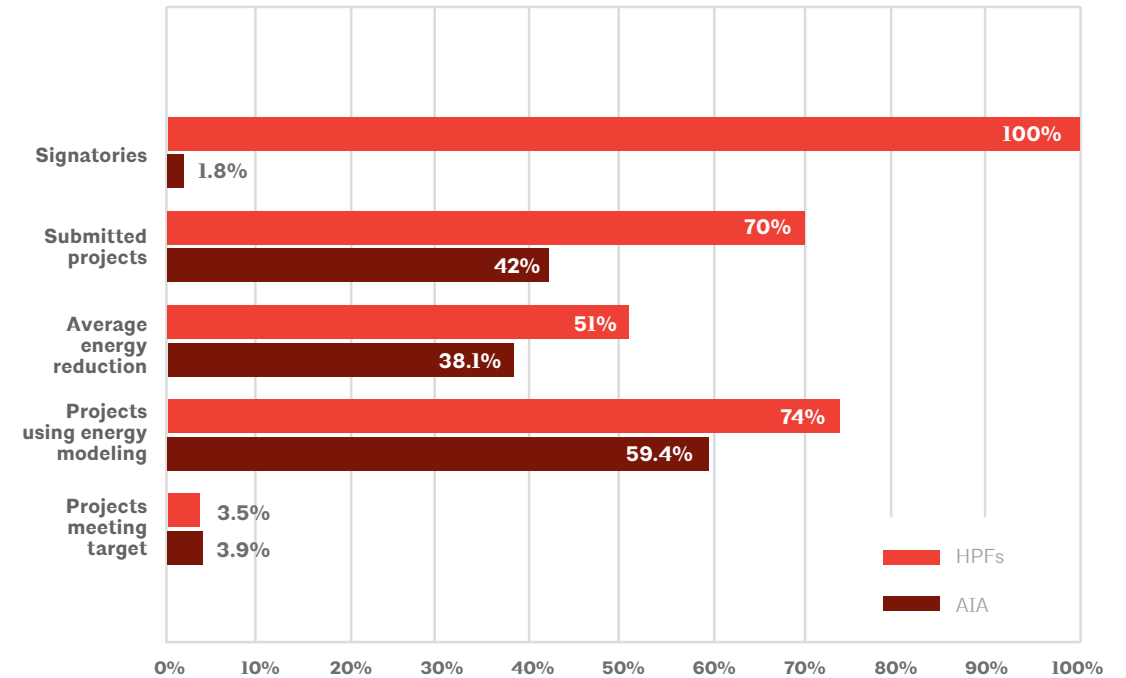
The AIA 2030 Commitment is a national framework targeting carbon neutrality in the building industry by 2030.<sup>49</sup> The program asks architecture firms to sign a declaration in support of the vision and to report annually on energy reduction in the firms' design work. All but four of the 29 two-time winners of the Top Ten Award and all but one of the 17 three-time winners have signed. All 10 of the focus firms are signatories.<sup>50</sup> According to the latest AIA Progress Report, in 2016 there were a total of 366 signatory firms, of which 152 submitted data for the previous year.<sup>51</sup> Sources estimate the total number of American architecture firms to be over 20,000.<sup>52</sup> Therefore, the 366 firms who have signed the 2030 Commitment represent fewer than 2% of all U.S. architecture firms, and the 152 who report progress account for fewer than 1% of firms. The HPFs are in this tiny minority of firms. Put another way, only

2% of all American architecture firms have formally committed to working toward carbon neutrality, while virtually all HPFs have.

In 2015, the average energy reduction for the nearly 6,000 projects submitted to the 2030 Commitment was 38.1%. The average for HPFs was 51%, 13 points ahead of the 2030 Commitment average and nearly equivalent to the average for all Top Ten projects (54%).<sup>53</sup> The percentage of all projects that met the current target (70% reduction from the baseline) in 2015 was between 3% and 4% for both HPFs and all AIA firms that reported. The portion of all AIA-reported projects using energy modeling to predict a building's performance was 59.4%, compared to 74% for HPFs. This gives HPFs a significant advantage, since AIA progress reports routinely show that energy modeling is the key to better performance. In 2015, the average energy reduction on unmodeled projects was nearly 10 points lower than for all projects reported. Thirteen percent of modeled projects achieved greater than 60% energy savings, while none of the non-modeled projects broke that barrier. By all these numbers, HPFs clearly are at the leading edge of energy performance.

**Figure 15 AIA 2030 Commitment report**

*The 10 HPFs are at the leading edge of energy performance, compared to all firms who report.*



<sup>49</sup> AIA. The 2030 Commitment. <http://new.aia.org/resources/6616-the-2030-commitment> (accessed January 25, 2017)

<sup>50</sup> At the time of the final draft of this report, KieranTimberlake had not signed yet but was in the process of doing so.

<sup>51</sup> AIA 2030 Commitment, 2015 Progress Report. [http://aiad8.prod.acquia-sites.com/sites/default/files/2016-10/AIA%202030%20Commitment\\_2015%20Progress%20Report-v3.pdf](http://aiad8.prod.acquia-sites.com/sites/default/files/2016-10/AIA%202030%20Commitment_2015%20Progress%20Report-v3.pdf) (accessed January 25, 2017)

<sup>52</sup> DesignIntelligence, U.S. Architecture Firms Statistics, 2012. <http://www.di.net/almanac/stats/firm-statistics-architecture/> (accessed January 25, 2017)

<sup>53</sup> Lessons from the Leading Edge, p49.

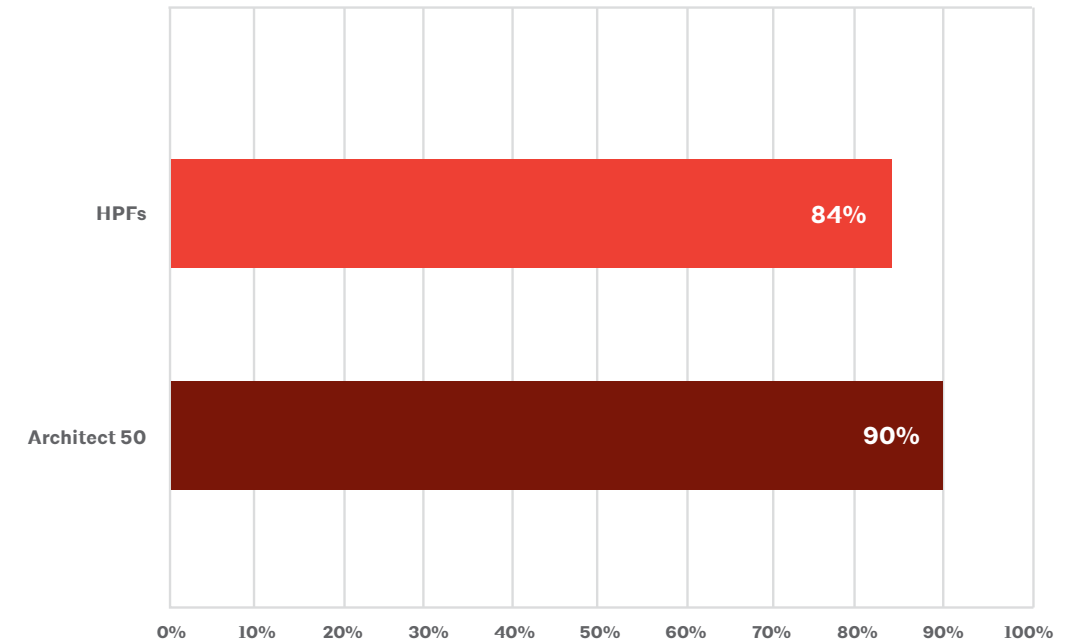
## Water efficiency

HPFs report that 84% of their 2015 projects achieved greater than a 20% reduction in potable water use, the current prerequisite for LEED.<sup>54</sup> A 2014 study found that LEED-certified office buildings achieve an average water reduction of 16%, compared to other buildings.<sup>55</sup> (Earlier versions of LEED did not require a certain level of water reduction, and the 20% benchmark was not introduced until 2009.)<sup>56</sup> Hence, HPF projects are performing significantly better than average. According to AIA, only 24% of firms surveyed in 2016 monitor water reduction at all.

