

Community-Engaged Research and Faculty Advancement in Environmental Engineering

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Abstract

Community-engaged research (CER) has the potential to meet multiple objectives including yielding real benefits for communities, novel research findings, and career benefits for faculty. CER differs from traditional scholarship of discovery in important ways and is particularly relevant in environmental engineering to advance community health and well-being. However, a key concern relates to how CER is evaluated and rewarded during review, promotion, and tenure (RPT). This paper explores issues related to CER valuation during faculty RPT in environmental engineering (EnvE). Previous research found that faculty working at institutions that were classified as Community Engaged (CE) by Carnegie had more positive perceptions that CER was understood and rewarded in the RPT process. Currently, about half of the 100 institutions offering ABET-accredited EnvE degrees are designated as CE by Carnegie. These degrees are offered from departments that include disciplines beyond EnvE which may present challenges during RPT. Interviews with women who conduct CER describe differences in how CER was valued during RPT. Some of the women had explicitly conducted a blend of CER and non-CER as a strategy to obtain tenure. A few had changed institutions to find a location that embraced and valued CER. Others were questioning whether academia was the best route to benefit communities. Finally, the paper provides examples of institutional RPT policies and criteria that explicitly recognize CER.

Introduction

Within the field of environmental engineering (EnvE) there are numerous opportunities to conduct research with the potential to benefit community sustainability, public health and welfare, including addressing environmental (and social) justice issues. Community-engaged research (CER) generates new knowledge through authentic collaborations with communities, resulting in real-world benefits to the communities and scholarly outcomes. CER has long been used in public health and health sciences [1], and its use is increasing in environmental engineering. CER encompasses a spectrum of different levels of power sharing with the community and a focus on academic outcomes versus meeting community needs [2],[3]. On-going research continues into how best to achieve both the academic and community goals [4]. Within engineering, community engagement in education and outreach settings are more common than research [5].

There have been many studies that have explored review, promotion, and tenure (RPT) processes in higher education, including critiques that are particularly relevant for faculty whose scholarship does not fit traditional disciplinary templates [6],[7],[8],[9]. These concerns include debates about how applied research may be valued relative to more fundamental or basic research in RPT, especially when societally impactful work does not align neatly with publication-centric metrics. Studies focused specifically on community-engaged research (CER) show that the challenge is not only whether CER is valued, but whether evaluators have the conceptual and procedural tools needed to assess it. For example, Wendling [10] documented that school- and department-level committees often lack clear definitions and shared terminology

for engaged research in their guidelines, may apply a narrow conception of scholarship that misclassifies engaged research as service, and frequently default to traditional, product-focused metrics (“bean counting”) while lacking mechanisms to evaluate the quality of CER processes (e.g., partnership building, co-creation, and community-relevant outcomes). Consistent with this, in Marrero et al.’s [11] multi-institution survey, only 16% of respondents agreed that promotion and tenure committee members have “a broad understanding of the definition, nature, documentation, and assessment” of community-engaged scholarship, while 48% disagreed.

These broader patterns are also evident within environmental engineering and science (EnvES). In a recent EnvES faculty study [12], only 43% of respondents agreed that CER is recognized and rewarded during RPT; 32% neither agreed nor disagreed and 25% disagreed. Disagreement was higher among women (36%) and faculty from underrepresented racial/ethnic groups (URM; 50%). Moreover, majorities of women and URM faculty disagreed that RPT committees understand CER, suggesting that perceived devaluation is intertwined with concerns about evaluators’ ability to define, document, and assess CER rigor using appropriate criteria.

Taken together, prior studies point to persistent concerns about how community-engaged research is understood and rewarded in RPT, but they offer limited insight into how these issues manifest within specific engineering disciplines. In environmental engineering, where CER is increasingly relevant and frequently conducted, there is a need to better surface the institutional, departmental, and experiential contexts that shape faculty perceptions of risk, reward, and career navigation. This paper assembles and synthesizes multiple sources of evidence to illuminate how CER valuation currently operates in EnvE, and why this issue warrants closer attention, particularly for women and faculty from underrepresented racial and ethnic groups. This includes looking at the Carnegie Community Engagement Classification, research expertise among members of the Association of Environmental Engineering & Science Professors (AEESP), results from faculty interviews, and reviewing RPT criteria.

