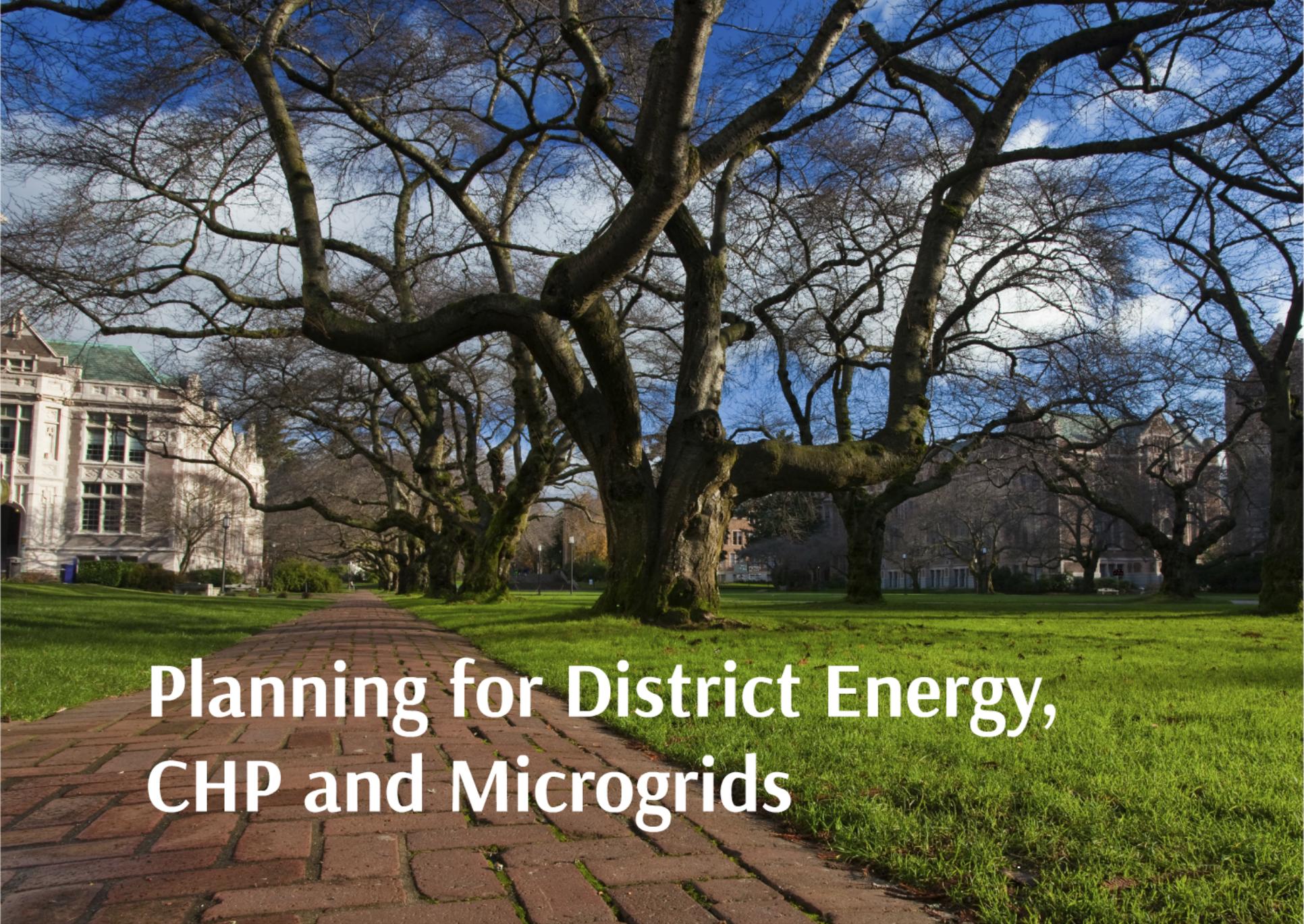


Planning for District Energy,  
CHP and Microgrids



Planning for District Energy,  
CHP and Microgrids

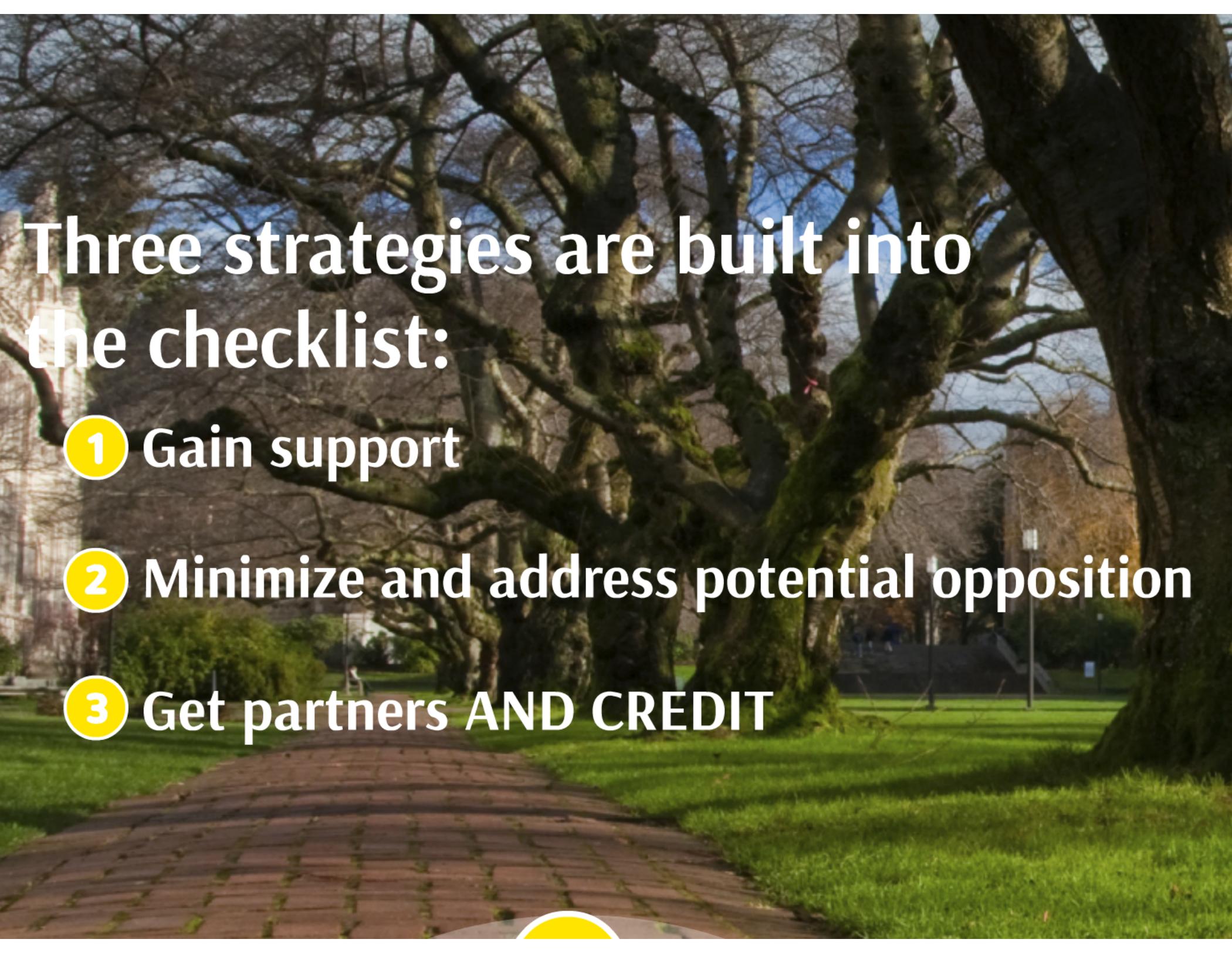


# A checklist approach for campus administrators

A photograph of a modern, multi-story building with a glass facade. The building is illuminated from within, and the sky is a deep blue. A semi-transparent green banner is overlaid across the middle of the image, containing the text "WHAT'S OUR GOAL?".

# WHAT'S OUR GOAL?

make project planning and development  
easier and successful



# Three strategies are built into the checklist:

- 1 Gain support
- 2 Minimize and address potential opposition
- 3 Get partners AND CREDIT

A large, moss-covered tree with thick, gnarled branches dominates the foreground. The tree is covered in vibrant green moss. In the background, a multi-story brick building with many windows is visible. A brick path leads from the foreground towards the building. The scene is set on a green lawn under a clear blue sky.

