



## Toxic Plastics in Supply Chain Found Globally



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## Plastic Poisons the Circular Economy



**PFAS IN CLOTHING**  
 STUDY IN INDONESIA, CHINA, AND RUSSIA  
 SHOWS BARRIERS FOR NON-TOXIC CIRCULAR  
 ECONOMY

February 2022



**BROMINATED FLAME RETARDANTS  
 IN PLASTIC PRODUCTS FROM CHINA,  
 INDONESIA, AND RUSSIA**

February 2022



**A CALL TO ACTION: FREE CHILDREN  
 FROM BPA'S TOXIC LEGACY**

BPA IN PLASTIC PRODUCTS FROM BANGLADESH, BHUTAN, CHINA,  
 INDONESIA, MALAYSIA, RUSSIA, SRI LANKA & TANZANIA THAT  
 ARE IN CONTACT WITH FOOD OR WITH CHILDREN'S MOUTHS

February 2022





TOXICS IN



TOXICS OUT



TOXICS OUT

TOXICS OUT

# PFAS IN CLOTHING

STUDY IN INDONESIA, CHINA, AND RUSSIA  
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ECONOMY

## THE PROBLEM

- Highly persistent
- Many regrettable substitutes
- Diet and drinking water have been established as the main exposure routes to PFAS; however, exposures from dust, indoor environments, and personal care and consumer products are also important.

To make products water-, grease- and stain-resistant

## Human Studies Suggest PFAS May...

Increase risk of thyroid disease

Increase blood cholesterol levels

Decrease the body's response to vaccines

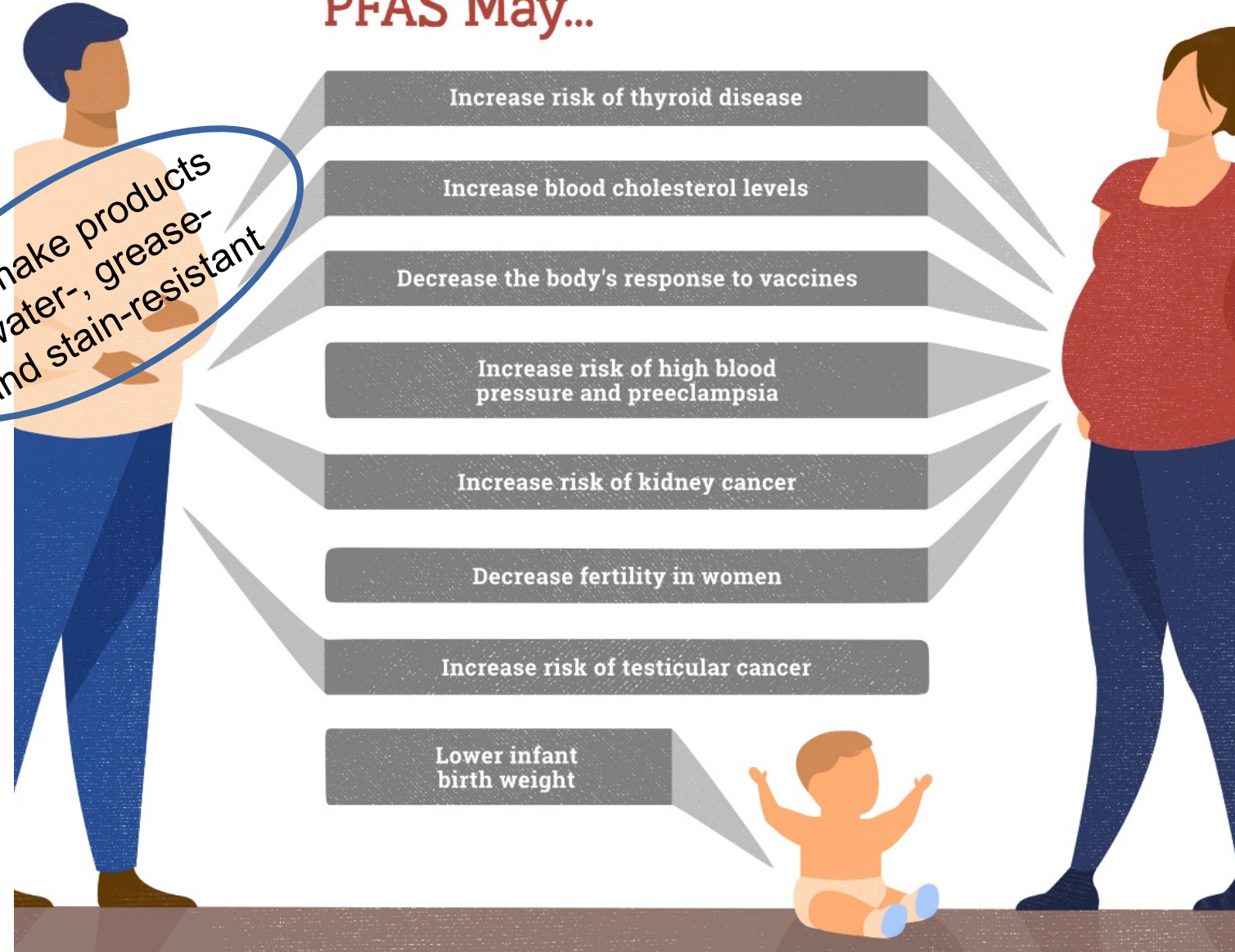
Increase risk of high blood pressure and preeclampsia