The 2016 *Architect* magazine ranking of the top 50 firms for sustainability reported that those firms achieve greater than a 20% water reduction for 90% of their projects.<sup>58</sup> Most of the HPFs who participated in the current study also are on the *Architect* list, and their water performance is in line with those other leading firms (84%).

**Figure 16 Water efficiency**

Percentage of 2015 projects that achieved greater than a 20% reduction in potable water use.



<sup>54</sup> LEED for New Construction v3 (2009) prerequisite WEp1 dictates a minimum reduction of 20% for potable water use, compared to the baseline in the U.S. Energy Policy Act of 1992. <http://www.usgbc.org/node/1732070?return=/credits/new-construction/v2009/water-efficiency> (accessed January 25, 2017)

<sup>55</sup> Jeff Kuziemko, "Do LEED Buildings Perform? Indeed They Do!" Green Building Information Gateway (GBIC), December 4, 2014. <http://insight.gbic.org/do-leed-buildings-perform-indeed-they-do/> (accessed January 25, 2017)

<sup>56</sup> LEED BD+C: New Construction v2 LEED 2.0, Water Efficiency section. The "Water use reduction" credit (WEc3.1-3.2) awarded 1-2 points for 20-30% or greater water savings. <http://www.usgbc.org/credits/new-construction/v2.0/water-efficiency> (accessed January 25, 2017)

<sup>57</sup> *AIA Firm Survey Report 2016*, p73.

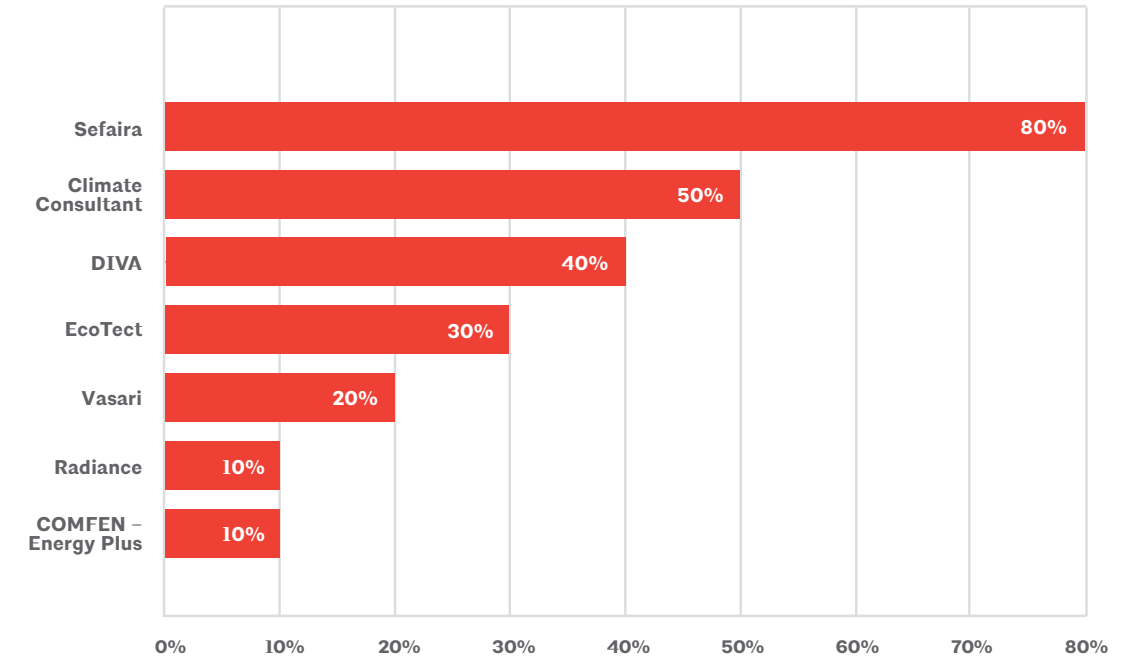
<sup>58</sup> Eric Wills and Karlin Research, "The 2016 Architect 50: A Deeper Dive Into the Data," *Architect*, September 7, 2016. [http://www.architectmagazine.com/practice/architect-50/the-2016-architect-50-a-deeper-dive-into-the-data\\_o](http://www.architectmagazine.com/practice/architect-50/the-2016-architect-50-a-deeper-dive-into-the-data_o) (accessed January 25, 2017)

## In-house performance analysis

More and more architects are using performance analysis tools in-house, rather than relying only on outside consultants, in order to get quick feedback on design decisions. HPFs are using a variety of tools, but the only one used by a majority (80%) is the cloud-based program Sefaira, introduced in 2009, to evaluate energy, carbon, daylight, water, thermal comfort, and renewables. According to AIA, Sefaira is in fact the most common performance tool used by all architects who submit projects for the 2030 Commitment. In 2015, architects used Sefaira nearly twice as often as the next most popular tool. However, for the nearly 6,000 projects submitted, architects used Sefaira on only 38—fewer than 1% of all projects.<sup>59</sup> Since fewer than 1% of all firms submit projects at all, the portion using such performance tools is less than a hundredth of a percent, a tiny minority of firms. HPFs are decidedly ahead of the curve in their use of performance analysis.

**Figure 17 Performance analysis tools used by HPFs**

*Sefaira is the only analysis tool used by a majority of firms surveyed.*



<sup>54</sup>AIA 2030 Commitment 2015 Progress Report, p12.



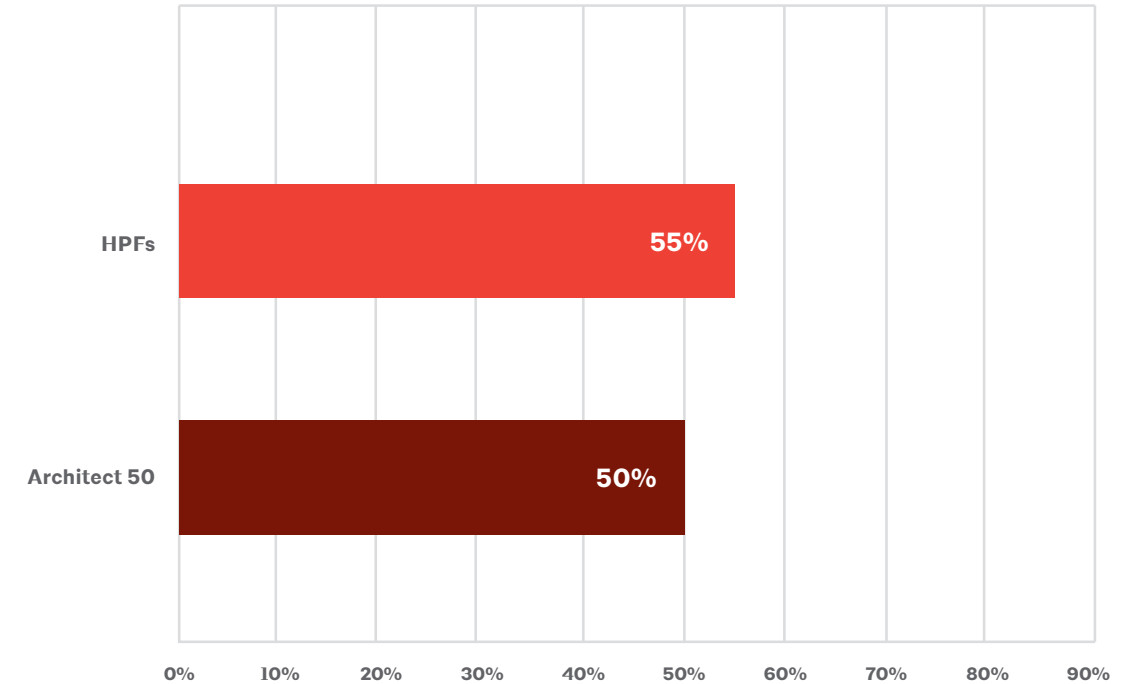
## Daylight modeling

Natural light in buildings is well established as improving the physical, emotional, and mental state of occupants, as well as productivity, but carefully using daylight also can lower reliance on electrical and mechanical energy.<sup>60</sup> *Lessons from the Leading Edge* showed that, on average, a 10% improvement in daylight autonomy appears to reduce energy consumption by 3–4% in Top Ten projects.<sup>61</sup> An essential tool for achieving these benefits is daylight modeling, which uses software or physical scale models to calculate interior light levels inside a building.

