

Gasworks in Istanbul: the Challenge of Context-Sensitive Adaptive Reuse

Deniz Çevik^a, Özgün Özçakır^b

^aTsinghua University, Beijing, China, cevikkdeniz@gmail.com; ^bMiddle East Technical University, Ankara, Türkiye, oozcakir@metu.edu.tr

In memory of Deniz Çevik

Abstract

Istanbul's former gasworks, emblematic of the city's industrial heritage, have become the focus of large-scale adaptive reuse projects aimed at restoring their public and cultural value. This paper presents a comparative reading of three cases—Hasanpaşa, Yedikule, and Dolmabahçe—each representing a different stage in the reuse spectrum: fully transformed and in use, recently opened partially, in the concept project phase. The paper focuses on the conditions shaping these transformation processes, offering insight into how public involvement, governance, and spatial settings interact in the contemporary public space making through adaptive reuse of industrial heritage sites. The research focuses on three interrelated aspects: the forms of public involvement initiated during transformation; the municipal frameworks and policies guiding reuse; and the urban spatial context of each site, including location, surrounding fabric, and scale. These inputs are examined in relation to the architectural programming and operation strategies proposed or realized in each case, reflecting how space is assigned functions and opened to public use. Through comparison, the paper argues that similarities in cultural programming across projects obscure significant differences in process and context, and that the degree of alignment between governance arrangements, actor relations, and site-specific conditions plays a decisive role in shaping socially resonant and context-sensitive reuse outcomes.

Keywords: Adaptive Reuse of Gasworks, Industrial Heritage, Istanbul Gasworks

Introduction

Industrial gasworks are among the most visible remnants of Istanbul's rapid modernization in the late nineteenth and early twentieth centuries. Once central to urban life as producers of energy and light, they later became redundant with the introduction of natural gas, leaving behind large complexes of structures, machinery, and open land. Today, these sites represent both a heritage challenge and an opportunity: their scale and industrial character make them difficult to preserve but uniquely suited to adaptive reuse as public cultural infrastructures. Globally, gasworks conversions have become important laboratories for rethinking industrial heritage, and Istanbul's three surviving gasworks sites offer a lens through which to examine the dynamics of urban transformation in the post-industrial city. This paper explores the adaptive reuse trajectories of Hasanpaşa, Yedikule, and Dolmabahçe gasworks—three sites that, despite similar industrial origins, are following distinct paths

toward reintegration into the city. Rather than focusing on architectural outcomes alone, the paper interrogates the conditions shaping their transformation processes. It asks how configurations of public involvement, governance, and urban spatial context shape the degree to which adaptive reuse projects remain site-specific rather than generic.

The guiding hypothesis is that the strength and continuity of collaboration between civic actors, municipal governance, expert designers, and implementers is a decisive factor in adaptive reuse outcomes. Where such collaboration is strong and coordinated—as in Hasanpaşa—the resulting projects tend to be more site-specific, socially resonant, and embedded in everyday urban life. Where it is weak or fragmented—as in Yedikule, where expertise and authorship have been discontinuous—projects risk becoming generic or overly standardized.

Approaching the cases as projects situated at different moments of transformation allows a process-oriented reading that foregrounds trajectories, institutional continuity, and decision-making over time rather than final architectural outcomes. By examining how policy frameworks, participation dynamics, and urban context intersect to shape spatial programming strategies, the paper contributes to a broader process-oriented discussion on how post-industrial sites can be transformed into inclusive, context-sensitive public spaces responsive to local needs and identities.

Conceptual Framework and Methodological Approach

This paper adopts a comparative framework to examine how three key inputs—public involvement, governance, and urban spatial context—shape the adaptive reuse trajectories of Istanbul’s gasworks, seeks to interrogate how decisions, collaborations, and institutional attitudes influence the way these former industrial complexes are reimagined.



Fig. 1. Comparative framework

The first input, public involvement, refers to the forms and intensities of community participation that have shaped each project. This includes bottom-up activism and grassroots organizing, such as the sustained advocacy of the Gasworks Volunteers¹ in Hasanpaşa, as well as intentional cultural interventions, such as the 1990s Serotonin exhibitions at Yedikule, which deliberately activated the site to spark public imagination about its future. These are considered not only as moments of contestation between public demands and governmental decisions regarding function, use, and management, but also as formative contributions that reveal bottom-up expectations and aspirations for these sites.

The second input, governance, focuses on the municipal frameworks, institutional actors, and decision-making processes that guide reuse projects. In the Istanbul context, this primarily involves the Istanbul Metropolitan Municipality (İBB), more recently its heritage unit İBB Miras, and occasionally other public authorities or professional bodies. Governance is approached not merely as a formal authority structure, but as a process that frames who participates, which experts are involved, and how project priorities are set—factors that can either foster or limit site-specific and historically sensitive solutions.