Increase risk of kidney cancer

Decrease fertility in women

Increase risk of testicular cancer

Lower infant birth weight



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for a toxics-free future

### DATA

- Analysing the presence of 55 targeted PFAS in from 25 items of waterproof and stain resistant clothes
- 4 of 55 analysed PFAS identified in the products (more is likely present)
- Findings of fluorotelomer alcohols (FTOHs) in the samples suggest that side chain fluorotelomer-based polymers were likely used to achieve water repellence in the products



### IMPLICATIONS

- Present fluorotelomer alcohols notably degrade to PFOA, a chemical listed for global elimination



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## Throwaway Packaging, Forever Chemicals

European wide survey of PFAS in disposable  
food packaging and tableware



Jitka Straková • Julie Schneider • Natacha Cingotti



## FOREVER CHEMICALS ROUND AND ROUND

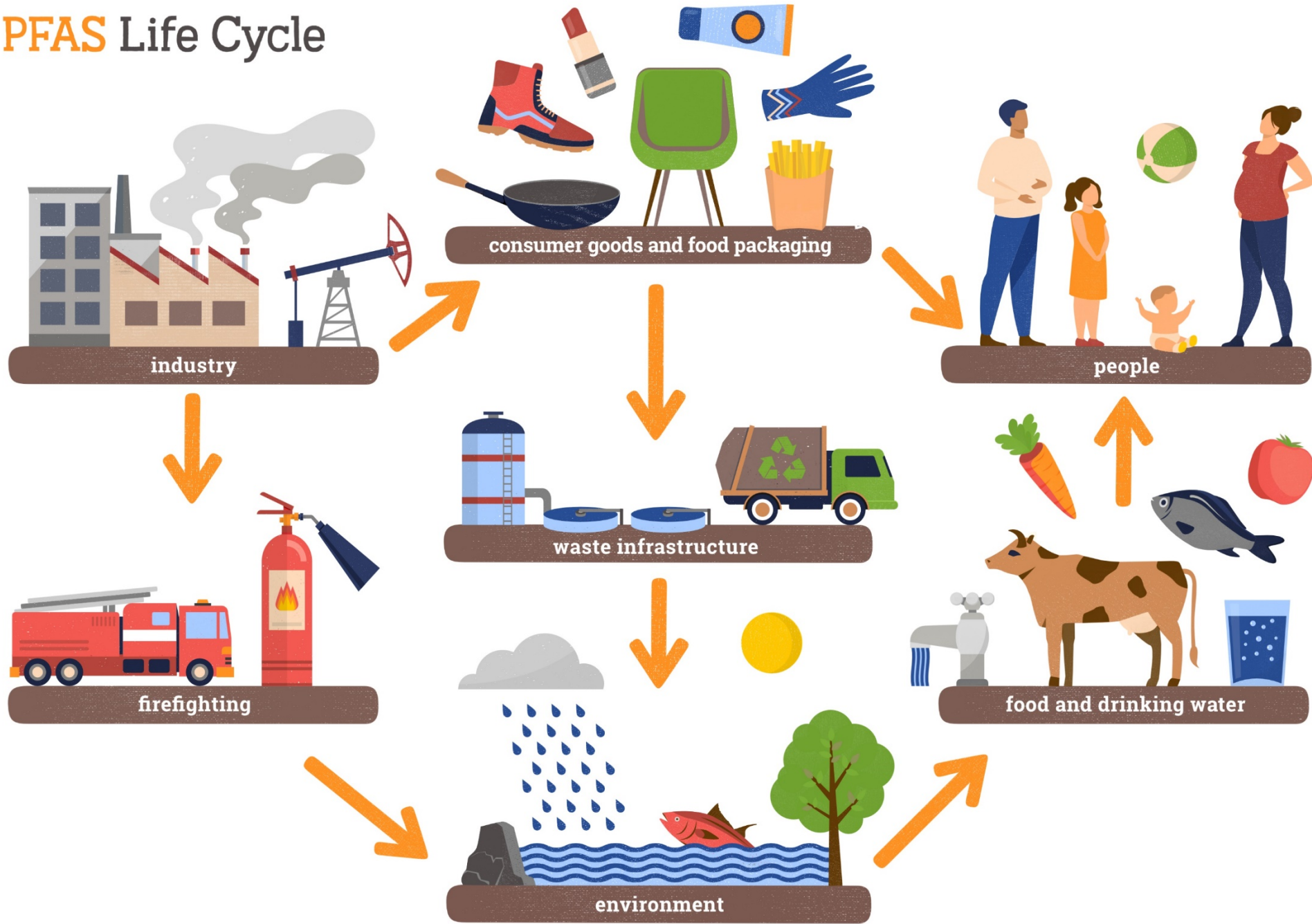
Contamination  
of water bodies  
with perfluorinated  
substances and  
brominated flame  
retardants in the  
Prague area