HPFs report that they used daylight modeling on 55% of their 2015 projects. The median is 70%, and one firm reports applying it on 100% of projects. The 2016 *Architect* magazine ranking of the top 50 firms for sustainability showed that those firms used daylight modeling on 50% of projects.<sup>62</sup> HPFs, most of whom also are on the *Architect* list, therefore are aligned with the typical habits of many leading firms, which apparently far exceeds standard practice for the rest of the industry. A decade ago, a study of self-described “building simulation” experts found that only 27% use daylight modeling.<sup>63</sup>

**Figure 18 Daylight modeling on projects, 2015**

Percentage of 2015 projects for which firms conducted daylight modeling.



<sup>60</sup> Greg D. Ander, “Daylighting,” Whole Building Design Guide, updated September 15, 2016. <https://www.wbdg.org/resources/daylighting> (accessed January 25, 2017)

<sup>61</sup> *Lessons from the Leading Edge*, p52.

<sup>62</sup> “The 2016 Architect 50: A Deeper Dive Into the Data.”

<sup>63</sup> Christoph F. Reinhart and Annegret Fitz, “Findings from a survey on the current use of daylight simulations in building design,” *Energy and Buildings*, July, 2006, p13. <http://web.stanford.edu/group/narratives/classes/08-09/CEE215/ReferenceLibrary/Daylighting/Daylighting%20Use%20Study.pdf> (accessed January 25, 2017)

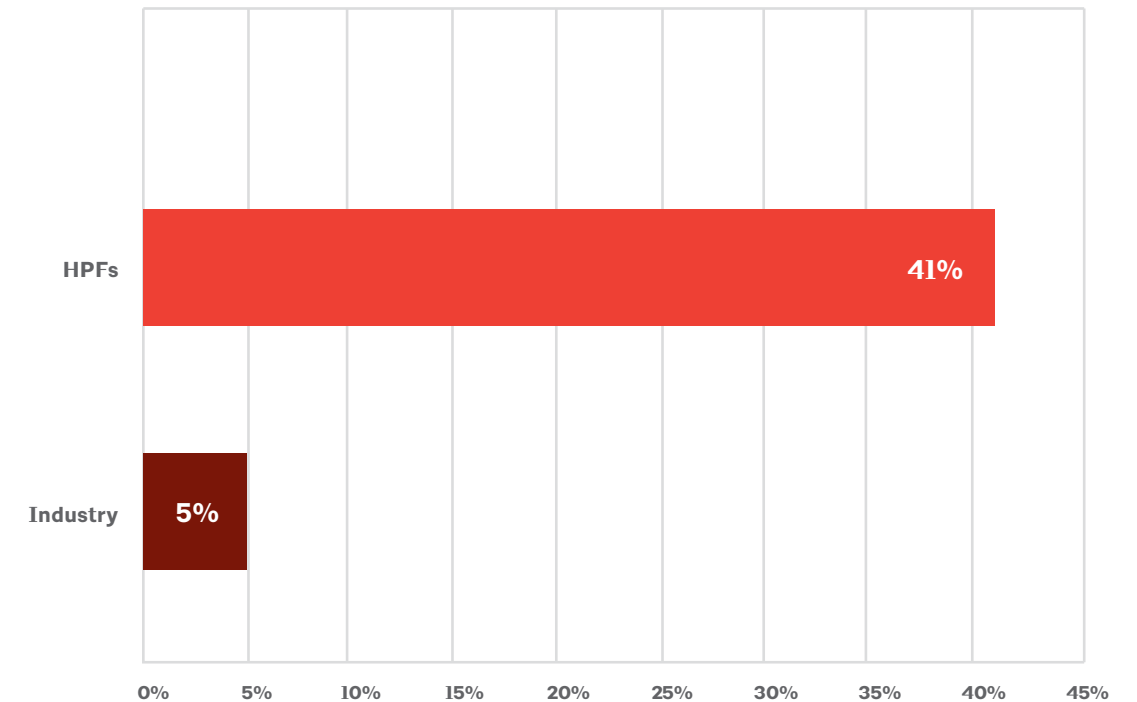
## Post-Occupancy Evaluations (POEs)

POEs are conducted to evaluate the impact of a building after it has been completed and occupants are using it. The feedback is invaluable to close the gap between predicted and actual performance, but the process remains fairly uncommon. A 2015 survey of architects showed that respondents conduct POEs on fewer than 5% of projects.<sup>64</sup>

By contrast, HPFs report performing POEs on 41% of 2015 projects—eight times the average reported for the industry at large. Nearly half (49%) say they conduct the POEs themselves, rather than engaging an external consultant. This practice certainly gives HPFs a better understanding of how to align design intent and actual building performance. “Does your firm have a mindset that this is important?” asks Janice Barnes of Perkins + Will, winner of four Top Ten Awards. “Because if not, it will always be pushed to the side.”<sup>65</sup>

**Figure 19 Frequency of Post-Occupancy Evaluations, 2015**

HPFs perform POEs on more than eight times the number of projects than the rest of the industry does.



<sup>64</sup> *Architectural Record*, “Post-Occupancy Evaluations,” August 16, 2015. <http://www.architecturalrecord.com/articles/6732-continuing-education-post-occupancy-evaluations> (accessed January 25, 2017)

<sup>65</sup> Elizabeth Evitts Dickinson, “Why Your Firm Should Embrace the Post-Occupancy Review,” *Architect*, September, 2014. [http://www.architectmagazine.com/practice/best-practices/why-your-firm-should-embrace-the-post-occupancy-review\\_o](http://www.architectmagazine.com/practice/best-practices/why-your-firm-should-embrace-the-post-occupancy-review_o) (accessed January 25, 2017)

## Firm spotlights

The preceding portion of this report focused on what can be learned from quantitative information about the HPFs' sizes, locations, specializations, staff make-up and education, and project performance. Visiting the firms revealed much about the qualitative aspects of their cultures and communities.

An obvious differentiator is how these firms consider sustainability to be integral to design excellence. "Consistently for us, good design means good performance," says Angela Brooks, FAIA, managing principal of Brooks + Scarpa, five-time Top Ten Award winner. "We have never separated the two."<sup>66</sup>

All the HPFs report that they follow an integrative design process as standard practice on projects. "Early in the process, before we even think about design, before we even know what the building looks like, we set goals for performance, resource conservation, and site contextual cues that are put up for everyone to see," says David Lake, FAIA, of Lake|Flato, the most frequent Top Ten winner, with 10 total awards. "Everyone is there—building owner, building users, and the entire design team, not just the principals. If everyone sees these early, everyone knows what we're heading toward." Lake|Flato's sustainability director, Heather

Holdridge, Assoc. AIA, adds, "We see the beauty and integration of engineering as helping push the quality of design. It's not another layer—it's integral."<sup>67</sup>

This approach goes straight to COTE's mission but remains relatively rare among architects. *Lessons from the Leading Edge* found that only 13 projects ever have won both a COTE Top Ten Award and an AIA Institute Honor Award, which AIA calls "the profession's highest recognition of works that exemplify excellence in architecture, interior architecture and urban design." All but two of those projects occurred in the past decade. Six of the 13 were designed by HPFs, and five of them were designed by two firms: Lake|Flato and Brooks + Scarpa, the only two firms that have won the dual award more than once.

The firm spotlights summarize observations from the office visits, with a focus on core values, cultures, and habits. While each of

these firms is unique, they all share common practices that any firm can embrace. All of them adopt an integrative design process on projects, all conduct regular peer reviews on projects, all actively cultivate staff engagement, all engage in community outreach and advocacy, all take and reward risks, and all try to practice what they preach.