Carnegie Community Engagement Classification

The Carnegie Classification of Institutions of Higher Education hosts an elective classification for community engagement (CE) [13]. Institutions submit a self-study documenting the depth, quality, and sustainability of their engagement. This includes mission and leadership statements, infrastructure supporting engagement (including budget and faculty hiring and promotion policies that support CE), and evidence of impact on students, faculty, and communities. As of January 2026, 277 institutions held the CE classification, including 237 newly classified in 2026 and 40 institutions retaining earlier designations. In total, more than 450 institutions have held the CE designation since its inception in 2006 [13]. In our earlier study of EnvES faculty, respondents at Carnegie CE institutions reported more favorable views of how CER is valued in RPT processes [12]. This is consistent with prior work showing that the CE classification can help foster a more supportive institutional climate for community engagement [14],[15]. However, Wendling [10] documented that even at Carnegie CE institutions, promotion and tenure processes may still devalue CER in practice.

Building on this prior work, we explored the intersection between environmental engineering programs and Carnegie CE institutions. We compiled the list of ABET-accredited EnvE degree

programs in the United States and cross-referenced these institutions with the Carnegie CE classification list. As of September 2025, ABET-accredited EnvE programs were offered at 100 US institutions, among which 57 of the institutions were designated as CE by Carnegie. Most CE designations among these institutions were awarded in 2015 (n=29), allowing more time for institutional policies and culture related to engagement to develop, compared with institutions with more recent designations (2020 n=17; 2024 n=6; 2026 n=5). This overlap indicates that many EnvE faculty are situated at institutions that have formally recognized community engagement as part of their mission, which suggests a potentially more supportive climate for understanding and evaluating CER in RPT. However, studies caution that formal recognition or policy signals do not necessarily translate into consistent RPT outcomes, and CER can remain undervalued even within CE-classified institutions [10].

Further, institutional classification alone does not determine how scholarship is evaluated in RPT, particularly in multidisciplinary departments. Prior research has shown that variability in disciplinary norms within departments can complicate promotion and tenure evaluations, as standards often default to discipline-anchored expectations that make interdisciplinary work more difficult to assess consistently [16]. In this context, nearly all EnvE degrees were housed in departments that encompassed multiple disciplinary areas rather than stand-alone environmental engineering units. To characterize this structure, departmental titles were obtained from institutional websites and examined using a simple keyword scan. Because a single department title could include multiple terms (e.g., Civil and Environmental Engineering), counts are not mutually exclusive. The most common keywords appearing in department titles at the 100 institutions with ABET-accredited EnvE degrees were: *environmental* (n = 90), *civil* (n = 74), *science* (n = 9), *construction* (n = 8), *chemical* (n = 6), *architectural* (n = 5), *technology* (n = 5), *geo-* (n = 4), *earth* (n = 4), *sustain-* (n = 3), and *bio-* (n = 2). This disciplinary breadth highlights the interdisciplinary contexts in which EnvE faculty are typically evaluated, which may further shape how CER is understood and rewarded in RPT processes.

CER as Primary Research Expertise

The Association of Environmental Engineering & Science Professors (AEESP) allows members to self-identify up to 3 areas of expertise from a list of 28 options, one of which is community-engaged research. Filtering the AEESP membership directory by this specialty in September 2025 identified 33 names associated with CER, including 2 (6%) full professors, 1 (3%) associate professor, 13 (39%) assistant professors, and 17 (52%) students / post docs. Given that AEESP has approximately 1,444 members, this represents a small fraction of the overall community and suggests that CER is disproportionately identified by early-career scholars.

Table 1. AEESP member directory: number and percentage at different ranks for CER compared to other identified areas of expertise.