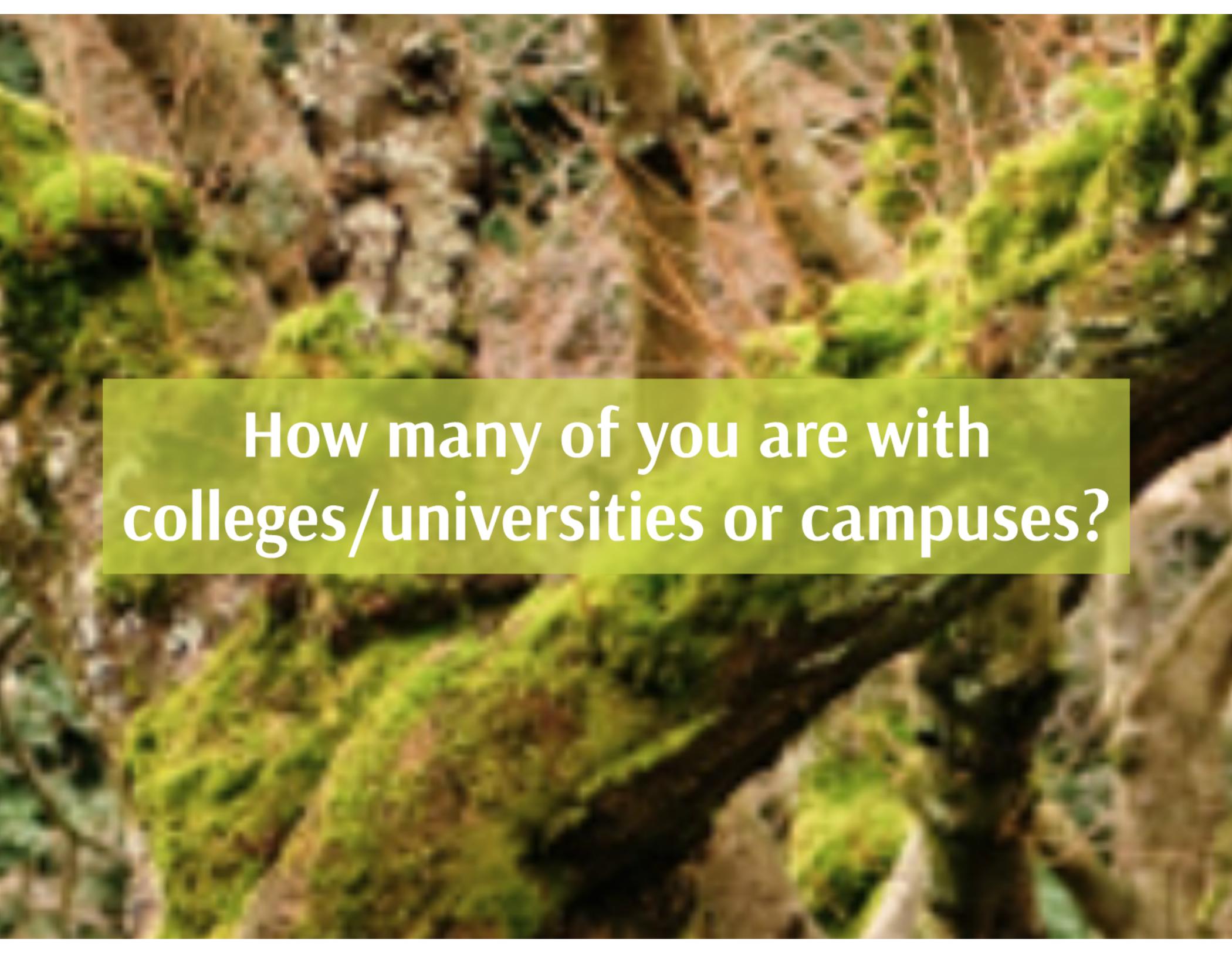
How many of you are with colleges/universities or campuses?

How many of you at colleges and campuses have DE/CHP/microgrids currently installed and in use?