<sup>66</sup> *Lessons from the Leading Edge*, p27.

<sup>67</sup> *Ibid.*, p21.

## Lake|Flato

### ABOUT

San Antonio, TX | Est. 1984

### NUMBER OF TOP TEN WINS

10

### YEARS WON

2006 (2x) | 2007 | 2009 |  
2011 | 2012 | 2013 | 2014 |  
2016 (2x)

### AREAS OF SPECIALITY

Architecture, Urban Planning,  
Building Performance,  
Sustainability

[lakeflato.com](http://lakeflato.com)



*Lake|Flato, Arizona State University Student Health Services, 2014 Top Ten Award winner  
Photo by: Bill Timmerman*



## Lake|Flato

Lake|Flato’s designs are praised for their critical response to place. The 2004 AIA Architecture Firm Award winner has become one of the most well-respected and widely recognized firms in the U.S.

In the early 1990s, Lake|Flato made a conscious decision to dedicate leadership positions to promoting healthy building design. At the time, they were not a member of the USGBC, which launched in 1993, and they did not pursue the COTE Top Ten Awards until 2006—nearly a decade after the program began.

“We focused on building our capabilities internally as a firm,” says Bob Harris, FAIA, LEED Fellow, the firm’s Partner in Charge of Sustainability. “We needed some confidence in our ability to produce holistic and healthy designs. We brought in sustainability-focused staff, and this has helped keep us consistent in our progress.” As of 2016, Lake|Flato has won more Top Ten Awards than any other firm (10 in total) and nearly twice as many as any firm in the past decade.

Lake|Flato has developed its own guide for project performance analysis, a comprehensive, systematic approach employed on all projects. Every project develops an overarching sustainability

strategy with project-specific techniques related to energy, massing, HVAC, building envelope, use, etc. The strategy is summarized in graphic form to make it more memorable and user-friendly. The summary outlines the blocks of time and effort that should be spent in each of the design phases. For example, in order to minimize energy consumption in the early conceptual phases, the largest amount of time is spent on

massing, followed by other passive design strategies. During schematic design, the emphasis shifts to fenestration and other envelope details, followed by HVAC techniques. The design strategies change within each phase, and the graphic summary is a useful tool for the team to stay on target.

Each month, the firm’s Building Science Team, managed by Sustainability Director Heather Holdridge, a mechanical engineer by training, meets with the Project Leads to review progress, using the project strategy document as a guide. The Building Science Team then produces detailed performance

analyses for a variety of measures, such as daylight and natural ventilation. Next, they circle back to discuss the outcome with the Project Leads, working collaboratively to determine how best to integrate these results within the project’s budget, schedule, and design concepts.

Lake|Flato’s reputation for advanced, high-performance design attracts many of the nation’s best recruits. During an office visit, much of the design staff said they were inspired to work at the firm because of specific projects, including many Top Ten winners. The people at Lake|Flato choose to work there because of the belief that design can partner with the natural environment to have a significantly positive impact on the health and wellness of people and ecosystems.

The firm supports and encourages employees to participate in a variety of initiatives beyond project work. Community outreach programs are common, for example. A grassroots research group emerged as an outlet for

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**Architecture should be rooted in its particular place, responding in a meaningful way to the natural or built environment.”<sup>68</sup>**

—Lake|Flato website

focusing on scientific projects, and any employee can apply for a research grant to support promising ideas. “People here are testing new technologies in their own homes,” says Katie Cavazos, who joined in 2015. “Sustainability is at the core of our culture. It’s something that people really believe in. We practice what we preach.”

<sup>68</sup> Lake|Flato, “Our History,” <http://www.lakeflato.com/vision/our-history> (accessed January 30, 2017)



# Leddy Maytum Stacy Architects

## ABOUT

San Francisco, CA | Est. 2001

## NUMBER OF TOP TEN WINS

8

## YEARS WON

1998 | 2001 | 2008 | 2010 |  
2013 | 2015 | 2016 (2x)

## AREAS OF SPECIALITY

Architecture, Sustainability

[lmsarch.com](http://lmsarch.com)



Leddy Maytum Stacy Architects, Jacobs Institute for Design Innovation, 2016 Top Ten Award winner  
Photo by: Tim Griffith

## Leddy Maytum Stacy Architects

On Monday mornings, the entire staff of two dozen people at Leddy Maytum Stacy Architects (LMS<sup>A</sup>), the 2017 AIA Architecture Firm Award winner, gather in the main space, face-to-face, coffee in hand. No laptops. No phones.

The meetings often are brief. On the day of the visit for this report, this important ritual was led by co-founder Marsha Maytum, FAIA. At LMS<sup>A</sup>, they make it a point to go around the room to every member of the firm, from Principal to Intern, to discuss updates, upcoming projects, and general issues. Everyone has a voice. “Everyone here is super-committed and it makes a difference,” says Maytum.

Often working with nonprofits and lower-income communities, LMS<sup>A</sup> prides itself on bringing high-performance design to a broader range of clients and building types. “It’s really about the three Ps: People, Planet, Price,” says Associate Vanna Whitney. “If you serve the people, you are giving them a healthy environment. If you give them a healthy environment, you’re giving them a good design. They are firmly intertwined, and that’s the best description of what we’re doing here.”

Many green buildings fail to live up to expectations because the occupants use them in unpredictable ways. LMS<sup>A</sup> invests heavily

in research to understand the needs and habits of unique users—adults with autism, the formerly homeless, veterans with PTSD, students, the mobility-impaired, etc. The architects feel it is essential to understand people’s behavior so they can create places that are well-tuned to their communities. Tremendous effort also goes into educating users to help them understand their role in a building’s performance. This reciprocal process leads to extensive user manuals for key projects.

Educating the firm’s own people is another priority. This includes weekly sustainability-focused lunch-and-learn events, during which experts from academia and industry present. Topics include software, energy modeling, project reviews, industry events, third-party standards, material certifications and labeling, efficient heating systems, health, biophilia, circadian rhythms, sustainable materials protocols, energy code updates, and the like.

As a small firm, LMS<sup>A</sup> ensures that everyone has strong competency in sustainable design

principles, and the whole staff contributes to every project. This collaborative approach is especially important to ensure practical, cost-effective solutions. “You have to be realistic when you’re working with Affordable Housing,” says Gwen Fuertes. “You need to think about durability and maintenance. There are so many more layers that we have to add on top of standard sustainability practices.”

Post-Occupancy Evaluations (POEs) are a key tool at LMS<sup>A</sup>. The firm typically remains closely engaged with users long after completion, conducting informal surveys, focused POEs, one-year inspections, and volunteer work with their clients. Because formal POEs can be labor-intensive, LMS<sup>A</sup> works closely with clients during contract negotiations to ensure that they maintain an ongoing relationship.

“All we can do as architects is try to create inspiring buildings that connect people to each other,” says Bill Leddy, FAIA. “We try to do it in a way that helps influence attitudes about how people live and work. If we can do that, we’re happy.”

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**LMS<sup>A</sup> is a teaching practice committed to developing complete, well-rounded architects, leaders in the profession and effective global citizens.”<sup>69</sup>**

**—Leddy Maytum Stacy Architects website**

<sup>69</sup> Leddy Maytum Stacy Architects, “Who we are.” <http://www.lmsarch.com/studio/who> (accessed January 30, 2017)



## Miller Hull

### ABOUT

Seattle, WA | Est. 1977

### NUMBER OF TOP TEN WINS

7

### YEARS WON

1998 | 2000 | 2003 | 2004 |  
2008 | 2011 | 2015

### AREAS OF SPECIALITY

Architecture, Urban Planning,  
Building Performance,  
Sustainability

[millerhull.com](http://millerhull.com)



*Miller Hull, Bullitt Center, 2015 Top Ten Award winner  
Photo by: Nick Lehoux*

## Miller Hull

The home page of Miller Hull’s website declares, “At the heart of our work is a connection to the power of natural surroundings.” This is evident in the firm’s own office space. Situated in the heart of downtown Seattle, near Pioneer Square, the space faces out onto Elliott Bay, reminding everyone where they live.

