To understand the evolution of sustainability we need to understand sustainability.
EVOLUTION OF SUSTAINABILITY – RESOURCE EFFICIENCY

Environmental Design

ENERGY EFFICIENCY

1990 2000 2010 2020

IUSGBC 2017
EVOLUTION OF SUSTAINABILITY – HOLISTIC BENCHMARKING

Environmental Design

ENERGY EFFICIENCY

GREEN BUILDINGS

USA LEED

AUSTRALIA GREEN STAR

MALAYSIA GBI

1990

2000

2010

2020
EVOLUTION OF SUSTAINABILITY – VALUING GREEN

- **Energy Efficiency**
- **Green Buildings**
- **Sustainable Real Estate**

**Environmental Design**

- 1990
- 1991
- 1992
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- 2019
- 2020
- 2021
- 2022
- 2023

**Sustainable Development**

- USA LEED
- Australia Green Star
- GBI Benchmark

**IUSGBC 2017**

**Lendlease**

**Sustainable Development**
- **Environmental Design**
- **Green Buildings**
- **Sustainable Real Estate**
WORKPLACE

Has workplace evolved in a similar way?
EVOLUTION OF WORKPLACE
TIGHTENING OF DENSITY - COST FOCUS

OFFICES

CUBICLE OFFICES

OPEN PLAN

1990

2000

2010

2020
ME IN MY OFFICE TO ME AT MY DESK

OFFICES

CUBICLE OFFICES

OPEN PLAN

1990

2000

2010

2020
REDUCED ENVIRONMENTAL IMPACT

OFFICES
3 Tonnes CO2 per person Per year

CUBICLE OFFICES
2.5 Tonnes CO2 per person Per year

OPEN PLAN
2.0 Tonnes CO2 per person Per year

1990

2000

2010

2020
TIGHTENING OF DENSITY - COST FOCUS

OFFICES
CUBICLE OFFICES
OPEN PLAN

PLACES FOR PEOPLE – VALUE FOCUS

AGILE WORKING
TEAM BASED
STUDIOS
SPACE AS A SERVICE

REDUCED ENVIRONMENTAL IMPACT

- OFFICES
  - 1990: 3 Tonnes CO2 per person per year
  - 2000: 2.5 Tonnes CO2 per person per year
  - 2010: 2.0 Tonnes CO2 per person per year
  - 2020: 1.5 Tonnes CO2 per person per year

PLATEAUED REDUCTION

- CUBICLE OFFICES
  - 1990: 3 Tonnes CO2 per person per year
  - 2000: 2.5 Tonnes CO2 per person per year
  - 2010: 2.0 Tonnes CO2 per person per year
  - 2020: 1.5 Tonnes CO2 per person per year

- OPEN PLAN
  - 1990: 3 Tonnes CO2 per person per year
  - 2000: 2.5 Tonnes CO2 per person per year
  - 2010: 2.0 Tonnes CO2 per person per year
  - 2020: 1.5 Tonnes CO2 per person per year

- AGILE WORKING
  - 2010: 1.5 Tonnes CO2 per person per year

- TEAM BASED
  - 2010: 1.5 Tonnes CO2 per person per year

- STUDIOS
  - 2020: 1.5 Tonnes CO2 per person per year

- SPACE AS A SERVICE
  - 2020: 1.5 Tonnes CO2 per person per year
HEALTH & WELLBEING

The nexus of the coevolution of sustainability and workplace
We spend one third of our lives at work.

Leading health organisations identify workplaces as a priority setting for health & wellbeing.
18%
Of jobs today involve moderate physical activity. In 1960 it was 48%.

Physical inactivity is the 4th largest killer of people globally

Sedentary work patterns.

Our lives are becoming increasingly sedentary which is impacting on our health.
The science of justice

I think it's time we broke for lunch...

A paper in the Proceedings of the National Academy of Sciences describes how Shai Danziger of Ben-Gurion University of the Negev and his colleagues followed eight Israeli judges for ten months as they ruled on over 1,000 applications made by prisoners to parole boards. The plaintiffs were asking either to be allowed out on parole or to have the conditions of their incarceration changed. The team found that, at the start of the day, the judges granted around two-thirds of the applications before them. As the hours went by, the number of cases they dealt with (depicted by the chart) eventually reaching zero. But clemency returned after each of two daily breaks, and fell again as they moved on to the next day's cases. The number of cases the judges dealt with was driven by their original value, before falling again as the day wore on.

Focus and restoration are in short supply.
We now live in an ‘always on’ world – focus and attention will be key in the future.
Average time between interruptions in the workplace is 12 mins

50% Of the time we interrupt ourselves

We are our own worst enemy.
Self interruptions have more negative impact than external interruption.
Active transport.

Building incidental exercise into each day is important.

lendlease
Food is fuel.

You are what you eat. Try and eat your way to a healthier you.
Social Connection.

It is more than just the food we eat, it is also the social bonds created at work that increase engagement.
Time is finite but energy is renewable.