Expertise	Total n	% lifetime members	% full professors	% associate professors	% assistant professors	% students / post docs
CER	33	0	6	3	39	52
Education	90	9	32	16	24	19
Public Health	205	2	18	9	26	46
Sustainability	443	3	18	13	26	41
Drinking Water	539	6	16	9	21	65

These counts should be interpreted cautiously. The directory relies on self-reported expertise and is limited to a maximum of three selections, meaning that some faculty who conduct CER may not list it among their primary areas or may not have updated their profiles since CER was added as an option. Nevertheless, the rank distribution among those who do self-identify CER highlights a potential structural challenge for review, promotion, and tenure (RPT): the relatively small number of senior faculty publicly signaling CER expertise may constrain the pool of experienced external reviewers able to evaluate CER on its own terms. By contrast, other environmental engineering specialty areas include substantially larger and more senior cohorts (Table 1), such as innovations in environmental engineering education (over half at senior ranks), sustainability (34% senior ranks), drinking water (31% senior ranks), and public health (29% senior ranks). Taken together, these patterns suggest that while CER interest is present within EnvE, particularly among emerging scholars, it may be less institutionally embedded at senior levels, with implications for how CER is reviewed and valued during RPT.

Interviews with Scholars

Twenty interviews were conducted as part of the ADVANCE SPACES project to gather counterstories from women and women of color in STEM fields possessing or on the path to a doctoral degree. Nearly all participants were currently in academia or had spent the majority of their careers in academic settings. The interviews were conducted between August 2023 and July 2025. The methods are described in detail elsewhere [17]. The study was reviewed and approved by the University of Colorado Boulder Institutional Review Board (Protocol #23-0344).

This paper draws on the subset of these interviews relevant to environmental engineering. Most participants (n=15) held one or more degrees in environmental engineering or closely related disciplines (including civil engineering, environmental science, environmental health), and this group is the focus of the present analysis. The women ranged from late-stage doctoral training through senior faculty ranks (PhD completion years spanning 1985 to 2025). Tenured, tenure-track, and non-tenure track faculty were represented, including some in academic administrative roles (e.g., department chair, program director), as well as a few who had left academia after earning their PhD or after time as faculty members. Twelve of the 15 participants had conducted CER. Participants self-identified as Asian, Black, Indigenous, Jewish, Latina, and White women. Several participants were born outside the U.S., and two had earned their Bachelor's degrees outside the US. Out of respect for participants' privacy and to ensure anonymity, detailed individual demographic profiles are not reported, as combinations of attributes might enable deductive identification.

Themes related to CER valuation in RPT that emerged from these interviews are presented below, emphasizing senior and non-tenured perspectives. Illustrative quotations are presented, in some cases alongside the interviewer's question prompts (Q). The quotations are shown as cleaned verbatim, with verbal hesitations removed and select segments omitted for brevity where indicated. Names of individuals, institutions, and locations have been deidentified to preserve anonymity. Longer quotations are inset for readability.

CER in RPT: Senior Perspectives

Four of the five tenured senior participants, including several with experience on RPT committees and/or in academic leadership, described CER as inconsistently understood in RPT and potentially risky for advancement. Their concerns centered on disciplinary expectations, external letters, and the continued primacy of traditional metrics (e.g., funding and “top-tier” publications).

A full professor described her path which included CER and what she had seen in various administrative leadership roles in her department and at a campus level:

Q: So have you done any community-engaged research yourself?

Interviewee: All the time. And I went against the recommendation to not do it. But I knew that's what I needed to do, just for my passion,

Q: And then ... were you balancing some traditional research to check the boxes and then doing CER because it was your passion?

Interviewee: Exactly. And when I went up for full professor the community-based hurt me, because they said, Oh, you don't have enough [traditional] disciplinary [research]. So then I had to go back and do a little bit more disciplinary so I could make it to full. [Even though] what I'm recognized the most for, probably, is my community work more so than my traditional work.

Q: So when we talk about the types of penalties that you can be subjected to if you do community-engaged research, do you think it's just a numbers game? ... on a one-to-one basis like this one publication that was traditional and then here's this one publication that was [CER], are people disregarding it even at that level?

Interviewee: I think they are.

Q: Is it because engineering is valuing something more pure or quantitative? Or ... because [CER is merging] into social sciences a little? ... Why is it that it's getting discounted?