Natural light is abundant in the open space, designed to foster collaboration and flexibility. Recent renovations involved careful restoration and preservation of the existing timber structure.

Miller Hull won the AIA Architecture Firm Award in 2003, a decade before completing the Bullitt Center, considered by many to be “the world’s greenest office building.”<sup>70</sup> Since then, the firm has become one of the leading experts in the Living Building Challenge (LBC), and recently they used their own office renovation for additional training by achieving LBC Petal certification for materials. The LBC “Red List” includes 22 chemicals known to be harmful to living creatures and the environment, and Miller Hull’s office is one of the relatively few projects to achieve this standard. Last year, Miller Hull also joined the International Living Future Institute’s JUST program, which promotes transparency and social equity in an organization’s operations.

Specifically, it measures how a company treats its workers and contributes to the larger community.

The firm works very closely in partnership with the University of Washington (U of W), where David Miller was the architecture department chair for eight years. Many Miller Hull associates teach studio courses there, with a focus on sustainability. As a measure of its commitment, the firm created a \$50,000 endowed student scholarship at the U of W and has created similar funds at Washington State University and the University of Oregon.

Miller Hull credits local and state codes for opening discussions of sustainability in the commercial sector. The City of Seattle and State of Washington energy codes are progressive standards that have increased accountability for architects, and in 2000 the city began requiring public buildings to be LEED certified.<sup>71</sup> Miller Hull designed one

of Seattle’s earliest LEED-certified projects, Fisher Pavilion, also a Top Ten Award winner (2003). The firm had won its first Top Ten Award in 1998, the second year of the program, so it established a leadership position well before LEED was popular. Since then, the firm has won seven Top Ten Awards, an average of one every 2–3 years.

Every Thursday for the past four decades, Miller Hull has shut down regular operations at 4 pm to host Design Panel. They bring in beer, wine, and snacks, and the most junior designers on each team are required to give a presentation on project status during each design phase. This habit keeps everyone in the firm informed about progress, shares best practices, and gives younger staff opportunities to practice their presentation skills. “The benefit of ‘fresh eyes’ and open critique makes each project the best it can be,” according to the firm’s website.<sup>72</sup>

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**We started as idealists.”**

**—David Miller, FAIA**

“Environmentally responsible design is good design,” says partner Scott Wolf, FAIA. “They are one and the same. Sustainability strategies are baked into how we think about design. It is not an additional service—it’s part of what we do. One of the reasons we are successful is that everyone has bought into this philosophy. We all want to create good, responsible buildings.”

<sup>70</sup> Tim Newcomb, “Look Inside the World’s Greenest Office Building,” *Discover*, April 22, 2013. <http://discovermagazine.com/galleries/2013/april/bullitt-center-green-building> (accessed January 30, 2017)

<sup>71</sup> City of Seattle, Office of Sustainability & Environment. Timeline: City Green Building Initiatives. <http://www.seattle.gov/environment/buildings-and-energy/green-building-timeline> (accessed January 30, 2017)

<sup>72</sup> Miller Hull, “Firm History.” <http://millerhull.com/about/> (accessed January 30, 2017)



# BNIM

## ABOUT

Kansas City, MO | Est. 1970

## NUMBER OF TOP TEN WINS

6

## YEARS WON

1999 | 2006 | 2010 | 2011 |  
2012 | 2014

## AREAS OF SPECIALITY

Architecture, Urban Planning,  
Building Performance,  
Sustainability, Landscape  
Architecture, Interior Design

[bnim.com](http://bnim.com)



BNIM, Omega Center for Sustainable Living, 2010 Top Ten Award winner  
Photo by: © Assassi



## BNIM

When the lead researcher originally contacted BNIM to interview the “Sustainability Director,” there was a pause. “Sustainability Director? Well, that’s everybody,” was the response. “Sustainability is so ingrained in our culture and the individuals that are part of BNIM,” says CEO Steve McDowell, FAIA.

“It is such a part of our DNA that you cannot separate it. It is every person here, every studio, every office.”

The 2011 AIA Architecture Firm Award winner, BNIM recognizes that every team member, from the founding principal to the newly hired intern, contributes to the firm’s progress. They have robust internal knowledge-sharing mechanisms that include both sophisticated information technologies and a community that values the benefits of socializing together.

One secret of BNIM’s success is to learn something on every project that can inform the next one. “When we did the Omega Center for Sustainable Living [the first building to achieve both LEED Platinum and Living Building Challenge certification], it changed our process,” says Associate Principal Sarah Hirsch. “The Sustainability Treehouse [2014 Top Ten Award winner] took it a step further. Then 1640 Baltimore, also known as Building Positive [the firm’s vision for its own

net-zero-energy headquarters] pushed the furthest.” The firm meticulously crafted a framework that evolved out of lessons from many high-performance projects stemming back two or three decades.

Building Positive is called “a Four-in-one Prototype” because it combines four rating systems: LEED, Living Building Challenge, WELL, and Sustainable Sites. The requirements of all four were plotted on a spreadsheet in order to identify the common denominators. When a team can incorporate the overlapping elements, it knows the project is successful, regardless of certification.

“No one knows as much as everyone” is BNIM’s mantra. Everything the firm does revolves around that belief. Their lunch-and-learns at the Kansas City office are coordinated every week with their California offices via video conference call. It’s about more than just ensuring everyone is on the same page; it’s a way for the designers to

get to know one another well across all the offices. This makes it easier for staff to access a wide knowledge base within the firm because they know each other’s passions and competencies.

In addition to its six Top Ten Awards as a design architect, BNIM earned a rare honorable mention in 2008, it won the 2014 Top Ten Plus Award for an exceptional post-occupancy case study, and it has served an advisory role on two other projects that won Top Ten Awards. Strategic partnerships are common with BNIM, which often works closely with other firms whose values are similar. For example, BNIM has collaborated on Top Ten projects with both Mithun and Lake|Flato. “We like to work with other architects, engineers, and collaborators who are also focused on high-performance design,” says James Pfeiffer, a Design Principal. “We readily share the results so that others can learn from them—and to encourage others to share feedback we can learn from.”

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**We deliver beautiful, integrated, living environments that inspire change and enhance the human condition.”<sup>73</sup>**

**—BNIM website**

<sup>73</sup> BNIM. [www.bnim.com](http://www.bnim.com) (accessed January 30, 2017)

## EHDD

### ABOUT

San Francisco, CA | Est. 1946

### NUMBER OF TOP TEN WINS

6

### YEARS WON

2004 | 2007 | 2009 | 2013 |  
2014 | 2016

### AREAS OF SPECIALITY

Architecture, Urban Planning,  
Construction Science,  
Engineering, Building  
Performance, Sustainability

[ehdd.com](http://ehdd.com)



*EHDD, The David and Lucille Packard Foundation Headquarters, 2014 Top Ten Award winner  
Photo by: Jeremy Bittermann*

## EHDD

Sustainability is highly visible in EHDD’s office. There are signs everywhere—signs in the bathroom about water waste, signs near light switches about electricity waste, printers and plotters named after trees (Sequoia, Redwood, etc.) to remind staff where their paper comes from.

The target EUI (Energy Use Intensity) of each project is displayed prominently. Everyone within the office remains highly informed, and accountability is high.

Three decades after winning the AIA Architecture Firm Award in 1986, EHDD completed the LEED Platinum and net-zero-energy headquarters for the Packard Foundation. The project won a 2013 Top Ten Award, and in 2016 a special jury chose it as the project that most exemplifies COTE’s mission to integrate design excellence and sustainable performance. It was the only project to receive a vote from the majority of the jury.<sup>75</sup>

User goals drive the design process at EHDD, and every client is different. “We have some clients who want a net-zero or carbon-neutral building,” says designer Emily Bello. “With other clients, the challenge is to explain sustainability in terms they understand.

If cost is the most important thing, we’ll focus on savings. If education is the focus, we might design the building as a learning tool.”

Client relationships are critical to EHDD’s success. They maintain strong connections after projects are completed and track actual building performance over time, which helps them learn how to improve future projects. In one case, the performance of the solar panels began to decline. Investigation discovered that the problem was not a mechanical issue—it was seagull droppings. EHDD worked closely with the client to devise a bird-friendly solution.