The third input, urban spatial context, refers to the physical and morphological characteristics of each site: its location within the city; its connectivity; surrounding land uses; and spatial scale. Following urban morphology scholarship, we classify the three sites as belonging to distinct settings: a dense inner-city residential district (Hasanpaşa), an edge-of-center heritage corridor adjacent to the Land Walls (Yedikule), and a central valley in Beşiktaş defined by adjacent universities, cultural venues, and public recreation areas (Dolmabahçe). This classification allows us to consider how the intensity and character of each urban setting shape both the pressures on, and possibilities for, adaptive reuse.

The conceptual contribution of this comparative framework lies in shifting attention from reuse outcomes to reuse trajectories. Rather than treating adaptive reuse as a design problem resolved at the moment of intervention, the framework foregrounds adaptive reuse as a prolonged and uneven process shaped by governance arrangements, actor relations, and spatial context over time. This enables comparison not only across sites, but across different moments of implementation, revealing how similar cultural programming strategies can generate divergent levels of social adoption and contextual specificity.

Case Studies: Three Gasworks in Istanbul

The production of coal gas in Istanbul began in the mid-nineteenth century as part of the empire's modernization efforts. The first facility, Dolmabahçe Gasworks, was established in 1853 to illuminate the palace complex, later supplying nearby districts and marking the city's entry into the era of gas lighting. (Tekin 2006, 8–11).

On the Anatolian side, Kuzguncuk Gasworks was built in 1865, followed by the larger Hasanpaşa Gasworks in 1892 to supply Kadıköy and the wider Anatolian districts. Meanwhile, growing demand on the Historic Peninsula led to the construction of Yedikule Gasworks in 1880, strategically located near the Land Walls and the Marmara shore for coal delivery. Unlike earlier facilities tied to imperial use, Yedikule was conceived primarily as civic infrastructure. All gasworks were transferred to the Istanbul Electric Tram and Tunnel Company (İETT) in 1945 and remained in operation until the spread of natural gas. Dolmabahçe closed in 1960, followed by Yedikule and Hasanpaşa in 1993, after which the complexes were largely abandoned until conservation and reuse initiatives began in the 2000s (Arabulan and Demirel 2023, 76–85).

Located in Kadıköy on the Anatolian side of Istanbul, Hasanpaşa Gasworks occupies one of the few large open tracts in a dense residential district filled with schools, shops, and daily urban activity. After its closure in 1993, the complex—long a neighborhood landmark—became an abandoned yet prominent void, pressing visibly on local life.

From the outset, its future was shaped by strong civic activism. The Gasworks Volunteers (Gazhane Çevre Gönüllüleri) began organizing neighborhood meetings, concerts, and festivals on site, collecting more than 8,000 signatures to demand the area's transformation into a public cultural space (İleri 2021). Their efforts blocked proposals for commercial redevelopment, reframing the site as a civic and cultural asset rather than an obsolete industrial facility.

The subsequent restoration and reuse process extended over two decades, combining the persistence of civic actors with expert and institutional involvement. Early project work was prepared by academic specialists [ref]; restoration began in 2014 under municipal coordination and specialized contractors. An extended series of meetings among designers,



Fig. 3-4. Hasanpaşa, Müze Gazhane urban context (GoogleMaps, Author, 2025)

experts, municipal representatives, and community members shaped a program balancing conservation and public use (Turkay 2021).

The resulting scheme integrated museums, libraries, workshops, and open-air venues while preserving distinctive industrial elements such as the gasometers and furnaces.

Following the 2019 municipal change, a more standardized approach became visible, most notably through the insertion of a Climate Museum in a building planned to have an exhibition showing the design process of the reuse; conceived in a top-down manner (Aslan 2023, 67-68). Opened in 2021 as 'Müze Gazhane', the 30,000 m² complex today operates as a major cultural hub, widely recognized for its successful reuse and its integration into neighborhood life.

At over 50,000 sqm, Yedikule Gasworks occupies the southwestern edge of Istanbul's Historic Peninsula, where the Land Walls meet the Marmara shore. The complex sits between Kennedy Avenue, the Halkalı railway line, and the dense historic neighborhoods of Surici, forming a zone where monumental heritage and heavy infrastructure converge. This liminal position gives the site a distinctive character, defined by monumental heritage and infrastructural barriers that limit everyday integration with surrounding neighborhoods. Historically, Yedikule was part of a larger industrial landscape, much of which has since been demolished or redeveloped.