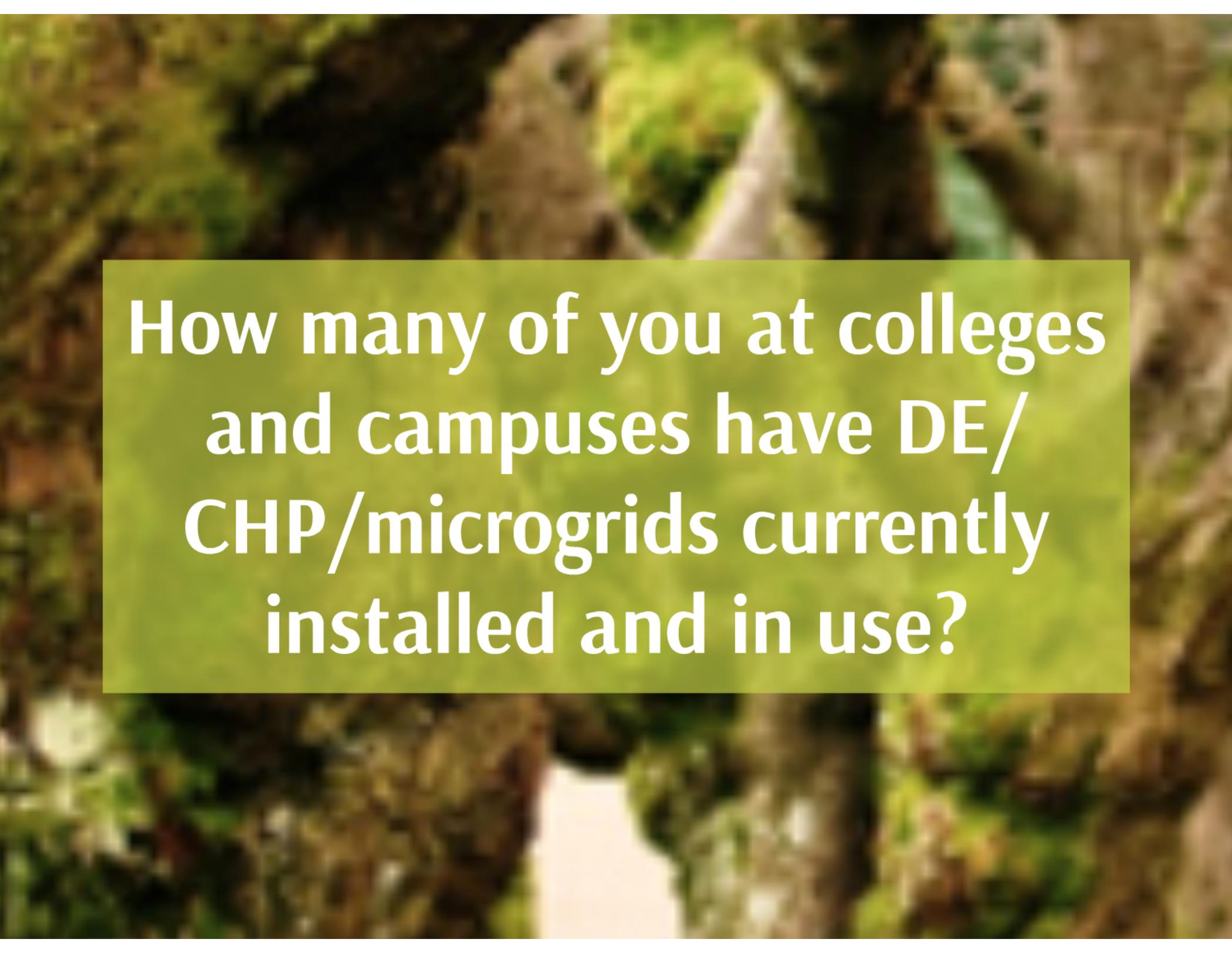
How many of you want to build or add capacity soon?

Is the work you do integrated with those responsible for those policies?