Friday nights after work, the firm hosts “Buildings and Beer,” where everyone with the firm is encouraged to contribute initial ideas and feedback for new projects. It’s very informal, to allow free-flowing ideas. One week the firm held a “trash party” to promote composting and recycling. Designers geared

up in HAZMAT suits and separated trash to analyze how much waste they produced. Many of their clients are now integrating these ideas into their projects.

When asked how the firm measures the success of a project, Associate Tara Ogle replies, “It’s not about the number of magazine articles or awards. Those are all nice. It’s about the client relationships. Is the facilities manager still happy to see me? You know a project is successful if they invite you back.”

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**We believe it’s possible to design a collectively greater future for our clients, society and the environment.”<sup>74</sup>**

—EHDD website

<sup>74</sup> EHDD, “About.” <http://www.ehdd.com/about> (accessed January 30, 2017)

<sup>75</sup> *Lessons from the Leading Edge*, p28.



## Brooks + Scarpa

### ABOUT

Los Angeles, CA | Est. 1991

### NUMBER OF TOP TEN WINS

5

### YEARS WON

2003 | 2006 | 2011 (2x) |  
2013

### AREAS OF SPECIALITY

Architecture, Urban Planning,  
Building Performance,  
Sustainability

[brooksscarpa.com](http://brooksscarpa.com)



*Brooks + Scarpa, Cherokee Studios, 2011 Top Ten Award winner  
Photo by: John Linden*

## Brooks + Scarpa

At Brooks + Scarpa, winner of the 2010 AIA Architecture Firm Award, innovation and passion are the two strongholds. The ability to create new paths for design comes from a strong reputation and commitment to sustainability.

The smallest of the HPFs, with only seven people, the firm nevertheless has won five Top Ten Awards. Three of those projects also won AIA Institute Honor Awards—an accomplishment no other design firm can boast. Brooks + Scarpa is one of only two firms ever to win the dual awards more than once.

The firm is applauded for its “ability to meld sustainability, aesthetics, and affordability in projects.”<sup>77</sup> In 2014, when it won the Cooper-Hewitt National Design Award for “lasting achievement in American Design,” Brooks + Scarpa was praised for “leadership in sustainable and socially progressive design.”<sup>78</sup> Exemplifying this blend are the net-zero, LEED-Gold Colorado Court affordable housing development (2003 Top Ten Award winner) and Step Up on 5th homeless housing (2011 winner). Managing Principal Angela Brooks, FAIA, also co-founded Livable Places, a nonprofit development company dedicated to counteracting suburban sprawl.

Colorado Court and the founders’ own residence, the Solar Umbrella House (2006 Top Ten winner) received attention for their use of solar panels as an inherent part of the architectural expression—not just on the roofs, but also on the walls. “The only way to meet the energy target was to distribute renewable power on every available surface,” says Brooks. Turning technical challenges into design opportunities is a hallmark of the firm’s success.

Brooks says that architects outside California often think it’s easy to practice sustainable design there because the climate is so moderate. A quarter of all Top Ten projects are located in California, in fact. Yet, she points out that the energy codes are extremely strict, and since 1977 the state has mandated efficiencies in buildings. The California Green Building Standards Code (CALGreen) was the first statewide green building code in the U.S., and by 2020 all residential buildings will be net-zero energy.<sup>79</sup> “It takes people in leadership positions to move the dial forward and change our building and energy codes.”

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**A collective of architects, designers and creative thinkers dedicated to enhancing the human experience.”<sup>76</sup>**

—Brooks + Scarpa website

<sup>76</sup> Brooks + Scarpa, “About.” <http://brooksscarpa.com/about-brooks-scarpa> (accessed January 30, 2017)

<sup>77</sup> *Residential Architect*, February 17, 2010.

<sup>78</sup> Karissa Rosenfield, “Brooks + Scarpa, Witold Rybczynski Win Cooper-Hewitt National Design Award,” *ArchDaily*, May 1, 2014. <http://www.archdaily.com/502386/brooks-scarpa-witold-rybczynski-win-cooper-hewitt-national-design-award> (accessed January 30, 2017)

<sup>79</sup> California Residential ZNE Action Plan. <http://www.californiaznehomes.com/framework>



# Mithun

## ABOUT

Seattle, WA | Est. 1949

## NUMBER OF TOP TEN WINS

5

## YEARS WON

1999 | 2001 | 2002 | 2005 |  
2014

## AREAS OF SPECIALITY

Architecture, Urban Planning,  
Building Performance,  
Sustainability, Landscape  
Architecture, Interior Design

[mithun.com](http://mithun.com)



*Mithun with BNIM, Sustainability Treehouse, 2014 Top Ten Award winner  
Photo by: Joe Fletcher*



## Mithun

Mithun began its first LEED Gold project in 1998 (certified 2002) and won its first Top Ten Award in 1999, at a time when sustainability was relatively unknown in the U.S. In the early 2000s, in order to establish competency quickly, the firm required all design staff to become LEED accredited.

Chairman Bert Gregory, FAIA, set a strong direction for the firm, but the leadership has always known that success would require a commitment from the entire organization.

“We’d been debating for over 15 years about how to approach sustainability,” says Partner Rich Franko, FAIA. “Should we have a single, dedicated person who leads it? We decided that it has to come from every team member. Every design team needs some sustainability direction, and the leadership in the firm needs to be engaged in helping drive teams towards it.”

“Design for Positive Change” is the firm’s motto, and every project allocates time and resources to support sustainability, including an “eco-charrette.” Energy and daylight modeling are routine during the design process. Recent graduates and summer interns spend their first six months working in Mithun’s “Co-Lab” to gain proficiency in visualization tools and new software.

They work with teams across multiple disciplines, such as landscape design, interior design, and urban planning.

Mithun recently created a database to catalog and benchmark all projects around EUI and other performance metrics. The goal is to include data on actual operations over a one- to two-year period for every project, and teams use this data to propel future designs. The firm also promotes and funds in-house research. Design staff are encouraged to submit an in-house application describing the project initiative, along with a blog post and an online discussion on the topic. All of this is designed to create what Mithun calls “a culture of curiosity and discovery.”

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**We believe in design’s vital capacity to connect people to place and each other, through intentional and memorable experiences.”<sup>80</sup>**

**—Mithun website**

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<sup>80</sup> Mithun. [www.mithun.com](http://www.mithun.com) (accessed January 30, 2017)

# KieranTimberlake

## ABOUT

Philadelphia, PA | Est.1984

## NUMBER OF TOP TEN WINS

4

## YEARS WON

2007 | 2008 | 2010 | 2013

## AREAS OF SPECIALITY

Architecture, Urban Planning,  
Building Performance, Building  
Science, Sustainability

[kierantimberlake.com](http://kierantimberlake.com)



*KieranTimberlake, Charles David Keeling Apartments, 2013 Top Ten Award winner  
Photo by: Tim Griffith*

## Kieran Timberlake

As you step into Kieran Timberlake's 60,000-square-foot warehouse in Philadelphia, the intensity is palpable. There is an intensity on the faces of staff members, an intensity in the art displayed on walls, an intense network of temperature sensors, and an interactive project map.

The ground level, facing a residential street, houses a dedicated building performance lab with a glass curtain wall where passersby can peek in. The firm has dedicated sculptors working in coordination with the designers to construct a wall assembly. They are testing the construction and performance of their designs in real-time. The lab gives them the power to state definitively how long a project should take, how much it should cost, and how it should perform. They know because they built and tested it.

In the cavernous office space, 100+ designers work diligently in rows punctuated by 300+ occupancy sensors monitoring the microclimates of the office. Believing that people can tolerate more than what ASHRAE standards suggest, the teams survey the staff four times a day about their comfort, location, attire, and satisfaction. They use their own firm as a living laboratory to advance work flow within the office.