Public involvement here were early and influential interventions. In 1992, when the gasworks was still operating yet visibly in decline, the contemporary art exhibition *Seretonin II* transformed its interiors and courtyards into an experimental cultural venue. Workers and visitors engaged in interactive performances that questioned traditional exhibition formats and projected alternative futures for the site. This followed *Seretonin I*, held earlier at Feshane—another industrial site later reused as a museum—demonstrating how such

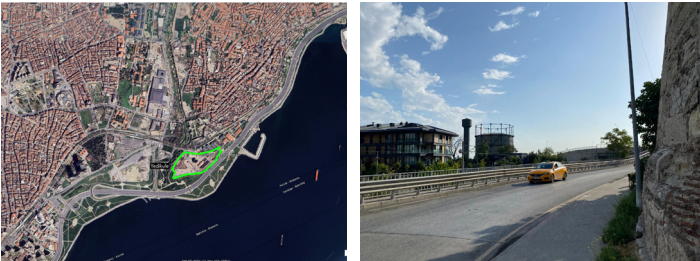


Fig. 5-6. Yedikule Gasworks urban context (GoogleMaps, Author, 2025)

artist-led actions anticipated cultural reuse before the plant's closure in 1993 (Kaplan, 2022). The current transformation process has been directed primarily through municipal governance. In 2021, a master plan-level invited competition was held among prominent architectural offices, but the implementation process shifted afterward, with different actors continuing at later stages. Compared to Hasanpaşa, the process has been less publicly visible, and remains underrepresented in the literature, partly due to its ongoing status. It has been structured as a three-phase project: the first phase, including the hangar and trafo buildings, opened in 2023 as exhibition and office spaces. The second phase, currently under construction and scheduled to open in 2026, includes two elongated buildings for museum-related functions and a gasometer adapted as a panoramic viewing and immersive exhibition space.

Originally built in the mid-19th century to illuminate Dolmabahçe Palace, Dolmabahçe gasworks was dismantled in the 1950s and relocated to Kağıthane for stadium expansion (Tekin 2006, 63). One of the original gasometer structures moved to the edge of Maçka Park, where it still stands today. The surviving structure now occupies a dense urban setting framed by Beşiktaş, Şişli, and Beyoğlu, near cultural and recreational venues. Within this vibrant urban environment, the gasometer structure functions more as an urban landmark than of a larger industrial facility remnant.

The adaptive reuse project was initiated directly by the Istanbul Metropolitan Municipality (İBB) through its heritage unit, İBB Miras, and developed by a professional architectural office. Launched in 2022, conceptual design for the site has been awarded. The proposed program positions the site as a cultural and recreational extension of Maçka Park.; converting the gasometer into a mixed-use facility including a digital art museum, study and library areas, and multipurpose halls oriented toward a predominantly student user



Fig. 7-8. Dolmabahçe gasometer urban context (GoogleMaps, 2025)

profile. The adjacent pump building will support outdoor spaces as a stage. The design emphasizes connections with the park, with new entrances and terraces framing views of the Bosphorus and the valley. (CAA Studio 2022)

As of 2024, Dolmabahçe remains at the project stage, making this case less an evaluation than a projection of anticipated outcomes. Still, the actors and approaches involved—municipal leadership, professional design expertise, limited public input—closely echo the dynamics seen at Yedikule, even if the scale and urban setting are entirely different.

Comparative Analysis: Convergences, Divergences and Implications

Across all three gasworks, the adaptive reuse processes reveal a shared ambition: to reclaim

obsolete industrial land as civic and cultural assets. The municipality—especially through İBB Miras—positions industrial heritage within a broader policy of public space creation, and cultural programming consistently appears as the default reuse strategy. Yet when examined through the lenses of context, participation, and governance, these trajectories diverge sharply, demonstrating how different configurations of actors shape the degree of authenticity and social resonance of reuse outcomes.

The urban contexts of the three sites form the first layer of difference. Hasanpaşa, embedded in a dense residential district, directly touched everyday life, creating both urgency and ownership among residents. Yedikule, by contrast, sits between monumental and infrastructural boundaries—land walls, railway, and coastal road—where heritage significance coexists with physical detachment. Dolmabahçe's condition is smaller in scale and more central, defined by its integration into the Maçka Park recreation corridor. These varied urban settings conditioned both the intensity of public engagement and the modes through which governance operated.

Public involvement varied in both form and continuity. Hasanpaşa's transformation was propelled by persistent civic activism: the Gasworks Volunteers organized campaigns, gathered signatures, and held cultural events that reframed the site as a public right rather than an industrial remnant. Yedikule saw only episodic engagement, most notably the 1992 Serotonin II exhibition—a contemporary artistic activation that anticipated later cultural reuse, even if it did not evolve into sustained advocacy. Dolmabahçe, meanwhile, followed a purely institutional trajectory with no bottom-up initiatives, reflecting its smaller scope.