Interviewee: Yeah, I think they wanted pure number crunching, pure the scientific aspect. And why are you thinking about the community? Why engage them? Because we're environmental, I think we just naturally do it. But I think for the other disciplines like mechanical engineers they're like, why?

... [Junior faculty] have to look at the landscape that they're part of... have those traditional pathways [while] still be[ing] authentic and true to themselves. But just know one can't outweigh the other until they get their promotion, their tenure... [They may need] that disciplinary pure research that would be respected in their environment. ... just know how to... play the game... know the environment.

Q: So if ... your department... where they are supportive. Your institution seems generically supportive. But now you're going to have to go out for external review letters... Is that still gonna be a risk in the external peer review letter [phase]?

Interviewee: I think it depends on the letters that they're seeking and your reputation. And hence why you have to get off your campus so that you meet the right people that can really be those spokespeople and advocates outside. And if that's community-based people that are going to be high powered then you're okay if your university or your department values it, or your college values it. If they don't, then you need to understand that early and make a decision.

Q: [Are folks working to] specifically find letter writers who can speak to [CER] in addition to others that might speak to their more traditional work?

Interviewee: I think it depends on your chairs. Chairs have a lot of power. And probably if they value you, they'll go that extra step. If they don't value you, then they're just gonna be generic. And then it's a gamble. Because I could think of some civil engineering former chairs that would have been rigid.

This account illustrates how perceived risk is shaped not only by 'what counts' but by who controls key steps in the process, especially external letter selection and how the case is framed. External letters can be particularly impactful in communicating the value of the candidate's CER.

Another senior faculty member echoed these concerns, emphasizing that CER and environmental justice work are still often treated as "not for engineers," and that RPT remains subjective even when criteria appear to broaden.

Q: Given the roles that you've held beyond just your personal experiences, do you think community-engaged research or environmental justice work is respected in a similar way as more traditional environmental engineering research through the promotion and tenure process?

I: I do not think it is. I do believe things have improved. But I don't think they've improved to the point where I would advise an early career faculty member whose portfolio is primarily community-engaged research. I would be nervous for that faculty member... I would probably advise them ... to make sure they had enough traditional research ... because I just don't know if we're there yet. So I do think [CER is] a risk.

... we need to get to a point where no one [on an RPT committee] will be able to say out loud 'I don't think community engaged research is important' or 'they shouldn't be doing this kind of research.' I don't think we're there yet.

[CER] increases the risk. So I would say, diversify your research portfolio. Do some of it, but I wouldn't say do all of your research or the majority of your research be the community-engaged piece, right?

She described CER as time-intensive due to partnership building, advised "diversifying" the portfolio rather than postponing CER entirely, and noted additional uncertainty from shifting funding priorities.

A former full professor at an R1 institution who had conducted limited CER herself characterized CER as less "prestigious" within perceived research hierarchies and suggested that

CER-forward faculty could be “dead on arrival” for being hired in some engineering departments without a supportive critical mass. She contrasted the perceived “gold standard” status of NSF funding with lower prestige attributed to some other funding sources (e.g., US EPA), reinforcing how status hierarchies may shape RPT interpretations of impact and rigor. She noted that “it’s gotten so much more cutthroat for money, money, money, money over quality.... in the hierarchy of things, you have to have the right [type of research].” She acknowledged growing consensus on the importance of environmental justice work, but questioned whether CER would be funded and valued in RPT at the same level as other types of research.

A tenured associate professor explained, “I was only newly introduced to [CER].... I don’t know if this would count.... I haven’t done [CER]... once I apply for [promotion to] full [professor] I can do whatever I want.” She contrasted her caution with a male colleague whose CER was enabled by a strong conventional research portfolio (e.g., “he wins a ton of other grants”). This example of a mixed research portfolio aligns with the advice of the three other senior women.