Václav Mach  
Jitka Straková

Arnika November 2020



# PFAS Life Cycle



## BROMINATED FLAME RETARDANTS IN PLASTIC PRODUCTS FROM CHINA, INDONESIA, AND RUSSIA

### THE PROBLEM

- Persistent, lack of data, regrettable substitutes
- Disrupt endocrine (EDC), immune and reproductive systems
- Humans are exposed through food, dust ingestion, and through dermal exposure
- The BFRs in plastic toys likely originating from unregulated recycling of e-waste plastics

### CHILDREN

Brominated flame retardants are distributed from recycled e-waste plastics into children's toys. These chemicals are known to disrupt human hormone systems, adversely impacting the development of the nervous system and children's intelligence.

### TOXIC PRODUCTS IN OUR HOMES



To reduce fire-related injury and damage?!

### FAMILIES

OctaBDE, DecaBDE, and HBCD have been used as flame retardants in a variety of electronic products for many years. These chemicals were recognized as POPs of global concern that need to be eliminated just like other POPs listed in the Stockholm Convention.



PLASTIC RECYCLING



E-WASTE TRAFFICKING

### WORKERS

E-waste recycling is spreading poisons in insecure recycling sites and exposed workers' bodies.

### LOW INCOME COUNTRIES

E-waste is often trafficked to low and middle income countries that do not have capacities to deal with them.





## BROMINATED FLAME RETARDANTS IN PLASTIC PRODUCTS FROM CHINA, INDONESIA, AND RUSSIA

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Jitka Straková · Joseph DiGangi · Génon K. Jensen

# TOXIC LOOPHOLE

Recycling Hazardous Waste  
into New Products

Arnika 2018



REPORT

## WEAK CONTROLS: EUROPEAN E-WASTE POISONS AFRICA'S FOOD CHAIN

April 2019



## BROMINATED FLAME RETARDANTS IN PLASTIC PRODUCTS FROM CHINA, INDONESIA, AND RUSSIA



### DATA

- All lab-tested (and pre-screened) items contained POP-BFRs (PBDEs)



### IMPLICATIONS

- BFRs have been found in consumer products even where fire resistance is not necessary, suggesting that the products are made from recycled plastics sourced from electronics waste
- POPs recycling contaminates children's toys!

## A CALL TO ACTION: FREE CHILDREN FROM BPA'S TOXIC LEGACY

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### THE PROBLEM

- 90% of the world's population have BPA in their bodies; children in particular sensitive
- Associated with reproductive harm in men and women, neurological and brain effects, diabetes and obesity
- Primary source of exposure to BPA for most people is through the diet. While air, dust, and water are other possible sources of exposure