The 2008 AIA Architecture Firm Award winner, Kieran Timberlake has a high tolerance for risk-taking. "Failure" is not a pejorative term here; it is considered part of the process. Innovation and inquiry are at the core of who they are. To have room to explore, the firm strives to eliminate inefficiencies in the design process. They do this by defining goals clearly, identifying potential failures, and creating solutions to address failures quickly. "Efficiency in the traditional sense is a bit of a dirty word here," says Building Performance Specialist Ryan Welch. "It's a little bit at odds with inquiry and innovation. Unless you define efficiency as a way of moving forward faster."

The challenge of hiring the right people is an arduous task for any firm, but it is a particular focus for Kieran Timberlake. Many times, interviews take an entire day, even for interns. A candidate must be able to present multiple design solutions, evaluate them against other options and make a compelling argument

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**The alchemy of art, science, analysis, and intuition with regard to the built environment is our core mission.”**

—Kieran Timberlake website

for why one solution is better than another. Once they do find the right people, there is very little turnover in the firm. "We have the luxury of being able to hire only really talented people. If we were three times as big or only a third our current size, we might not have that luxury," says Partner Jason Smith, AIA. "We hire people with an intersection of talents along a pretty wide spectrum—sustainability, engineering, design, research, etc. Our role as designers is about being editors more than authors."

<sup>81</sup> Kieran Timberlake Firm Profile. <http://www.kierantimberlake.com/pages/view/166/profile/parent:33> (accessed January 30, 2017)



## Siegel & Strain

### ABOUT

Emeryville, CA | Est. 1985

### NUMBER OF TOP TEN WINS

4

### YEARS WON

2000 | 2002 | 2003 | 2009

### AREAS OF SPECIALITY

Architecture, Urban Planning,  
Building Performance, Building  
Science, Sustainability

[siegelstrain.com](http://siegelstrain.com)



*Siegel & Strain, Portola Valley Town Center, 2009 Top Ten Award winner  
Photo by: © Cesar Rubio, courtesy of Siegel & Strain Architects*

## Siegel & Strain

The people at Siegel & Strain all wear many hats. They are a small firm, so everyone is expected to have some proficiency in sustainable design and to be able to contribute to any project at any time.

Everyone at the firm goes there because of its commitment to sustainability. As Principal Susi Marzuola puts it, “We wake up caring. We go to bed caring. We dream caring. It matters.”

Like many HPFs, the firm is involved in state and local advocacy. Associate Marjorie Smith is very active in lobbying for fire retardants to be removed from insulation. The health impact of materials has been a particular interest for the firm, but lately it has focused on embodied carbon, CO2 emitted during the manufacture, transportation, and construction of building materials. The firm now believes that this may be the most demanding way to assess buildings, since it is not visible and is so complicated to assess.

A collaborative process drives everything. “We are real believers in getting the consultants and stakeholders involved early on,” says co-founder Henry Siegel, FAIA. “We start early brainstorming with consultants before we make any assumptions about where the design is headed in terms of form and building envelope.

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**We design buildings that are well crafted, meet our clients’ needs and aspirations, respond to the unique aspects of site and climate, and achieve high levels of environmental stewardship.”<sup>82</sup>**

—Siegel & Strain website

Much of our work is public, so we don’t get to bring the contractors on board as early as we’d like.” They compensate by trying to bring a builder’s mentality into projects.

This approach integrates performance into every architectural decision. “Design and sustainability are one and the same,” insists Marzuola. “Advancing architectural design IS advancing sustainability. How do you tease those apart?”

<sup>82</sup> Siegel & Strain. Firm Profile. <http://www.siegelstrain.com/firm/profile/> (accessed January 30, 2017)



## SERA Architects

### ABOUT

Portland, Oregon | Est. 1968

### NUMBER OF TOP TEN WINS

3

### YEARS WON

2002 | 2014 | 2015

### AREAS OF SPECIALITY

Architecture, Urban Planning,  
Building Performance,  
Sustainability

[seradesign.com](http://seradesign.com)



SERA, Collaborative Life Sciences Building, 2015 Top Ten Award winner  
Photo by: Jeremy Bittermann



## SERA Architects

“What is the difference between a ‘sustainable’ project and any other project?” asks one architect at SERA. That the two are one and the same is the heart of the firm’s philosophy. Performance goals are integral to every project, regardless of type, location, and budget.

SERA entered sustainability through The Natural Step, a framework that examines an organization’s day-to-day operations. All the leaders of the firm went through intensive training in the program. The firm did a massive back-casting process to determine how they could become the most sustainable office possible. “We decided before we could really focus on sustainability in our design work, we needed to get our own house in order,” says Tina Keller, Director of Operations.<sup>84</sup>

The Sustainability Action Committee (SAC), which developed as an extension of The Natural Step, focuses on what sustainability means on a daily basis for the staff. A cross-section through the firm, the committee explores in-house process issues, while another team, the Sustainability Resources Group, provides integrated design support to project teams. Task forces are created, and meetings center on topics such as food, water, health, wellness, and community.

They organize goal-setting sessions and often stage monthly challenges. Overall the staff is committed to public transportation and commuting by bike and foot. SERA typically ranks very high in annual Portland bike commute challenges and has placed first in their firm-size category several times.

“We are always trying to do the right thing,” says Associate Principal Suzanne Blair. “We are trying to do the right thing for the client, but also do the right thing for the community, and do the right thing for the planet. Those values are underlying in our decisions. It brings a certain kind of person here.”

“

**[O]ur vision: To create a legacy of places that enrich the human experience, evoke delight, and provide an enduring ecological community.”<sup>83</sup>**

—SERA website

<sup>83</sup> SERA. Firm. <http://seradesign.com/firm/> (accessed January 30, 2017)

<sup>84</sup> The Natural Step. <http://www.thenaturalstep.org/our-approach/>

## Conclusions

The group of firms featured in this report were selected because they are frequent winners of the Top Ten Awards; however, they are in fact leading the profession in many other ways, including project performance, recognition, and reputation. How do they do it?

They hire a diverse group of educated people and train them well, and they institute many policies and practices proven to produce good results. Yet, their most important differentiator might be their organizational cultures.

More than one firm says they strive to create an “intentional culture.” According to *Forbes* magazine, “an intentional culture specifically aligns the environment, communication and emotional drivers to a company’s strategic vision and brand. To build a culture that supports the brand experience, leaders must bring the corporate vision to life and help employees link what they do every day to the key elements (values, objectives, goals, key performance indicators and behaviors) of the organization’s guiding principles and strategy.”<sup>85</sup> Each of the HPFs has a clear vision, an ambitious mission, and a strong set of values, and they work hard to make these evident in everything they do. They cultivate a diverse community of collaborators empowered to think broadly and speak openly.

In our surveys of the firms’ interns, 83% say their ideas are encouraged and embraced.

A 2010 study into what motivates employees in design firms found that the four most important factors are positive working conditions, organizational support, clarity of the design process, and recognition of effort.<sup>86</sup> The HPFs understand all of this. Generally, the firms offer family-friendly policies, flexible schedules, equitable benefits, and staff development programs, but they focus first on doing good work in thoughtful ways. “We provide a sense of purpose through meaningful work that is aligned with each employee’s professional development goals,” says one HPF spokesperson. “Provide open and continuous dialogue,” recommends another. HPFs have significantly lower turnover than the rest of the industry because, as one HPF employee puts it, “We treat every hire like they will be with us their whole career.”

The HPFs are dedicated to having a positive impact in the world. The most common word in their mission statements is “human.” This isn’t just marketing rhetoric—they make it real. The Siegel & Strain spotlight quotes Principal Susi Marzuola: “We wake up caring. We go to bed caring. We dream caring. It matters.” Such commitment starts at the top: business surveys show that the most important factor motivating a company’s employees to embrace sustainability, after a general concern for the environment and society, is visible commitment from executive leadership.<sup>87</sup>

“

**Culture eats strategy for breakfast.”**

**—Peter Drucker**

<sup>85</sup> Barbara Porter, “Creating An Intentional Culture That Engages Employees,” *Forbes*, January 7, 2014. <http://www.forbes.com/sites/ey/2014/01/07/creating-an-intentional-culture-that-engages-employees/#533829524c2e> (accessed January 30, 2017)

<sup>86</sup> Lukumon O. Oyedele, “Sustaining architects’ and engineers’ motivation in design firms: An investigation of critical success factors,” *Engineering, Construction and Architectural Management*, 17:2, 2010, pp.180-196.