One of the five tenured women interviewed was more positive about CER. Her institutional context was relatively supportive. CER had long been practiced in fields such as African Studies and public health and later became more formalized through pursuit of the Carnegie CE classification. She described securing both EPA and NSF grants that supported CER-related work and integrating community engagement into teaching and graduate mentoring, and she earned tenure at the institution. However, she also described later leadership messaging that re-centered “publish, publish, publish” and framed community engagement as misaligned with aspirations such as Association of American Universities (AAU) membership (e.g., “community engagement isn’t going to get us into AAU”), reflecting shifting institutional priorities over time.

Institutional priorities may support CER at one point in time yet shift as universities pursue new status markers. The account also reflects the “striving” university phenomenon [18],[19]—e.g., striving for Carnegie CE classification, then R1 status, and later AAU membership—which may reorder what is emphasized in faculty evaluation. Even within this relatively supportive context, the participant described ongoing tension between engagement commitments and traditional reward signals.

Overall, the senior women expressed caution that a faculty member whose research portfolio is predominantly CER would earn tenure in environmental engineering and related disciplines. Perceived risk depended heavily on local departmental/college support, the availability of informed external reviewers, and how the case was framed by chairs and committees. There was concern about (1) sustaining grant funding (since funding remains a dominant metric), (2) publishing in venues recognized as top-tier within the discipline, and (3) vulnerability to cyclical shifts in funding priorities. These concerns may be amplified in multidisciplinary departments, where evaluators may apply different disciplinary norms and where review occurs at multiple levels beyond the department (e.g., college-wide committees that include other STEM disciplines).

CER in RPT: Non-tenured Scholars

In contrast to senior faculty reflections shaped by hindsight and positional security, non-tenured

scholars described CER as a source of heightened uncertainty and vulnerability early in their careers. Among the 10 non-tenured scholars, several discussed their perceptions of CER in RPT. One woman described her passionate motivation for CER and had conducted significant CER (with funding and publications), but believed that conducting CER contributed to her not earning tenure at an institution,

I don't just want to have a safe job. I don't just want to look good or get possessions. The things that were sold to me as an engineer. ... I said there's got to be more to this. ... [CER] is about protecting people.... I see myself as I'm not only a scientist, so when I work in the communities I'm one of them. I'm one of those people in that community. And I want this to be done right. [CER] is very satisfying to me. **It cost me my job.**

Another faculty member had changed institutions after 3 years, moving to a university that was more aligned with her values and interests:

During my interview, even people on the faculty, were like.... "why are you even interviewing here, you don't fit in this department." And you know, at the time I'd interviewed at multiple places and got multiple offers. But I made the best decision with the information I had presented to me at the time, and DEID University is obviously very prestigious.

I was in a department ... mostly dominated by [faculty] who do a lot of bench sciences and they consider that to be real research. But because I did CBPR, community based participatory research, and I did mixed methods -- all of them are heavily quantitative -- they told me that I don't do real research. Which I think is funny, because I feel like I do real research, and you play around [in the lab] all day.

I started thinking about what my core values are as a researcher. I don't care about being the most cited by my colleagues because I'm an applied researcher. I want practitioners to read my work and use my work. I care about making an impact with the community....

At DEID University it was all this B.S. bureaucracy and virtue signaling and stopping me from doing my work. And being told multiple times by my colleagues [that] I don't do real research. And so eventually I interviewed at other places."

Others also described their CER as setting them apart from other colleagues in their department, many being the only one conducting CER. They often collaborated with faculty outside their department. These women were successfully securing research funding and publishing their findings. Most were early in their academic careers and had limited understanding of how CER would ultimately be evaluated during RPT.

CER – Benefits to Scholars

Given the challenges with CER and uncertain evaluation during RPT, participants articulated multiple reasons for pursuing CER despite these risks. These motivations fell into four groups: (1) purpose and values alignment (such as making real progress addressing environmental issues), (2) intellectual stimulation and interdisciplinary collaboration, (3) relational belonging and support, and (4) integration with teaching and service.

The most prominent motivation was purpose and values alignment: participants were motivated to conduct CER by having real-world impacts, and many worked with communities they

personally identified with geographically, racially, or through shared lived experience. Several participants had pursued doctoral training explicitly to benefit communities, and this orientation shaped their skill development in ways that were atypical within environmental engineering, including postdoctoral training in other disciplines, minors, and coursework in public health, anthropology, ethnography, and community engagement.