The governance dimension determined how these impulses translated into built outcomes. Hasanpaşa's process—though long and complex—was marked by strong coordination between experts, contractors, volunteers, and municipal actors, producing a layered and narrative-sensitive complex where preserved industrial artefacts coexist with public facilities. Yedikule's path, however, was more fragmented: after a master scale design competition, changes of authorship and staged implementation weakened coherence. Interventions such as the panoramic tower inserted into the gasometer illustrate how globally circulating reuse templates, when detached from local narratives and participation structures, risk undermining industrial specificity. Dolmabahçe, conversely, illustrates the efficiency of a streamlined, policy-led model: a compact project aligning well with its park-side, student-oriented context, yet embedding only limited traces of its industrial past.

While all three cases reflect a municipal push toward cultural programming, only in Hasanpaşa did sustained collaboration between civic actors, experts, and governance translate into outcomes deeply anchored in site memory. Yedikule illustrates how standardized approaches, applied without durable collaborative structures, risk producing disconnected results on a site with considerable scale and layered potential, while Dolmabahçe shows that similar municipal strategies may operate more effectively in smaller-scale contexts with fewer structures, supporting public use even as industrial memory remains more abstract.

Conclusions

This paper contributes to adaptive reuse debates by demonstrating that context sensitivity is not secured by architectural intervention alone, but emerges from the durability and alignment of governance and participation structures across the reuse process. Rather than a singular moment of design, adaptive reuse is shown to be a prolonged and uneven

trajectory shaped by shifting actor relations, institutional continuity, and spatial context over time.

From a process-oriented perspective, the findings suggest that governance frameworks play a dual role: they enable projects to reach their intended programmatic objectives, yet may also constrain site-specific responses when standardized approaches prevail. The capacity to sustain collaboration among civic actors, experts, and institutions is therefore critical in preventing adaptive reuse from becoming generic or disconnected from local conditions. Balancing top-down coordination with bottom-up engagement emerges as a central condition for meaningful transformation. While institutional structures provide continuity and implementation capacity, participatory processes anchor reuse within lived spatial and social contexts. Where these dimensions remain in productive alignment, adaptive reuse operates not merely as a tool of redevelopment, but as a civic process through which memory, space, and collective use are continuously renegotiated.

Notes

1 The “Gasworks Volunteers” (Gazhane Gönüllüleri) are a long-standing civic initiative founded in the mid-1990s to advocate for the preservation and cultural reuse of the Hasanpaşa Gasworks. Mainly consisting of residents of the neighborhood, their activities included public campaigns, petitions, neighborhood events, and on-site festivals as well as meeting organizing meetings with Project developers that kept attention on the site for nearly two decades.

Bibliography

- Aslan, Deniz. “Kadıköy Hasanpaşa Gazhanesi.” *Mimarist Magazine* 67-68, 76, 2023.
- Arabulan, Selin, and Bünyamin Demirel. “Gazhanelerde Dönüşümün Dublin İlkeleri Kapsamında Değerlendirilmesi ve Yedikule Gazhanesi İşlev Önerisi.” *Meriç Uluslararası Sosyal ve Stratejik Araştırmalar Dergisi* 7(18), 70–93, 2023.
- Arda Büyüktaşkın, Almıla Halet, and Elif Türköl. “Gasometer Structures from Past to Present and Possible Re-Functioning Proposals for Dolmabahçe Gasometer.” *Türkiye Bilimler Akademisi Kültür Envanteri Dergisi (TÜBA-KED)* 19, 56–74, 2019.
- Bulubay, Can. “The Effects of Railway Culture on the Districts: The Case of Yedikule”. *Kültür Araştırmaları Dergisi* 23, 210-240, 2024.
- CAA Studio, 2022. “Dolmabahçe Gasworks Adaptive Reuse Proposal.” Accessed September 9, 2025. <https://www.caa.studio/projects/dolmabahce-gasworks>.
- İleri, Esin. 2021. “Gazhane: Mahalleyi Kırleten Fabrikadan İklim Müzesi’ne.” Accessed September 9, 2025. <https://yesilgazete.org/gazhane-mahalleyi-kirleten-fabrikadan-iklim-muzesine/>.
- Kaplan, Tuğçe. 2022. “Seretonin Sahnelerine Şehirsal Bir Bakış: Yedikule Gazhanesi.” Accessed September 9, 2025. <https://saltonline.org/tr/2505/seretonin-sahnelerine-sehirsal-bir-bakis-yedikule-gazhanesi>.
- Proctor, Eliza. 2022. ““Çay ve Kömür» Üzerine.” Accessed September 9, 2025. <https://saltonline.org/tr/2513>.
- Tekin, Huriye Sevcin. *Dolmabahçe Gazhanesi’nin Kuruluşu ve İşletilmesi*. Master’s Thesis, Marmara University, 2006.
- Turkay, Bahar. 2021. “130 Yıllık Miras: Müze Gazhane.” Accessed September 9, 2025. <https://artdogistanbul.com/130-illik-miras/>.