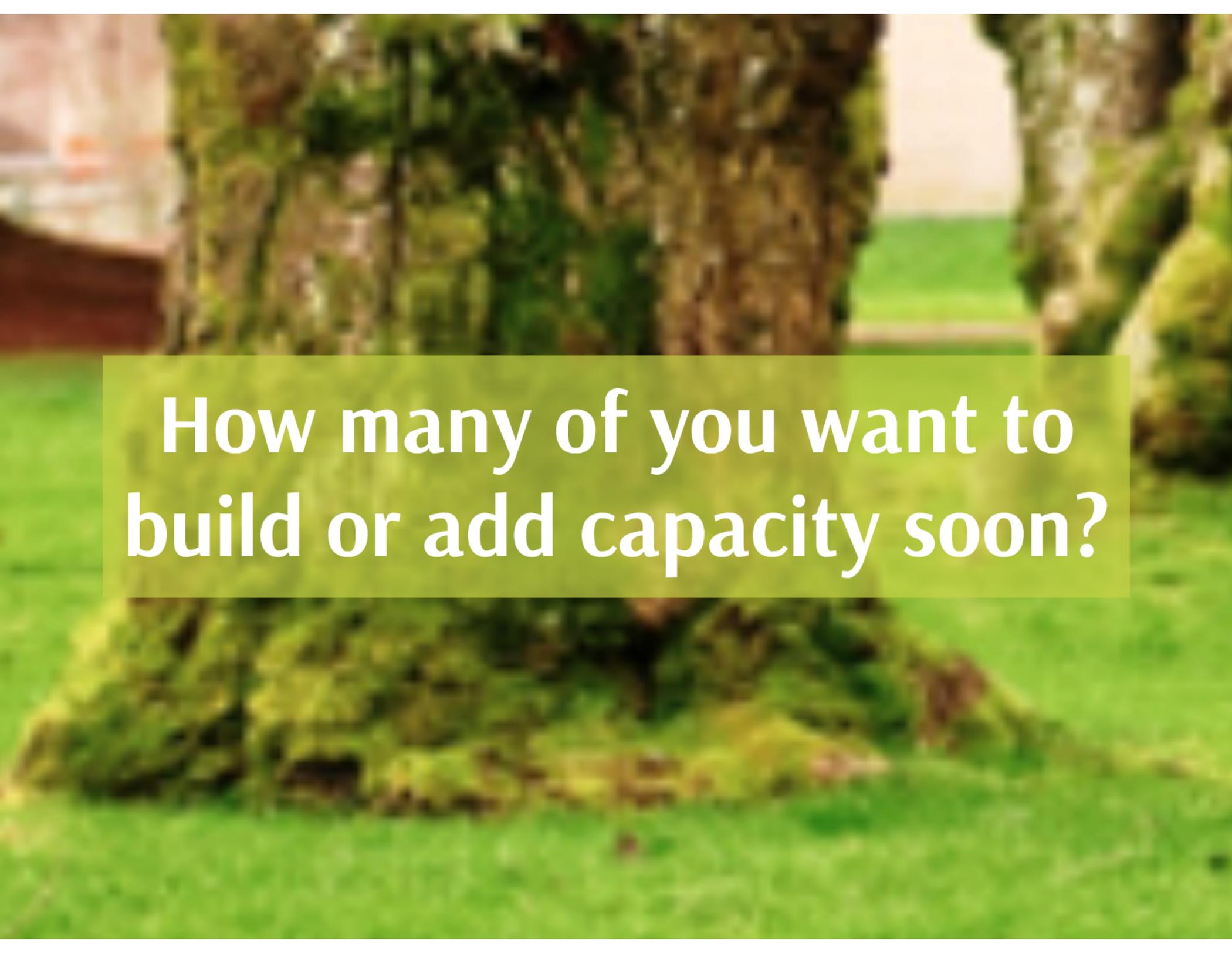
How many of you know your institution's climate or sustainability policy?



**How many of you are with colleges/universities or campuses?**

An aerial photograph of a forest with a dirt path winding through it. The trees are mostly green, with some brown and yellow leaves scattered throughout, suggesting an autumn setting. The path is a light brown color, contrasting with the darker green of the surrounding trees.

**How many of you at colleges  
and campuses have DE/  
CHP/microgrids currently  
installed and in use?**

A large, dense green hedge is the central focus of the image. In the background, a brick building is partially visible on the left, and a green lawn extends towards the right. The overall scene is a well-maintained garden.