Beyond purpose, many described the intellectual challenge of integrating disciplines (e.g., engineering, natural sciences, and social sciences) as a core motivator, characterizing CER as more engaging than narrowly disciplinary work (e.g., “I get easily bored.”). The women valued their interdisciplinary CER collaborations inside academia:

[For my CER,] I think I even work more with people outside of my department in other disciplines. Environmental and global health, ... environmental sociologists, ... and microbiology. It's like they understand the work. And it's not always necessarily [understood], I think, in [my] department. I'm probably the only one that is actively doing community engagement the way that I do.

Several women contrasted these interdisciplinary collaborations with limited understanding or support within their home departments, reinforcing why CER communities outside the department were especially valued.

Several researchers emphasized the personal connections fostered through CER, contrasting these relationships with what they experienced as the impersonal culture of STEM academia (e.g., “it's nice to go out and interact with regular people”). Some gained a sense of belonging and support through their community work. The most vivid example illustrates how CER relationships sometimes provided emotional and professional support absent within academic environments:

I have a strong, strong relationship with all those people [in the community from my CER]. To the point that in the pandemic they were calling me to see how I was doing. My advisors did not. My main advisor waited one year to call me. But those community members called me every day, every week. I'm a pandemic graduate and I didn't get a graduation. They actually made a graduation for me in [the community]. So my community members are actually my colleagues. I consider them more my colleagues than actually the people that are sitting in academia.... And that's an example of true community-engaged research.

This account reframes “colleagueship” to include community partners, highlighting how CER can supply forms of recognition, care, and belonging not consistently available within academic structures.

A smaller number described strong synergies between CER, teaching, and service, allowing them to integrate community partnerships into graduate education, service-learning, and outreach activities. One described sustained partnerships that supported a graduate-level service-learning course and K–12 STEM outreach, funded through broader-impacts components of research grants and dedicated programs (e.g., US EPA P3).

For some participants, however, the perceived costs of remaining in academia ultimately outweighed the benefits of conducting CER within academic settings. Some were already working outside academia where they believed they would have more impact and others were considering making this change. One of the post-docs actively making this assessment said:

I'm actually realizing . . . this might not be the place for me. And I might need to leave, because I'm not going to affect change here whatsoever.

We will never solve environmental justice issues through academia, never.

... [If I had understood this sooner] I would have gone to the Government right away. I would be able to do way more in the government than sitting in academia.

This perspective reflects a broader questioning of whether academic reward structures are compatible with the timelines and commitments required for meaningful environmental justice work. One early-career scholar committed to CER who had opted out of academia attributed her decision not to CER but primarily to the academic culture she encountered which included competition, hazing, lack of community, and poor work–life balance.

For many participants, the intellectual, relational, and value-aligned benefits of CER outweighed its potential and uncertain professional risks within academia, even as they remained acutely aware of those risks. In the next section, we examine the extent to which formal RPT criteria explicitly recognize CER, and how those written policies may (or may not) align with the experiences described above.

RPT Criteria

Ten examples of RPT criteria that were publicly available online were compared. Institutions were identified through web searches conducted in September 2025 using keywords related to community engagement. Five of the RPT documents were specific to engineering units (California State University Long Beach 2024, UCLA 2025, Penn State 2024, University of Michigan 2025, Virginia Tech 2025). At some institutions, RPT criteria are defined at the college level rather than the department level. An additional five documents consisted of institution-wide guidance specific to community-engaged scholarship (Purdue University, University of Illinois Urbana-Champaign, University of Iowa, University of Pittsburgh, Washington State University). All are public institutions and nine are R1 (one R2). Eight different states are represented. Criteria for tenure (typically aligned with promotion to associate professor) and promotion to full professor levels were analyzed separately, since the expectations for promotion to full professor are often articulated more holistically. The documents were examined for the explicit inclusion of community engagement within RPT evaluation criteria related to research, teaching, and service. [Portions of the document-analysis were assisted by Microsoft M365 Copilot (accessed January 2026), to extract text from institutional policy PDFs. Coding decisions, interpretations, and final syntheses were conducted by the author.]