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### DATA

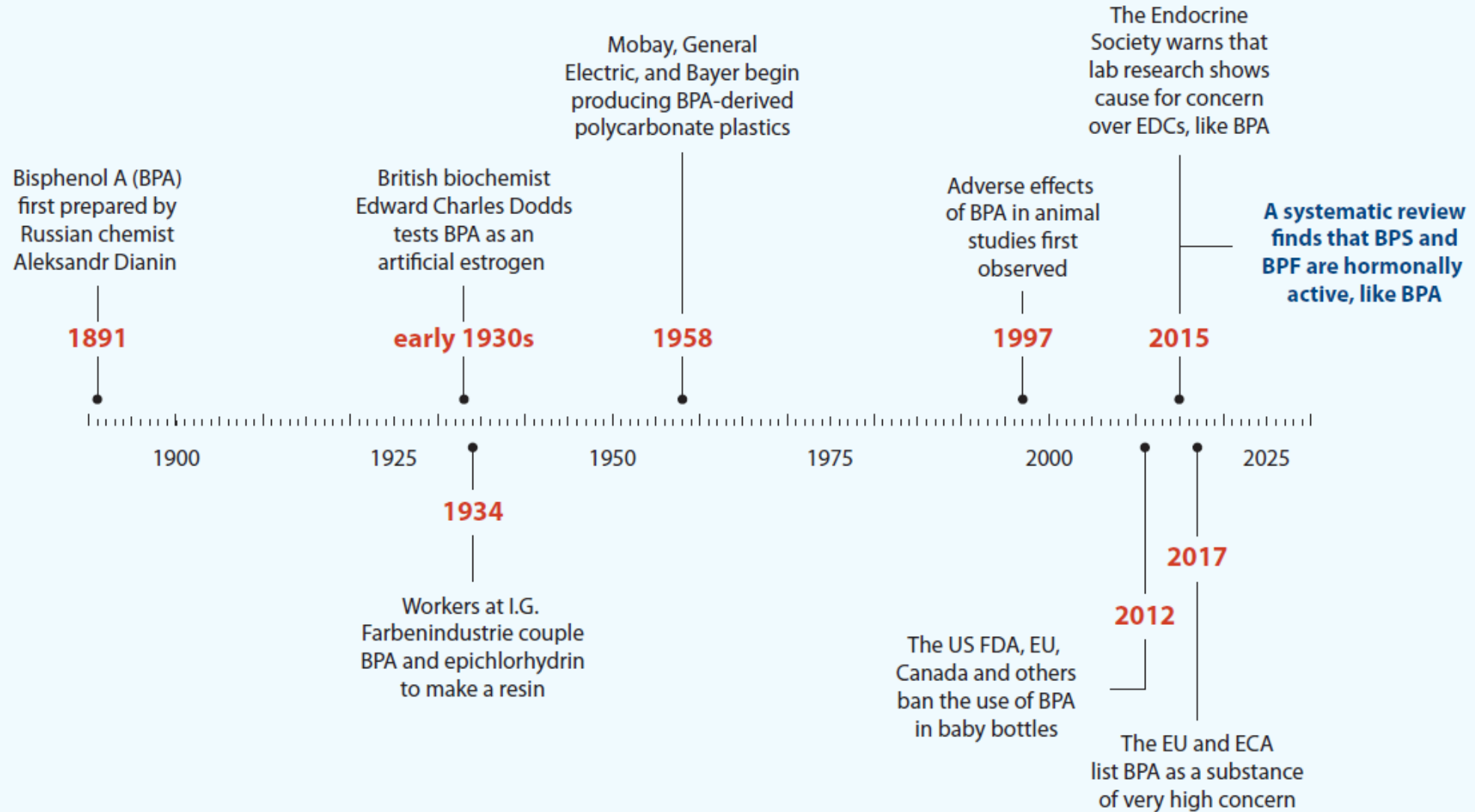
- 78% (76/98) of all the samples contained BPA above the limit of quantification (LOQ).
- 14 out of 23 (61 %) products labelled “BPA-free” or “0% BPA” were found to be mislabelled because they contained BPA
- One baby feeding bottle made in China and purchased in Malaysia, violates existing Malaysian legislation
- Two baby feeding bottles made in India, both non-compliant with Indian legislation, are marketed in country lacking an appropriate legislation (Bhutan)

### IMPLICATIONS

- Most of the concentration limits respect the legal thresholds in the countries considered



# REGRETTABLE SUBSTITUTION: SHIFTING TO BPA-FREE, BUT WITH BPF OR BPS



# IPEN in action for

- Class-based approach
- No regrettable substitutes
- Global incentives (Stockholm and Basel Conventions, Strategic Approach to International Chemicals Management (SAICM))
- Control over entire lifecycle (end-of-life, wastes)
- Systematic solutions (Plastic Treaty)



**for a toxics-free future**