**How many of you want to  
build or add capacity soon?**



**How many of you know  
your institution's climate  
or sustainability policy?**



**Is the work you do integrated with those responsible for those policies?**

# Three strategies are built into the checklist:

- 1 Gain support
- 2 Minimize and address potential opposition
- 3 Get partners AND CREDIT

1

## Gain support

### Know your campus community

- Be able to articulate your past conservation efforts and current energy resilience needs
- Know your GHG emissions and campus goals
- Know your project's potential energy cost and water usage savings
- Talk with administration faculty and student groups to understand their motivations
- Understand the objectives and priorities of your institution

2

## Minimize and address potential opposition

- Contact campus planners **early**
- Chart out the environmental, land use and permitting requirements **early**
- Contact external affairs offices **early**
- Identify all environmental and community sensitivities **early**

**EA/PA**  
Review it all time you can  
iterate re redwings  
your project

3

## Get partners and credit

### Take your project objectives and benefits to decision makers, potential partners and supporters

- Be prepared to articulate the benefits
  - to the environment
  - to the neighboring or institutional community
  - to research
- Be prepared to explain
  - energy savings
  - cost savings
  - water savings
  - security and/or resiliency

1

## Gain support

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- Identify all environmental and community sensitivities **early**

**EARLY**

means at a time you can relocate or redevelop your project

A photograph of a stone path leading through a park. The path is made of large, dark stones and is flanked by green grass. In the background, there are several large, mature trees with bare branches, suggesting a late autumn or winter setting. A building with a tower is visible on the left side of the image. The sky is blue with some light clouds.

**EARLY**

means at a time you can  
relocate or redevelop  
your project

3

## Get partners and credit

*Take your project objectives and benefits to decision makers, potential partners and supporters*

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  - energy savings
  - cost savings
  - water savings
  - security and/or resiliency

A photograph of a university campus. In the background, a large, modern building with many windows. A green banner hangs from a pole in front of the building, with text that is partially obscured but includes "Welcome Students Alumni Family Friends". In the foreground, there are steps leading up to the building, a person walking on the path, and a person talking on a phone. There are also some plants and flowers in the lower left.