Results are summarized in Table 2. No systematic differences were observed between tenure and promotion-to-full criteria in terms of whether community engagement was explicitly recognized. Across these examples, campus-level RPT criteria were more consistently explicit in recognizing community-engaged scholarship than engineering-specific criteria, which were more difficult to locate and more variable in their treatment of CER. For research evaluation specifically, only 2 of the 5 engineering-specific RPT documents explicitly discussed CER, whereas all 5 campus-level documents included community engagement as a potential component of research evaluation. It is notable that multiple institutions explicitly recognize community-engaged scholarship as contributing to research, not solely to teaching or service.

Table 2. Explicit recognition of community engagement within RPT criteria for research, teaching, and service (Y = yes, u = unclear)

School [Reference]	Tenure			Promotion to Full Professor		
	Research	Teaching	Service	Research	Teaching	Service
Eng @ CS – LB [20]	Y	u	Y	Y	u	Y
Eng @ Virginia Tech [21]	u	u	Y	u	u	Y
Eng @ U Michigan [22]	u	u	Y	u	u	Y
Eng @ Penn State [23]	u	u	Y	u	u	Y
Eng @ UCLA [24]	Y	Y	Y	Y	Y	Y
Purdue Univ [25]	Y	Y	Y	Y	Y	Y
Univ of Illinois U-C [26]	Y	Y	Y	Y	Y	Y
Univ of Iowa [27]	Y	Y	u	Y	Y	u
Univ of Pittsburgh [28]	Y	Y	Y	Y	Y	Y
Washington State U [29]	Y	u	Y	Y	u	Y

Representative excerpts from seven institutions are summarized in Table 3 to illustrate how community engagement is framed within RPT research evaluation criteria. As one example, in 2023 the University of Illinois Urbana-Champaign introduced a Public Engagement Research Option for Promotion and Tenure. Notably, none of the faculty examples highlighted on the associated website were from engineering, with the closest disciplines including data science, microbiology, and agriculture.

Table 3. Excerpts from RPT documents related to community-engaged scholarship

School	Community-engagement in RPT research evaluation criteria, some including quotes
Eng @ CalState – Long Beach [20]	“Research, Scholarly, and Creative Activities (RSCA) can include the Scholarship of Application or Engagement. The Scholarship of Engagement includes: a reciprocal relationship with communities that yields innovations with disciplinary expertise, can be replicated, documented, is professionally and/ or peer-reviewed, and has evidence of impact. Evidence of this form of RSCA could include, but is not limited to technical/industrial reports, program evaluations, grant proposals, mentorship of students in RSCA activities, and/or others.”
Eng @ UCLA [24]	Campuswide guidance on community-engaged scholarship was provided, which was translated into recommendations for Engineering. Community-engaged scholarship was defined broadly by campus-level guidance, which was contrasted with more specific CER principles and elements identified by the NSF and UCLA Department of Social Science. Candidates were encouraged to include a statement on how their engaged research includes core elements (e.g., goals co-developed with community partners; engagement processes; products disseminated in both traditional disciplinary outlets and non-traditional venues; impact on the community) and include a list of recommended external peer reviewers that can speak to their CE research.
Purdue Univ [25]	“Faculty are eligible for promotion and/or tenure based on the Scholarship of Engagement. Faculty seeking promotion for engagement activities should provide a record of scholarly engagement-related publications and evidence of national/ international visibility. The quantity, strength and impact on stakeholders can take a variety of forms.... Publications that translate research for practitioners, entrepreneurs, business/industry leaders and/or policy makers are valued.”