In our ‘always on’ world managing our energy will be a key element to avoid fatigue and burnout.
You had 7 hours of sleep or more
You had 7 hours of sleep or more

You had a break every 90mins during the working day
You had 7 hours of sleep or more

You had a break every 90mins during the working day

You disconnected from technology 1 hour before bed
You had 7 hours of sleep or more
You had a break every 90mins during the working day
You disconnected from technology 1 hour before bed
You had at least 30min exercise
You had 7 hours of sleep or more

You had a break every 90mins during the working day

You disconnected from technology 1 hour before bed

You had at least 30min exercise

You remained stimulant free – no caffeine, no sugar, no alcohol etc
MANAGE OUR ENERGY, NOT OUR TIME

To don’t lists, not to do lists
From elite athletes to corporate athletes.

Sports science focus on workplace Health & Wellbeing.
The science of the heart.

Heart Rate Variability (HRV) measures the variance between heart beats not the number of heart beats.
The measure of our energy levels, brain function and social connection.

Crucial for our performance, for our decision making and for our engagement.
A great day.

Morning exercise, periodisation of workday, lunch break, meditation, no technology, sleep hygiene.
• Work Stress
• Anxiety
• Fatigue
• Exercise

• Relationship problems
• Work load
• Emails

• Difficult conversations
• Traumatic events
• Fear
• Excitement

Triggers of SNS.
Some are obvious.
Impact of bluelight.

SNS impacted by night time screen use. Energy recovery reduced by 30%.
Impact of alcohol.

Energy recovery delayed by 4 hours - 44% less time recovering even though 30% more sleep.
Unconscious mind.

Good recovery during work hours but they can’t quieten their mind after work and into sleep.
- Good sleep
- Good nutrition
- Good breaks
- Good movement
- Good thoughts

**Triggers of PSNS.**

Some are obvious.
OUTCOMES

How does this play out in our new places?
Lendlease Workplace, Barangaroo, Sydney
Ranked in the top 2% workplaces globally on Leesman index
Raising awareness to change behaviours

- **routine**: get into a routine, go to bed at the same time every night
- **unplug**: stop using devices that emit Blue Light (iPad, iPhone)
- **arrive home**: 3 deep breaths, enjoy some social time
- **plan for tomorrow**: spend the last 5 minutes of your day preparing for tomorrow
- **regular healthy snack**: constant flow of glucose in the blood stream is important
- **walking meeting**: for meetings that need a creative outcome, take a walk
- **lunch**: take at least 30 minutes away from your desk
- **bursts**: for best performance work in bursts of 52 minutes then take a short break
- **stand up meetings**: hold a standing meeting or just stand for a while
- **take the stairs**: more energy than standing in a lift

**Ideal Day - Checklist**
- sleep 7-9 hours
- eat breakfast
- walk 10,000 steps
- target 30 minutes exercise

**Exercise**
- 30 minutes light exercise

**Breakfast**
- the most important meal of the day, calories consumed will be used for mood, memory and cognitive performance

**Active commute**
- incorporate a walk, run or ride to work, or stand up on public transport

**Arrive at work**
- plan your day and select the top 3 most important decisions/action to focus your energy**
- regular healthy snack
- grab a bite to eat, take the stairs to visit a colleague

**we know you have 20 things but completing your top three most important will make a difference**
Raising awareness to change behaviours

The sleep paradox
Sleep is essential for optimal performance but is often sacrificed when busy. Missing sleep worsens your mood, weakens your memory and harms decisions taken all day.²

The Olympic dream
Gold medal winning Olympic athletes slept on average 8 hours 36 minutes, the average Australian sleeps for only seven (7) hours.⁴

Top performers work in bursts
'Rest time' software that tracks employees time found the top 10% of a 36,000 person review showed productive people take breaks. 52 minutes work. 17 minute break.

Link between sleep and health
People who averaged less than 7 hours sleep and had poor sleep efficiency are 5.5 times more likely to develop a cold.³ Additionally, increased risk of diabetes and obesity from poor sleep with the body having a reduced ability to metabolise glucose.

Reduced sleep impacts performance
A study shows losing just 90 minutes of sleep reduces daytime alertness by nearly one third. Another study shows 700 genetic changes after just 7 nights of too little sleep (known as sleep debt).

Take a nap
If you are not getting optimal sleep then a nap can improve alertness. Try 20 minutes in the afternoon before 3pm.

How much sleep do you need?
According to the National Sleep Foundation the amount of sleep on a regular basis for optimal performance is between 7-9 hours.⁴

Poor sleep = hunger
Poor sleep releases a hormone, ghrelin. The same hormone that makes you hungry.
Integrating behavioural changes in our workplaces
Encouraging use to change behaviours
WORK | PLACE | LIFE

Static hierarchies
Competition
Track record imperative
Work contained in offices
Plan ahead to win
Jobs for life
Systems and process
Blind loyalty
Smoking
Cost pressure
WORK | PLACE | LIFE

Static hierarchies
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Dynamic networks
- Uber collaboration
- Innovation imperative
- Work uncontained
- Fail fast & often
- 50% contingent workforce
- Authentic experiences
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LIFE
- Connectedness
- Sharing
- Portfolio imperative
- Work is life is work
- Change is constant
- Boss free life
- Purpose
- Open and transparent
- Screen time
- Cost pressure