# Hypothetical issues for institutional planning

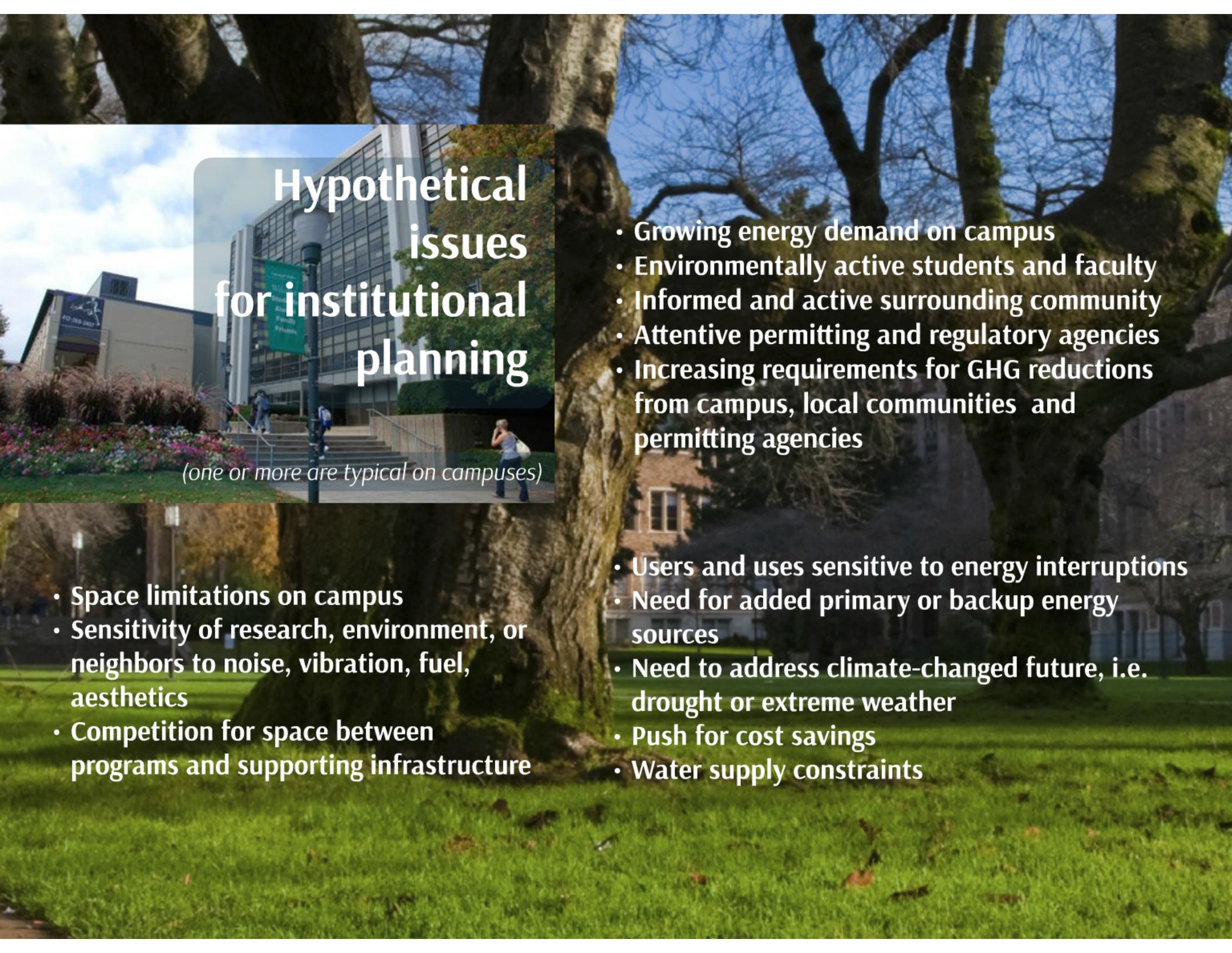
*(one or more are typical on campuses)*

A large, moss-covered tree stands in a grassy field. In the background, a brick building is visible. The scene is set in a park-like area with other trees and a clear sky.

No one wants to hear from me.

I have a campus administration that invites my ideas in participation and planning.

I am asked to live within a budget and not bring any suggestions forward.