School	Community-engagement in RPT research evaluation criteria, some including quotes
Univ of Illinois Urbana-Champaign [26]	“Public engagement <i>may</i> be a major facet of one or all three domains (i.e., research, teaching, and service). Public engagement involves faculty members drawing on their expertise to address or respond to societal problems, concerns, issues, or interests to contribute to the public good. Public engagement occurs in collaboration with public or private communities or organizations at the local, state, national, or international level for the mutually beneficial exchange of knowledge and resources in a context of partnership and reciprocity.” Specific examples were provided of publicly engaged research.
Univ of Iowa [27]	Establishes an explicit pathway for faculty to seek promotion and tenure based on a substantial record of community-engaged scholarship. The guidelines define CER excellence across process, product, and impact, emphasizing relationship-building, shared decision-making with community partners, and societal benefit alongside disciplinary contributions. Faculty electing this pathway develop a memorandum of understanding with the department specifying how CER will be assessed. Dossiers include a community-engaged scholarship statement, non-traditional scholarly products, evidence of community and policy impact, and guidance for external reviewers on evaluating engaged scholarship using appropriate qualitative and quantitative criteria.
Univ of Pittsburgh [28]	Recommendations for recognizing community-engaged scholarship (CES) within promotion and tenure as a rigorous form of research. CES assessment is framed holistically across (1) relationship development and maintenance, (2) scholarly and public-facing products appropriate to both academic and community audiences, and (3) impact within and beyond the academy, including policy, practice, and capacity-building outcomes. The guidance emphasizes reciprocity, collaborative authorship, alternative metrics of impact, and the use of knowledgeable external reviewers, while calling for departmental flexibility in evaluating productivity, rigor, and timing for CES portfolios.
Washington State U [29]	“Community-engaged research, scholarship, and creative activity are explicitly recognized ... as a criterion for faculty review.” The document acknowledged that “while community-engaged research, scholarship, and creative activity are embraced and valued by the institution, in principle, it is incumbent on all faculty to carefully review their unit and college guidelines, and discuss plans with their unit leaders to ensure that expectations are clearly articulated and mutually understood.” The CER phases of preparation, research design and methodology, outcomes / benefits to community, and dissemination of CER were discussed.

Most guidance documents acknowledged that community-engaged scholarship can take multiple forms and provided flexibility in how such work may be evaluated. While this flexibility enables inclusion of diverse CER approaches, it also increases subjectivity in evaluation and may heighten uncertainty for faculty whose portfolios rely heavily on CER. The Washington State University guidelines explicitly cautioned that not all units may equally value CER, underscoring the importance of local departmental norms. More generally, many of the guidance documents reviewed were relatively recent, and it is unclear to what extent community engagement criteria represent new additions versus long-standing expectations. If CER language has only recently been incorporated into RPT criteria, this may pose additional challenges, as faculty serving as reviewers may be less familiar with these criteria and default to historical norms when evaluating cases. Taken together, these findings suggest that while formal RPT policies increasingly acknowledge community-engaged scholarship, uneven visibility across engineering-specific

criteria and uncertainty in interpretation may continue to shape perceived and actual risks for EnvE faculty pursuing CER.

Conclusions

The goal of this paper was to raise awareness of how CER is currently situated within EnvE, particularly with respect to faculty review, promotion, and tenure (RPT). Drawing on faculty interviews, professional society data, institutional classification information, and examples of RPT criteria, the findings highlight both growing interest in CER (especially among early-career scholars) and persistent uncertainty about how such work is evaluated. Although many institutions publicly signal support for community engagement, this does not always translate consistently to disciplinary or departmental evaluation contexts, particularly for environmental engineering faculty working within multidisciplinary departments.

The evidence assembled here underscores that evaluation of CER is highly contingent on local context. Departmental norms, institutional priorities, Carnegie Community Engagement classification, and the extent to which CER expectations are shared across disciplines all shape the perceived and actual risks associated with pursuing CER. Faculty who are passionate about CER may therefore benefit from early and ongoing efforts to understand both formal criteria and unwritten practices, including cultivating mentoring networks and identifying external reviewers who can credibly evaluate engaged scholarship. While some may strategically blend CER with more traditional research approaches, others may seek to clarify or strengthen local RPT policies to explicitly recognize CER as a rigorous and valued form of scholarship. Overall, environmental engineering and higher education more broadly appear to be increasingly acknowledging the value of CER, though continued attention is needed to ensure that institutional signals of support are matched by consistent and equitable evaluation in practice.

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