<sup>87</sup> John Davies, *Sustainability & Employee Engagement: The State of the Art*, GreenBiz, September, 2014, p10. <https://www.neefusa.org/resource/sustainability-employee-engagement-state-art> (accessed January 30, 2017)

Making the most of your mission can make a big difference. Research shows that companies with authentic ideals can outperform their competitors by nearly 400%.<sup>88</sup> Why? Because doing good can be a powerful motivator. “People want to work for companies that contribute to the communities they care about and help to fix society’s worries,” writes organizational consultant Anne Bahr Thompson. “They yearn for their employers to advocate on their behalf and focus on the issues that matter most to them. In the absence of trusting government to solve their personal problems and society’s challenges, Baby Boomers, Gen Xers and Millennials all look to the companies they work for in the same way they look to the brands they buy—to help them achieve their ideals.”<sup>89</sup>

Thompson outlines the employer-employee relationship as a spectrum from “me” (individual motivation) to “we” (collective impact): the more an organization can help each person feel “bigger than I am,” the better. This is the key ingredient to employee engagement, the emotional bond people feel with their companies. Gallup’s studies of the American workplace find that engaged employees “come up with most of the innovative ideas, create most of a company’s new customers, and have the most entrepreneurial energy.”<sup>90</sup> Higher engagement yields significantly higher productivity, profitability, and customer satisfaction, and lower absenteeism and turnover. If you can inspire your people, you can lead the industry.

When asked what’s special about his organization, one HPF representative responds simply, “We are always looking to improve.” Finally, another sums up what could be the overarching attitude of all the HPFs: “Be accessible. Be flexible. Do great work!”

**Figure 20 “The Me-to-We Continuum”**

Five ways companies can foster better relationships with employees *Harvard Business Review*

<b>1 Me</b>	<b>2 Mine</b>	<b>3 Ours</b>	<b>4 Us</b>	<b>5 We</b>
TRUST	ENRICHMENT	RESPONSIBILITY	COMMUNITY	CONTRIBUTION
Dont let me down	Enhance daily life	Behave fairly	Connect me	Make me bigger than I am

SOURCE CULTUREQ

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<sup>88</sup> Jim Stengel, *Grow: How Ideals Power Growth and Profit at the World’s Greatest Companies* (Crown Business, 2011).

<sup>89</sup> Anne Bahr Thompson, “The Intangible Things Employees Want from Employers,” *Harvard Business Review*, December 3, 2015. <https://hbr.org/2015/12/the-intangible-things-employees-want-from-employers> (access January 30, 2017)

<sup>90</sup> Gallup, State of the American Workplace: Employee Engagement Insights for U.S. Business Leaders, 2014. <http://www.gallup.com/services/178514/state-american-workplace.aspx> (accessed January 30, 2017)

## Top ten takeaways from High-Performance Firms

### 1. They raise the bar

By virtually every measure, HPFs excel. Award-winning projects are not accidental—they are the inevitable outcome of creating habits that dramatically increase the likelihood of success.

### 2. They are deeply committed

From the principal to the intern, there is an understanding that sustainability is not just an add-on; it is integral to everything. “It’s in our DNA” is a common statement at HPFs. “It’s at the core of our being.” “It’s who we are.” HPFs have the passion and commitment to make sure the job is done right.

### 3. They live sustainability

Riding a bike, taking a bus, planting a tree. These are all extensions of the mindfulness of the people at HPFs. They buy products that are Fair Trade or sustainably harvested. They test sustainability strategies in their own homes and lives.

### 4. They work with the best

They have a deep understanding of their collective knowledge, and they understand their limitations. If something is outside their realm of understanding, they seek expert advice from the industry’s best partners in engineering, landscape architecture, natural sciences, and information technology. BNIM’s credo, “No one knows as much as everyone,” applies to all the HPFs.

### 5. They hire the best

Having a strong reputation for sustainable design gives these firms an advantage in recruiting. They now have the hard-earned luxury of being able to choose from the brightest, most passionate designers from all over the world, and they do. Each firm has their own approach to finding the right people. One commonality across all HPFs is that new recruits have to express and demonstrate their passion and dedication for sustainability in the interview process.

### 6. They invest in their people

Return on investment is high when you invest in your people. These firms make it easy for their people to grow. Continuing education is continuous. They support and encourage their people in extracurricular activities. They provide incentives to make sure their people stay healthy. People are the most important asset.

### 7. They are not afraid of the unknown

Whether it’s a new product, new materials, or creating new software, their willingness to explore the unknown is where HPFs excel. Risk-taking is part of their cultures. They have a voracious curiosity. Their experience and success allow HPFs the creative freedom to explore new possibilities.

### 8. They recognize that great ideas can come from anywhere

Principals and project managers are happy to defer to an intern or facilities manager if they have a great idea. If there is a compelling reason, the idea is implemented into a project or within the organization’s processes. Everyone is encouraged and expected to contribute to design.

### 9. They are forward-thinking

If a solution is not out there, they create it. If a building code does not allow it, they challenge it. These HPFs are creating and advocating for tools, materials, and designs that are addressing the challenges of the future. They constantly question their own habits. Business-as-usual is never a given.

### 10. They give back

These firms go beyond billable hours to raise awareness about social and environmental issues and elevate the quality of life in their communities. Volunteerism and advocacy are ingrained in their cultures.

## Top ten lessons for any firm

### 1. Expand your view of sustainability

Think of design first as a means to have a more positive social, economic, and environmental impact. Identify opportunities within your organization to operate more sustainably. (Recycling, conserving energy, conserving water, minimizing material waste, minimizing food waste, minimizing carbon footprint, minimizing vehicular transportation, minimize commute, promoting equity, etc.)

### 2. Create a vision

Know what you stand for and how to communicate that mission in everything you do. Rework your firm's message to highlight your commitment to sustainability. Identify sustainability frameworks and certifications that matter to your firm. (The Natural Step, LEED, WELL Building, Living Building Challenge, 2030 Challenge.) Develop and maintain a Sustainability Action Plan.

### 3. Rethink your process

Clarify goals before making any design decisions and evaluate every decision against those goals. Give yourself time to explore alternative design solutions in the early phases. Use the best parts and pieces of the rating systems (i.e. Top Ten, LEED, WELL, LBC, etc.) to create your firm's own measures of success for all projects. Create clearly defined, measurable goals for energy, water, materials, waste, etc. Reevaluate those project goals in each design phase.

### 4. Collaborate, collaborate, collaborate

Don't just tolerate others' ideas—actively seek them out. Solicit advice/help from other project teams in house. Develop working relationships with like-minded designers at other firms and seek their advice/help. Seek relationships with non-architecture companies/organizations that are committed to sustainability. Listen to and apply the ideas of intern.

### 5. Build diversity

Bring in people with a variety of backgrounds. Surround yourself with people who think differently than you do. Leverage the unique strengths and skills of everyone.

### 6. Nurture your people

Inspire your staff in your mission and message. Invest in their growth. Offer humane benefits. Incentivize sustainability accreditations and certifications. Offset cost of dues, exam fees, continuing education, and lunch-and-learns.

### 7. Actively maintain relationships with past clients

Conduct follow-up calls and building visits post-construction to monitor performance. Learn what works and what doesn't and adapt. Apply feedback from previous designs in your new designs.

### 8. Walk the talk

Make your mission evident in everything you do. Market your personnel's sustainability credentials on websites, print materials, presentations, etc.

### 9. Get involved

Engage in discussions that matter at the local and global level. Make a difference. Encourage involvement in the local community around social issues that matter to your people. Establish a reputation in sustainability within your local and professional community. Participate in local, state, national, international sustainability design competitions. Join your local AIA Committee on the Environment (COTE).

### 10. Stay curious

Live outside your comfort zone and continually explore new ideas. Test boundaries. Do something different tomorrow than you did yesterday. Always ask questions.



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