# Hypothetical issues for institutional planning

*(one or more are typical on campuses)*

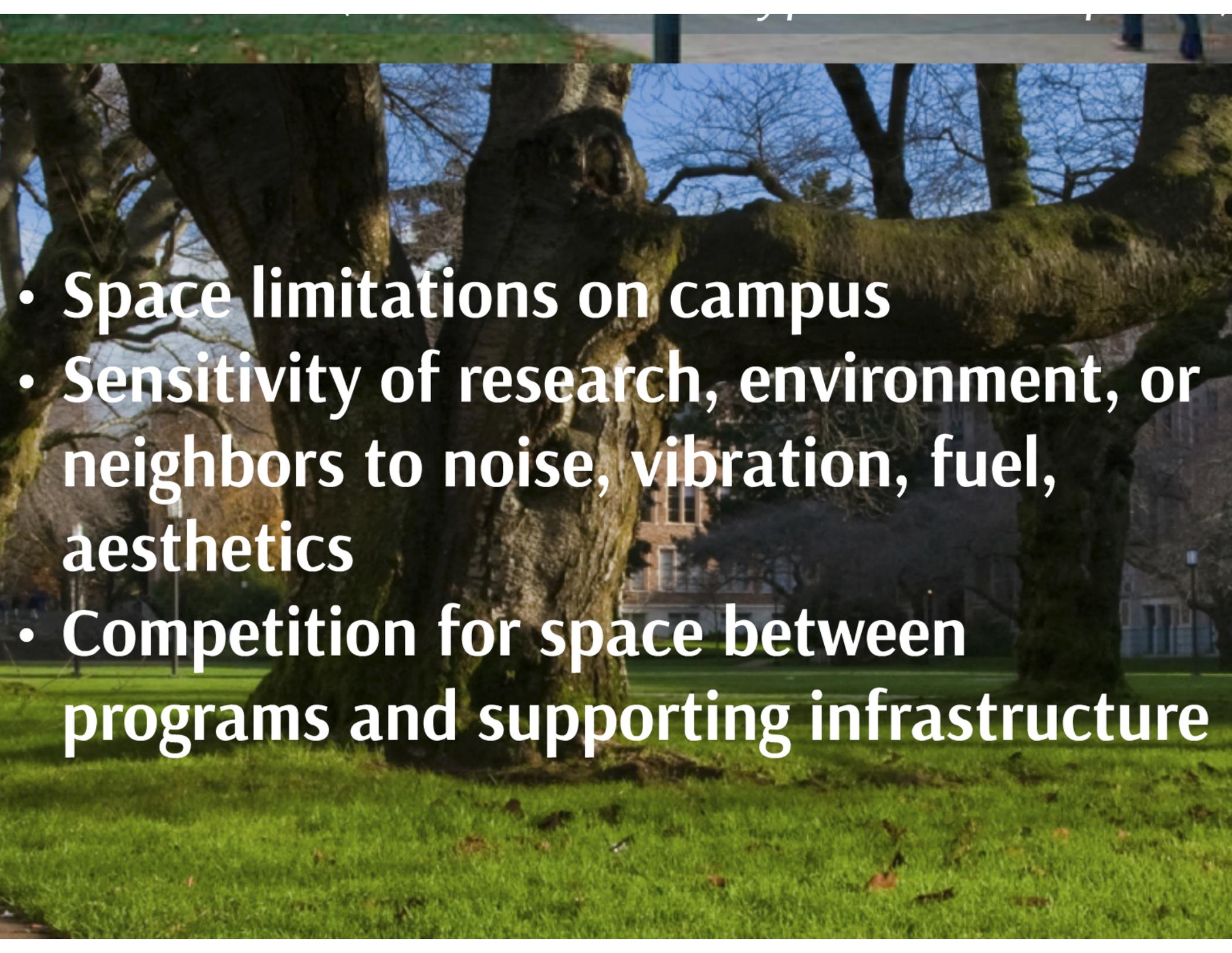
- Space limitations on campus
- Sensitivity of research, environment, or neighbors to noise, vibration, fuel, aesthetics
- Competition for space between programs and supporting infrastructure

- Growing energy demand on campus
- Environmentally active students and faculty
- Informed and active surrounding community
- Attentive permitting and regulatory agencies
- Increasing requirements for GHG reductions from campus, local communities and permitting agencies

- Users and uses sensitive to energy interruptions
- Need for added primary or backup energy sources
- Need to address climate-changed future, i.e. drought or extreme weather
- Push for cost savings
- Water supply constraints

- 
- A large, moss-covered tree trunk in a grassy area with a building in the background. The tree trunk is thick and textured, with patches of green moss. The background shows a clear blue sky and the bare branches of other trees. A multi-story building is visible in the distance behind the trees.
- Growing energy demand on campus
  - Environmentally active students and faculty
  - Informed and active surrounding community
  - Attentive permitting and regulatory agencies
  - Increasing requirements for GHG reductions from campus, local communities and permitting agencies

- 
- A large, moss-covered tree trunk in a grassy field with a building in the background. The tree trunk is thick and gnarled, with a large hollowed-out section. The grass is green and there are some fallen leaves on the ground. In the background, there is a large, multi-story building with many windows. The sky is blue with some light clouds.
- **Users and uses sensitive to energy interruptions**
  - **Need for added primary or backup energy sources**
  - **Need to address climate-changed future, i.e. drought or extreme weather**
  - **Push for cost savings**
  - **Water supply constraints**

- 
- A large, moss-covered tree trunk in a grassy area, with a building visible in the background. The tree trunk is thick and gnarled, with a large hollowed-out section. The moss is green and fuzzy. The background shows a brick building and other trees under a blue sky.
- **Space limitations on campus**
  - **Sensitivity of research, environment, or neighbors to noise, vibration, fuel, aesthetics**
  - **Competition for space between programs and supporting infrastructure**

# ASK FOR HELP AND SUPPORT

*Involve everyone you  
think can help*

Government  
Agencies

Industry Colleagues  
Vendors

University  
Colleagues

*Partners for funding, data and operations*

A photograph of a green lawn with trees and a building in the background. The text is overlaid on the image.

**Thank you.**

Questions?

Comments?

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*Tuesday, February 18, 2014*